APPENDIX E

NOISE AND GROUNDBORNE VIBRATION IMPACT ASSESSMENT

BENCHMARK RESOURCES

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NOISE AND GROUNDBORNE VIBRATION IMPACT ASSESSMENT

Pacific Rock Quarry
Conditional Use Permit Modification Application
LU10-0003

November 2020

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EXECUTIVE SUMMARY

This Noise and Groundborne Vibration Impact Assessment (NVIA) presents regulatory review, ambient noise measurements, noise impact predictions, and vibration impact predictions for the Pacific Rock Quarry located in unincorporated Ventura County near the City of Camarillo, California (Figure 1). This NVIA is intended for use as a technical document in support of the California Environmental Quality Act (CEQA) assessment for the Project.

The Project site consists of an existing aggregate mine and processing plant. Pacific Rock has prepared and submitted to the County a Conditional Use Permit (CUP) Major Modification application (LU10-0003) to entitle the following proposed modifications to the existing Project:

- Extend the life of the existing permitted operations.
- Expand the mining area boundary to the east, north, and south (Figure 2).
- Extend the operating schedule from six (6) to seven (7) days per week (to include material load out on Sundays).
- Allow additional material load out hours and a limited number of extended 24-hour operation days (60 days maximum per year).
- Operate a portable crushing and screening plant onsite to recycle concrete debris (Recycle Plant).
- Install a structure for a 24-hour onsite security guard.

The following existing Project features would remain unchanged:

- Daily maximum aggregate production rate.
- Number of daily truck trips and truck haul routes.
- Number of employees.
- Aggregate excavation and processing equipment and methods.
- Basting event hours, frequency, and methods.

This NVIA makes the following determinations regarding significance of noise and groundborne vibration impacts resulting from the Project:

- Noise impacts from onsite sources (“Non-Transportation”) are less than significant after mitigation.
- Noise impacts from traffic sources (“Transportation”) are less than significant.
- Groundborne vibration impacts are less than significant.
- The Project would result in a Class II impact, significant but mitigable to less than significant levels.

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TABLES

APPENDICES

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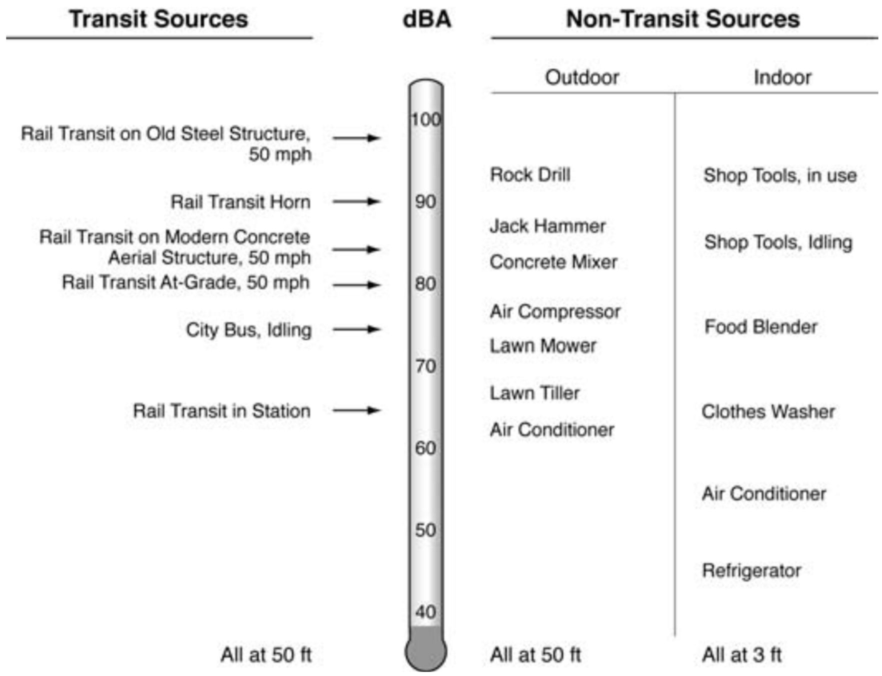
1.0 INTRODUCTION

This Noise and Groundborne Vibration Impact Assessment (NVIA) presents regulatory review, ambient noise measurements, noise impact predictions, and groundborne vibration impact predictions for the Pacific Rock Quarry located in unincorporated Ventura County near the City of Camarillo, California (Figure 1). Pacific Rock is proposing to extend the life of the Condition Use Permit (CUP), expand the mining area boundary, extend the operating schedule to seven (7) days per week, allow for additional material load out hours, operate a portable crushing and screening plant onsite to recycle concrete debris (Recycle Plant), and install a structure for a 24-hour onsite security guard (Project).

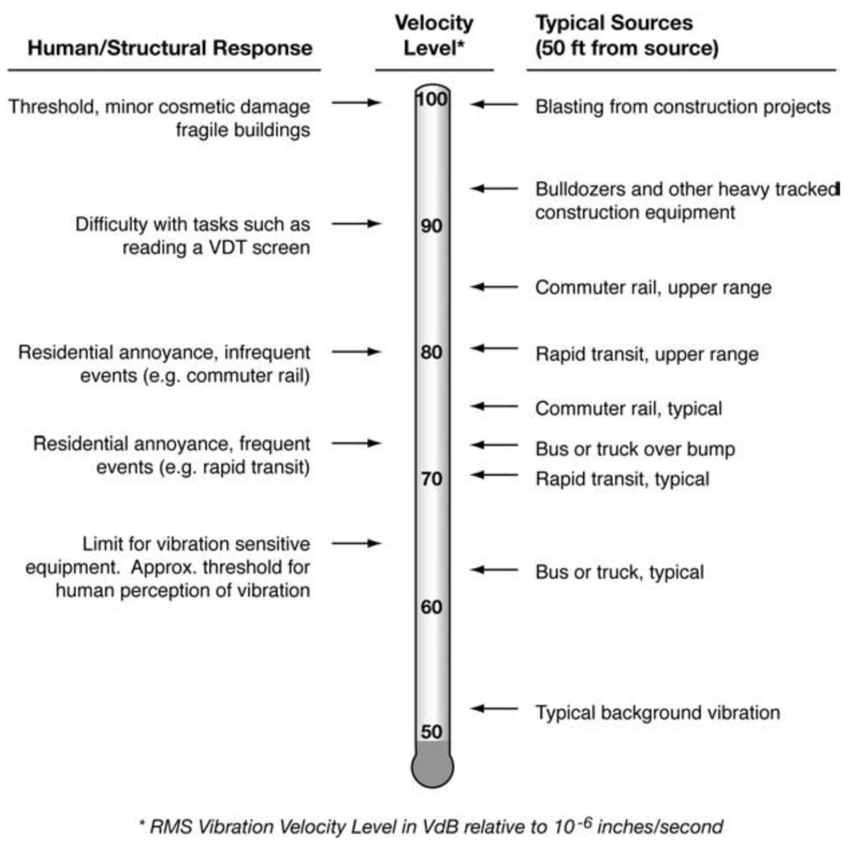
This NVIA is intended for use in the environmental review for the Project under the California Environmental Quality Act (CEQA). Methodologies and criteria outlined in the Ventura County *2040 General Plan Hazards and Safety Element* (Ventura County, 2020), the Ventura County *Initial Study Assessment Guidelines* (Ventura County, 2011), the Ventura County *Construction Noise Threshold Criteria and Control Plan* (Ventura County, 2010), and applicable state and federal transportation agency (e.g., Caltrans, Federal Transit Administration, etc.) noise and vibration guidelines are utilized to determine the significance of Project impacts. The Project's onsite non-transportation industrial noise and vibration sources (e.g., equipment operating onsite, blasting, etc.) and transportation noise sources (i.e., haul trucks on public roads) have been quantified and compared to applicable significance thresholds in this NVIA.

Illustrations on the next page, which are from the Federal Transit Administration's (FTA's) *Transit Noise and Vibration Impact Assessment Manual* (Federal Transit Administration, 2018), present the intensity level of common noise and vibration generating activities.

Common Noise Levels



Common Vibration Levels



Source: (Federal Transit Administration, 2018)

2.0 EXISTING SETTING

The Project site is located approximately 1.5 miles east of Lewis Road and approximately 2.0 miles south of U.S. Highway 101 off a private road (Howard Road), in unincorporated Ventura County near the City of Camarillo and the City of Thousand Oaks (Figure 1). The site is located on the west facing side of the Santa Monica Mountain Range. The Camarillo Airport is located approximately 4.5 miles away to the northwest and the Point Mugu Naval Air Station is located approximately 7.2 miles away to the southwest.

This section discusses the Project's existing environmental and regulatory settings.

2.1 Noise & Groundborne Vibration Fundamentals

2.1.1 Definitions

The following terms are employed in this NVIA:

- **A-Weighted Sound Level (dBA):** Sound pressure level measured using the A-weighting network, a filter which discriminates against low and very high frequencies in a manner similar to the human hearing mechanism at moderate sound levels.
- **Ambient Noise Level:** The noise that results from the combination of all sources, near and far.
- **Community Noise Equivalent Level [CNEL - dB(a)]:** The long-term time average sound level, weighted as follows:
    - Frequency response is filtered using the A-weighting network.
    - Sounds occurring between 7:00 p.m. and 10:00 p.m. are weighted by +5 dB.
    - Sounds occurring between 10:00 p.m. and 7:00 a.m. are weighted by +10 dB.
- **Decibel (dB):** A unit division, on a logarithmic scale, whose base is the tenth root of ten, used to represent ratios of quantities proportional to power. In simple terms, if the power is multiplied by a factor of ten, then ten is added to the representation of the power on the decibel scale. If 0 dB represents 1 unit of power, 60 dB represents one million units, etc.
- **Equivalent Continuous Noise Level (L_{eq}):** The level, in decibels, of the mean sound pressure averaged over time period, generally one hour. This is often referred to as "equivalent sound level" and hence the "eq" subscript. The "equivalence" is to a sound of constant level that has the same total acoustic energy content.
- **Peak Particle Velocity (PPV)**: The peak signal value of an oscillating vibration velocity waveform. PPV is usually expressed in inches per second (in/sec) in the United States.
- **Root Mean Square (rms):** The square root of the mean-square value of an oscillating waveform, where the mean-square value is obtained by squaring the value of amplitudes at each instant of time and then averaging these values over the sample time.
- **Sound Pressure Level (SPL):** The logarithmic measure of the power of a sound relative to a reference value, measured in decibels (dB). The sound pressure level is always associated with a specific location or distance from a sound source.
- **Sound Power Level (SWL):** The acoustical energy emitted by the sound source. The SWL is an absolute value that is not affected by the environment, unlike SPL.

2.1.2 Characteristics of Noise

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second) they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, called Hertz (Hz).

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals of pressure), as a point of reference, defined as 0 decibels (dB). Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in decibel levels correspond closely to human perception of relative loudness as presented in Table 1.

The perceived loudness of sound is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by weighing the sound level pressures between 1,000 and 5,000 Hz, which represent the most sensitive frequencies perceived by a healthy human ear and coincidentally the natural frequency range of human speech. This weighting network is referred to as the A-scale. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this NVIA are A-weighted. Table 1 provides sound pressure levels of typical noise sources in units of dBA and micropascals (µPa) of pressure.

Table 1 Typical A-Weighted Sound Levels of Common Noise Sources

Loudness Ratio	Micropascals (µPa)	dBA	Description
128	63,245,553	130	Threshold of Pain
64	20,000,000	120	Jet aircraft Take-Off at 100 feet
32	6,324,555	110	Riveting Machine at Operator's Position
16	2,000,000	100	Shotgun at 200 feet
8	632,456	90	Bulldozer at 50 feet
4	200,000	80	Diesel Locomotive at 300 feet
2	63,246	70	Commercial Jet Aircraft Interior During Flight
1	20,000	60	Normal Conversation Speech at 5-10 feet
0.5	6,325	50	Open Office Background Level
0.25	2,000	40	Background Level Within a Residence
0.125	632	30	Soft Whisper at 2 feet
0.0625	200	20	Interior of Recording Studio

Sources: (US EPA, 1971) and (Federal Interagency Committee on Noise, 1992).

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}) over a given time period (usually one hour or less). The L_{eq} is also the foundation of the Community Noise Equivalent Level (CNEL) noise descriptor described below, which has a strong correlation with community response to noise. The maximum sound level (L_{max}) represents the highest instantaneous noise level recorded over a given time period (usually one hour or less), and can also be utilized to assess community noise impacts.

Community Noise Equivalent Level (CNEL) is based upon the average noise level over a 24-hour day, with a +5 decibel weighing applied to noise occurring during evening (7:00 p.m. to 10:00 p.m.) hours and a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. These additions are made to account for the noise sensitive time periods during the evening and nighttime hours, when people are generally at home and more sensitive to sound. Because CNEL represents a 24-hour average, it tends to smooth out short-term variations in the noise environment. CNEL based noise standards are commonly used to assess noise impacts associated with variable noise sources, such as traffic, railroad and aircraft noise.

The maximum sound level (L_{max}) presents the highest instantaneous noise level recorded over a given time period (usually one hour or less). This value is useful as it can reveal short-term, intermittent noise sources (e.g., industrial equipment, etc.) within a noise environment, which would be lost with CNEL noise descriptor.

2.1.3 Characteristics of Groundborne Vibration

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, while vibration is usually associated with transmission through a structure. As with noise, vibration consists of an amplitude and frequency. A person's response to vibration depends on their individual sensitivity as well as the amplitude and frequency of the source.

Vibration can be described in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities (inches/second). Standards pertaining to perception as well as damage to structures have been developed for vibration in terms of peak particle velocity. At high enough amplitudes, ground vibration has the potential to damage structures and/or cause cosmetic damage (e.g., crack plaster). Ground vibration can also be a source of annoyance to individuals who live or work close to vibration-generating activities. Traffic, including heavy trucks traveling on a highway, rarely generates vibration amplitudes high enough to cause structural or cosmetic damage.

As vibrations travel outward from the source, they excite the particles of rock and soil through which they pass and cause them to oscillate by a few ten-thousandths to a few thousandths of an inch. Differences in subsurface geologic conditions and distance from the source of vibration would result in different vibration levels characterized by different frequencies and intensities. In all cases, vibration amplitudes would decrease with increasing distance. The maximum rate or velocity of particle movement is the commonly accepted descriptor of the vibration "strength." This is referred to as the peak particle velocity (PPV) and is typically measured in inches per second.

Human response to vibration is difficult to quantify. Vibration can be felt or heard well below the levels that produce any damage to structures. The duration of the event has an effect on human response, as does frequency. Generally, as the duration and vibration frequency increase, the potential for adverse human response increases.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 2 displays the results of a 1974 study which relates human response to transient vibration sources (i.e., mining equipment) in terms of particle velocity (PPV) vibration levels.

Table 2 General Human Responses to Vibration Levels

Human Response to Vibration	Peak Vibration Threshold (in./sec. PPV)
Severe	2.0
Strongly perceptible	0.9
Distinctly perceptible	0.24
Barely perceptible	0.035

Source: *Transportation and Construction Vibration Guidance Manual* (California Department of Transportation, 2013).

2.2 Physical Setting

This section describes noise sources in the areas around the Project site, the receptors of concern near the Project site and haul routes, and the existing ambient noise levels. Existing plant and excavation operations as well as haul truck activity are included in the baseline noise sources. The incremental increase in noise levels due to the Project is analyzed in this NVIA.

2.2.1 Project Site

The Project site is located in a rural area of unincorporated Ventura County. It is surrounded mainly by agricultural and open space land uses. The Conejo Mountain Memorial Cemetery and Funeral Home is located to the west of the Project site. The General Plan does not identify any other significant noise generating land uses in the immediate vicinity. The site is located on the southern flank of Conejo Mountain overlooking the Oxnard Plain, and separated from the Conejo Valley by the mountain crest. While the Camarillo Airport is a large source of noise in the south Camarillo area, it is approximately 4.5 miles to the northwest and has no appreciable influence on noise levels near the Project site.

As discussed above, the Pacific Rock Quarry is an existing aggregate mine and processing plant. The following operations are currently permitted under existing CUP 3817-3, and would not change as a result of the proposed Project:

- Daily maximum aggregate production rate.
- Number of daily truck trips and truck routes.
- Number of employees.
- Aggregate excavation and processing equipment (i.e., Aggregate Plant) and methods.
- Basting event operation hours, frequency, and methods.

These existing operations (e.g., aggregate excavation and processing, daytime haul truck activity, etc.) are considered baseline for this NVIA. Under CUP 3817-3, existing aggregate processing plant, excavation, and haul truck activities occur from 7:00 a.m. to 4:00 p.m., Monday through Sunday. Additionally, Condition #38 limits haul truck activity to sixty (60) truck loads per day (120 one-way trips) during normal operating hours. Both the existing truck trip limit and haul routes would not change as a result of the Project. Currently trucks leave the Project site and travel down Howard Road/Pancho Road to Pleasant Valley Road, where they then either head north to U.S. State Highway 101 or south to State Route 1 (Pacific Coast Highway) for delivery to various locations (Figure 3).

The Ventura County 2040 General Plan identifies noise-sensitive land uses as including “residences; schools; historic sites; cemeteries; parks, recreation, and open space areas; hospitals and care facilities; sensitive wildlife habitats, including the habitat of rare, threatened, or endangered species; hotels and other short-term lodging (e.g., bed and breakfasts, and motels); places of worship; and libraries”. As they would have the potential to experience different types of noise from the Project operations, noise-sensitive “receptors” considered in this NVIA have been separated into two categories based on whether they would have the potential to be impacted by 1) Project-related onsite industrial noise sources (i.e., “Non-Transportation” sources) or 2) Project-related off-site haul truck operations (i.e., “Transportation” sources). The receptors considered in this NVIA are described below. Note that, when possible, receptors are grouped and the noise impact at the worst-case portion of the group is determined. Figure 2 and Figure 3 (Appendix A) display the location of the receptors.

2.2.2 Vicinity Setting & Non-Transportation Receptors

As described above, the Project site is located in a semi-rural area of unincorporated Ventura County. Existing noise sources near the Project site receptors include equipment noise from Pacific Rock operations, noise from nearby agricultural operations, traffic noise from nearby roadways, and natural sounds (wind, plants rustling, birds/insects, etc.). Receptor 1 (R1), Receptor 2 (R2) and Receptor 3 (R3) within the vicinity of the Project site are described below.

- **Receptor 1 (R1)** is the Conejo Mountain Funeral Home to the west of the Project site. On the west side of the funeral home property, away from the Project site, is the funeral home building and on the east side, between the building and the Project site, is a grave yard. Noise sources near R1 include grounds keeping activities at the funeral home, cars on Howard Road, and nearby agricultural activities. Noise from the existing aggregate plant operations are faintly audible at R1 as background white noise.

  Per the 2040 General Plan, the funeral home is considered a noise sensitive receptor.

- **Receptor 2 (R2)** collectively represents the group of residences to the east-southeast of the Project site, on the other side of the crest of the Santa Monica Mountain Range within the City of Thousand Oaks. Existing noise sources near R2 include cars on roads to the east, hikers passing by, and plants rustling in the wind.

  Existing Project noise sources (i.e., excavation equipment, aggregate processing plant) were generally not audible in the area of R2. The ridge of the mountain blocks line-of-site between the Project site and residential receptors in this area. The mountain’s large mass and height, in addition to the large distance between source and receptor, was noted to attenuate industrial noise to the point that it was not audible during visits to the site on December 20th and 21st, 2018. Though R2 does not have line-of-sight to existing operations, there is a potential for this receptor to have line-of-sight to new excavation areas, specifically mining activities expanding to the north. Please see Section 5.1 and Figures 4A, 4B, and 4C for more details regarding line-of-sight between the Project site and R2.

  The R2 residences nearest to the expanded mining boundary were assessed, respectively located at the ends of Via Sandra and Via Pisa in the Dos Vientos Ranch community (Figure 2). Noise and vibration impacts are analyzed at the three (3) closest residences in this area, shown as R2-A, R2-B, and R2-C, and are meant to represent worst-case impacts for the entire receptor area. Due to the intervening mountains, noise impacts at R2 are less of a concern than vibration impacts, which travel more readily through solids.

Receptor 3 (R3) collectively represents the various hiking trails located in open space areas to the southeast, east and northeast of the Project site. As compared to the other receptors considered in this evaluation (e.g., residences and funeral home), the open space area and trails are less frequently occupied and typically by fewer individuals. Nonetheless, R3 is analyzed as a representative "recreation/open space" sensitive receptor per the County's 2040 General Plan. Existing noise sources near R3 primarily include residential noise sources, periodic and variable buzzing of overhead transmission lines, and natural sounds (e.g., birds/insects, plants rustling in the wind, etc.). As with R2, existing Project noise sources were generally not audible during visits to the site on December 20th and 21st, 2018, as the ridge of the mountain blocks line-of-site between the existing operations and trails in this area. Please see Section 5.1 and Figure 4C, for more details regarding line-of-sight between the Project site and R3.

To determine worst-case noise and vibration impacts experienced by trail users, the portion of trails located closest to the Project site, specifically a location on the Powerline Trail, was analyzed (see Figure 2). As with R2, vibration impacts are evaluated at R3 as vibration from blasting could travel more readily through solids.

Ambient noise measurements were collected on December 20th and 21st, 2018 at Monitoring Locations 1 and 2 shown on Figure 2. Monitoring Location 1 is considered representative of noise levels at Receptors R2 and R3, and Monitoring Location 2 is considered representative of noise levels at Receptor R1. Noise generated by Pacific Rock's existing permitted activities (i.e., processing operations, mining operations, daytime haul truck activity, etc.) was captured within the ambient noise measurements as the site was operational during these days. The ambient noise measurements were collected by two (2) Quest DL SoundPro, Type 2 sound level meters equipped with random-incidence type microphones, windscreens and placed on tripods approximately 5-feet above ground level. Microphones were calibrated using Quest QC-10 calibrators before and after each measurement. Both long-duration (24-hour) and short-duration (15-minute) measurements were collected using A-weighted energy equivalent sound levels on a slow response time at 1-minute intervals for the long-duration measurements and 10-second intervals for the short-duration measurements.

To estimate evening and nighttime noise levels for certain receptors, measurements collected at the long-duration (24-hour) reference locations were compared to measurements at the short-duration (15-minute) monitoring locations during the same time of day to determine the dBA difference between the two points. For example, Monitoring Location 2 measurements (15-minute) collected between 3:37 p.m. and 3:52 p.m. when compared to noise levels collected at the Monitoring Location 1 24-hour reference point during the same time period show a noise level difference of -3.2 L_{eq} dBA. This difference between the measured values can be used as a correction factor, which is utilized to estimate the evening and nighttime L_{eq}1H noise levels at short-duration monitoring locations. This same concept was also utilized to estimate daytime and nighttime noise levels at haul route Receptor 4 (R4). Please see Appendix C for additional details regarding these calculations.

The monitoring locations for R1 and R2/R3 are illustrated on Figure 2 (Appendix A). The results of ambient measurements collected at Monitoring Locations 1 and 2 as representative of the non-transportation receptors during the daytime, evening, and nighttime periods are summarized in Table 3. Complete noise measurement logs are included in Appendix C.

Table 3 Ambient Monitoring Results @ Non-Transportation Receptors

Receptor	Receptor Type	Date(s) Measured	Time Period(s)	Daytime L_{eq}1H A, B	Evening L_{eq}1H A, B	Nighttime L_{eq}1H A, B
R1	Conejo Mountain Funeral Home	12/20/2018	Daytime	41.6 dBA	32.9 dBA	32.7 dBA
R2 & R3	Residence(s) & Open Space/Trails	12/20/2018 12/21/2018	24-Hours	44.8 dBA	36.2 dBA	36.0 dBA

Notes:

A – Daytime = 6:00 a.m. – 7:00 p.m., Evening = 7:00 p.m. – 10:00 p.m., Nighttime = 10:00 p.m. – 6:00 a.m. (Ventura County, 2020).

B – Noise levels shown above were measured on 12/20/2018 and 12/21/2018. See Figure 2 (Appendix A) which shows the monitoring locations.

2.2.3 Regional Setting & Transportation Noise Receptors

The existing ambient noise environment near Project haul route (i.e., transportation) receptors is consistent with that of typical semi-urban/commercial areas. Existing noise sources include traffic on nearby roadways, agricultural operations, and commercial/industrial noise from facilities located on Pancho Road. Receptor 4 (R4) and Receptor 5 (R5) located within the vicinity of the Project haul routes are described below.

When considering a straight road segment, the noise levels are symmetrical on each side of the road and the same at any specified distance along the road (except near the ends of the road segment). For this reason, the nearest receptor to the road can be selected to conservatively represent noise impacts for a group of receptors (e.g. housing tract). In this NVIA, receptors were selected for each group of residences located near unique portions of the haul road geometry. These receptors (i.e., Receptors 4, 5A, 5B, and 5C) represent the worst-case impact for all receptors in that grouping. Figure 3 (Appendix A) shows the locations of the haul route receptors analyzed.

- **Receptor 4 (R4)** is the residence located in unincorporated Ventura County, just south of the intersection of Howard Road and Pancho Road. Noise sources near R4 primarily include nearby agricultural activities, as it is surrounded by active agricultural operations on all sides.

  Traffic noise generate by roadways to the north (e.g., Pleasant Valley Road, U.S. Highway 101, etc.) are faintly audible. Haul truck activity associated with the Project and surrounding agricultural operations are an infrequent but significant existing source of noise. This receptor generally has an unobstructed view of the Project haul route and passing trucks on Howard Road/Pancho Road. Due to the large distance between R4 and the Project site, existing aggregate plant and mining operations during the daytime are generally not audible from this location.

- **Receptor 5 (R5)** collectively represents the group of residences near the intersection of Pleasant Valley Road and Pancho Road within the City of Camarillo. Noise sources near R5 include cars on roads to the south and east (Pleasant Valley Road, U.S. Highway 101), as well as nearby agricultural and commercial operations. Pleasant Valley Road is a heavily trafficked roadway adjacent to R5, as it connects the U.S. Highway 101 to the north and the Pacific Coast Highway (State Route 1) to the south. Due to the large distance and intervening structures between R5 and the Project site, existing aggregate plant and mining operations are not audible from this location.

  The residences nearest to the intersection, as well as one to the north and west, were assessed. Noise impacts are analyzed at the three (3) representative residences in this area, shown as R5-A, R5-B, and R5-C, and are meant to represent worst-case impacts for the entire receptor area. There is an existing 6-foot sound wall that runs adjacent to these receptors along the entire length of Pleasant Valley Road (see Figures 6 and 7).

Ambient noise measurements were collected at Receptors R4 and R5 on January 23rd and 24th 2019. Both long-duration (24-hour) and short-duration (15-minute) measurements were collected using A-weighted energy equivalent sound levels on a slow response time at 1-minute intervals for the long-duration measurements and 10-second intervals for the short-duration measurements. Additional detail regarding the monitoring results and calculations are included in Appendix C. Table 4 presents the existing ambient noise levels at representative receptors along the Project's haul routes.

Table 4 Ambient Monitoring Results @ Transportation Receptors

Receptor	Receptor Type	Date(s) Measured	Average Hour (L_{eq}1H) A, C			CNEL
			Daytime	Evening	Nighttime	Outdoor
R4	Residence	1/23/2019 1/24/2019	59.8 dBA	50.7 dBA	47.9 dBA	58.9 dBA
R5	Residence(s)	1/23/2019 1/24/2019	77.4 dBA	66.3 dBA	65.4 dBA	62.2 dBA

Notes:

A – Daytime = 6:00 a.m. – 7:00 p.m., Evening = 7:00 p.m. – 10:00 p.m., Nighttime = 10:00 p.m. – 6:00 a.m. (Ventura County, 2020). These values are shown for informational purposes only.

B – CNEL = Sound levels measured during the evening hours (7:00 p.m. – 10:00 p.m.) are weighted by +5 dBA and sound levels measured during the nighttime hours (10:00 p.m. – 7:00 a.m.) are weighted by +10 dBA.

C – Noise levels shown above were measured on 1/23/2019 and 1/214/2019. See Figure 3 (Appendix A) which shows the monitoring locations.

Background noise levels at haul route receptors (R4 and R5) were also quantified using a computer model. Specifically, ambient noise levels were determined at R4 and R5 using a computer noise propagation model called SoundPLAN Essential 4.0. SoundPLAN Essential utilizes the same methods and algorithms as the Federal Highway Administration's *Traffic Noise Model* (TNM) to calculate noise impacts from traffic. In the TNM, a transportation noise source (e.g., Howard Road, Pleasant Valley Road, etc.) is input along with receptor locations to predict the noise levels associated with a specific vehicle trip count. Baseline traffic data collected by VRPA Technologies, Inc. (VRPA) on November 27th, 2018 and existing haul truck activity provided by Pacific Rock were input into the SoundPLAN Essential model to estimate background noise levels at haul route receptors. Table 5 presents the modeled background noise levels at haul route receptors. See Appendix E for additional information regarding this approach. Figure 6 in Appendix A displays the results of the baseline traffic noise model.

Table 5 Baseline Noise Modeling Results @ Transportation Receptors

Receptor	Receptor Type	Average Hour (L_{eq}1H) A, C			CNEL B, C
		Daytime	Evening	Nighttime	Outdoor
R4	Residence	53.2 dBA	34.6 dBA	25.6 dBA	50.3 dBA
R5-A	Residence(s)	59.9 dBA	53.8 dBA	49.8 dBA	59.7 dBA
R5-B	Residence(s)	60.2 dBA	54.7 dBA	50.6 dBA	60.3 dBA

Receptor	Receptor Type	Average Hour (L_{eq}1H) A, C			CNEL B, C
		Daytime	Evening	Nighttime	Outdoor
R5-C	Residence(s)	60.8 dBA	55.4 dBA	52.1 dBA	61.3 dBA

Notes: See Figure 6 (Appendix A) which shows the baseline noise levels modeled in SoundPLAN Essential.

A – Average L_{eq}1H: Daytime = 7:00 a.m. – 7:00 p.m., Evening = 7:00 p.m. – 10:00 p.m., Nighttime = 10:00 p.m. – 7:00 a.m.

B – CNEL = Sound levels measured during the evening hours (7:00 p.m. – 10:00 p.m.) are weighted by +5 dBA and sound levels measured during the nighttime hours (10:00 p.m. – 7:00 a.m.) are weighted by +10 dBA.

C – Baseline noise levels shown were modeled in SoundPLAN Essential 4.0, using actual traffic data collected by VRPA on 11/27/2018 and haul truck activity provided by Pacific Rock.

When comparing the measured ambient noise levels in Table 4 to the modeled ambient noise levels in Table 5, the baseline noise levels modeled in SoundPLAN are lower than the ambient noise levels measured on January 23rd and 24th 2019. This is primarily because the SoundPLAN model only considers noise generated by vehicles on affected roadways, and excludes any other ambient noise sources (e.g., agricultural activities, nearby commercial centers, etc.) that exist in the areas around R4 and R5. Because the focus of this traffic noise analysis is to determine the impacts of new haul truck activity during the evening and nighttime hours, using the modeled baseline values is more appropriate. This is also a more conservative approach, as the lower numbers determined within the model present a lower baseline by which Project impacts are compared to (i.e., lower baseline means a greater chance for Project impacts).

2.3 Regulatory Setting

The regulatory setting consist of the Ventura County *2040 General Plan – Hazards and Safety Element, Noise* (Ventura County, 2020), Ventura County *Initial Study Assessment Guidelines* (Ventura County, 2011), Ventura County *Construction Noise Threshold Criteria and Control Plan* (Ventura County, 2010), as well as applicable California Department of Transportation (Caltrans) and Federal Transit Administrations (FTA) guidance documents.

2.3.1 Ventura County General Plan Noise Element

The Ventura County 2040 General Plan – Hazards and Safety Element, Noise (Chapter 7.9) (Ventura County, 2020) presents standards for development of new noise-generating uses based on the noise sensitivity of a project's surroundings. The General Plan includes hourly (L_{eq}1H) significance thresholds for the daytime (6:00 a.m. to 7:00 p.m.), evening (7:00 p.m. to 10:00 p.m.), and nighttime (10:00 p.m. to 6:00 a.m.) hours. These hourly thresholds apply to "noise generators proposed to be located near any noise sensitive use". Noise sensitive uses include "residences; schools; historic sites; cemeteries; parks, recreation, and open space areas; hospitals and care facilities; sensitive wildlife habitats, including the habitat of rare, threatened, or endangered species; hotels and other short-term lodging (e.g., bed and breakfasts, and motels); places of worship; and libraries" as defined within the 2040 General Plan. A copy of the relevant 2040 General Plan text is included in Appendix B.

The 2040 General Plan also includes significance thresholds for sensitive receptors located near relatively continuous noise sources, such as roads, that use the Community Noise Equivalent Level (CNEL) noise metric. As defined in Section 2.1.1, CNEL describes noise impacts over a 24-hour period with penalties for noise generated during the evening (7:00 p.m. – 10:00 p.m.) and nighttime (10:00 p.m. – 7:00 a.m.) hours. The CNEL nighttime and daytime timeframes differ from the timeframes considered in the General Plan/CEQA Guidelines standards by one hour (CNEL daytime begins at 7:00 a.m. vs. 6:00 a.m. under the General Plan L_{eq}1H standard). The CNEL standard applies to transportation sources that vary over time and, per the General Plan Hazards and Safety Element, is the metric applied to Projects that cause traffic impacts to existing receptors.

In addition to the Ventura County 2040 General Plan criteria described above, the General Plan also presents a comprehensive land-use compatibility guideline graphic chart developed by the former California Office of Noise Control (CONC). This chart presents planning noise standards based on a sliding scale of impacts, ranging from “normally acceptable” to “clearly unacceptable” depending on the specific type of land use (e.g., residential, commercial, industrial, etc.) potentially impacted. While the land-use compatibility is not utilized to determine the significance of Project noise impacts, it is presented in this NVIA for information purposes. Please see Appendix B which presents the state land use compatibility chart taken from the Ventura County 2040 General Plan – Hazards and Safety Background Report (Chapter 11 – Hazards and Safety, Section 11.6 – Noise and Vibration, Table 11-10 – State Land Use Compatibility Standards for Community Noise Environment).

2.3.2 Ventura County Initial Study Assessment Guidelines

The Ventura County CEQA Guidelines (Ventura County, 2011) present methodologies for measuring noise levels and determining if their associated impacts are significant. Significance thresholds depend on ambient noise levels in the area of the project during each applicable time periods. If ambient levels are less than the thresholds, then the “fixed” thresholds are used. If ambient levels are greater than the fixed thresholds, then the “ambient noise +3 decibels (dB)” is used as the significance threshold. The CEQA Guidelines standards were used in the County General Plan described above (Appendix B).

The vibration thresholds referenced in the CEQA Guidelines are from the *Transit Noise and Vibration Impact Assessment Manual* (Federal Transit Administration, 2018), and apply to frequent vibration events from transportation sources (i.e., highways, rail lines, etc.), not blasting events. Therefore, the Caltrans vibration thresholds described below are utilized to determine the significance of infrequent vibration impacts resulting from blasting events.

2.3.3 Californian Department of Transportation

The *Transportation and Construction Vibration Guidance Manual* (California Department of Transportation, 2013) includes a chapter (Chapter 11) about blasting impacts assessment. In the absence of an established, local blasting vibration significance threshold guidance, criteria in the Caltrans manual are used to determine the significance of groundborne vibration in this NVIA.

2.3.4 Neighboring City Requirements

The Project site is located in unincorporated Ventura County, but has the potential to generate impacts at receptors located within the nearby cities of Camarillo and Thousand Oaks. Specifically, residential receptors (i.e., R1 and R2) and recreation/open space area receptor(s) to the east (i.e., R3) are located within the City of Thousand Oaks, and those located to the west (i.e., R5) are within the City of Camarillo.

The Thousand Oaks General Plan Noise Element (City of Thousand Oaks, 2000) includes land use planning standards for noise which are based on a sliding scale of impacts, where for low-density residential, 55 dBA CNEL is “clearly acceptable”, 60 dBA CNEL is “normally acceptable”, 65 dBA CNEL is “conditionally acceptable”, and 75 dBA CNEL is “normally unacceptable”. The Camarillo General Plan Noise Element (City of Camarillo, 2015) also includes similar sliding scale noise criteria. Specifically, for low-density residential, 60 dBA CNEL is “normally acceptable”, 70 dBA CNEL is “conditionally acceptable”, and 75 dBA CNEL is “normally unacceptable”.

The Camarillo Municipal Code also contains specific noise regulations (Chapter 10.34). The Municipal Code includes significance thresholds for daytime (7:00 a.m. to 9:00 p.m.) and nighttime (9:00 p.m. to 7:00 a.m.) that are identical to the Ventura County General Plan thresholds for these same time periods. The only differences are the Municipal Code lacks a separate evening (7:00 p.m. – 10:00 p.m.) standard, and the daytime period begins one hour later (7:00 a.m.) while the nighttime period begins one hour earlier (9:00 p.m.) compared to the County's General Plan standards.

3.0 PROJECT DESCRIPTION

Pacific Rock has prepared a CUP Modification (LU10-003) application to modify their existing permitted operations under CUP 3817-3. Features of the Project that may affect the noise and vibration environment are as follows.

- Extend the life of the existing permitted operations.
- Expand the mining area boundary to the east, north, and south (Figure 2).
- Extend the operating schedule from six (6) to seven (7) days per week (to include material load out on Sundays).
- Allow additional material load out hours and a limited number of extended 24-hour operation days (60 days maximum per year).
- Operate a portable crushing and screening plant to recycle concrete debris (Recycle Plant).
- Install a structure for a 24-hour onsite security guard.

Table 6 summarizes and compares the existing and proposed operational parameters for the Project. Section 3.1 describes the onsite non-transportation noise and vibration sources (e.g., mobile excavation and stationary processing equipment, blasting, etc.) associated with the Project. Section 3.2 describes the offsite transportation sources of noise (i.e., haul truck activity on roadways) associated with the Project.

Table 6 Project Operational Parameters (Existing vs. Proposed)

<table>
<tr><th rowspan="2">Activity</th><th colspan="2">Operational Parameters</th><th rowspan="2">Change?</th></tr>
<tr><th>Current Operations</th><th>Proposed Operations</th></tr>
<tr><td rowspan="3">Excavation & Processing (e.g., aggregate excavation and processing, and use of explosives)</td><td>CUP Boundary = 115.5 acres</td><td>CUP Boundary = 204.5 acres</td><td>+89 acres (approx.)</td></tr>
<tr><td>7:00 a.m. – 4:00 p.m. Monday – Saturday</td><td>7:00 a.m. – 4:00 p.m. Monday – Saturday</td><td>No Change</td></tr>
<tr><td>Daily Production = 2,400 tons/day (mining/processing)</td><td>Daily Production = 2,400 tons/day (mining/processing)</td><td>No Change</td></tr>
<tr><td>Recycling Operations (crushing and screening of concrete debris)</td><td>None</td><td>7:00 a.m. – 4:00 p.m. Monday – Saturday</td><td>New Operation</td></tr>
<tr><td>Equipment Fueling and Maintenance</td><td>5:30 a.m. – 10:00 p.m. Sunday – Saturday</td><td>5:30 a.m. – 10:00 p.m. Sunday – Saturday</td><td>No Change</td></tr>
<tr><td rowspan="3">Truck Activity (use of water truck, material loading, entrance and exit)</td><td>Daily Limit = 120 trips/day</td><td>Daily Limit = 120 trips/day</td><td>No Change</td></tr>
<tr><td>Haul Route = Howard Road, Pancho Road, Pleasant Valley Road</td><td>Haul Route = Howard Road, Pancho Road, Pleasant Valley Road</td><td>No Change</td></tr>
<tr><td>7:00 a.m. – 4:00 p.m. Monday – Saturday</td><td>5:30 a.m. – 10:00 p.m. Sunday – Saturday</td><td>Additional Hours & Days</td></tr>
<tr><td>Limited 24-hour operations* (60 Days Maximum Per Year)</td><td>None</td><td>24 Hours Sunday – Saturday</td><td>New Operation</td></tr>
<tr><td colspan="4">* Extended processing and trucking is permitted for 60 days per year to satisfy Public Works, Caltrans, and other special/emergency projects that require nighttime deliveries. Daily truck trip limit (i.e., 120 trips/day) would remain unchanged during 24-hour emergency haul truck operations.</td></tr>
</table>

3.1 Non-Transportation Noise Sources

From a noise and vibration perspective, the primary onsite (i.e., non-transportation) modification proposed by this Project is the extension of the existing excavation operations to the east, north, and south (approximately 89 additional acres). This expansion would correct the existing slope conditions at the northerly and northeasterly side of the quarry, as well as expand onto recently acquired adjacent land. Aggregate excavation in these areas would be conducted in the same manner as currently occurs onsite, specifically by blasting and then pushing the loosened material over a steep slope. The following noise generating mobile equipment would continue to be used during aggregate excavation in the expanded mining areas. See Appendix D for additional information regarding the Project's onsite (i.e., non-transportation) mobile equipment noise sources:

- Front-End Loader
- Dozer
- Excavator
- Water Truck
- Rock Drill

In addition to the expanded excavation boundary, Pacific Rock is proposing to operate a portable crushing and screening plant (Recycle Plant). The Recycle Plant would be used to recycle concrete debris into reusable materials. The portable Recycle Plant would operate in various locations within the center of the Project site, near the existing aggregate processing plant (see Figure 2). The Recycle Plant would operate during the same daytime time periods as the aggregate excavation and processing operations (Monday – Saturday, 7:00 a.m. – 4:00 p.m.). Please see Appendix D for additional information related to the Recycle Plant.

The Project also involves installation of a small structure to house a 24-hour onsite security guard. However, this Project component does not involve significance noise generating activities and would occur away from nearby receptors (Figure 2). Therefore, impacts from this proposed activity are not analyzed within this NVIA.

Although operations associated with the existing aggregate processing plant are considered part of the permitted baseline, and noise generated by this existing operation was captured in the ambient measurements (see Section 2.2), this source has also been included as a new Project source in the onsite noise analysis. Using this method is conservative, as generally existing sources operating while ambient measurements are collected are not also included within the Project impact calculations as this produces artificially high results. However, due to community concerns related to cumulative noise impacts, conservatively noise generated by the existing Aggregate Plant is also analyzed along with the other proposed onsite sources (i.e., mobile equipment in expanded mining areas, Recycle Plant). Please see Section 5.1 for more detail.

Since blasting activities are occasional and very short in duration (about 1-second), they do not have any substantial effect on the noise environment in the area. Blasting would continue to occur during daytime operating hours only (7:00 a.m. – 4:00 p.m.), and in the same manner as currently occurs onsite. Therefore, noise impacts from blasting operations are not assessed within this NVIA. Although noise impacts from blasting events are not analyzed, noise impacts from the rock drill, which is a noisy component of the blasting operations, is included in the onsite excavation noise assessment described above (Appendix D).

While blasting is not a concern from a noise perspective, it may have vibration impacts on the surrounding areas. This is especially true for Receptor 2 (R2) and Receptor 3 (R3) (see Section 2.2.2) since the Project proposes to extend excavation farther east towards this group of receptors. While the intervening mountains may help to reduce noise impacts at R2 and R3, vibration travels more readily through solids. Blasting activities would continue in the same manner as previously permitted. The following details describe the blasting process:

- 3-inch diameter holes to a depth of approximately 40-feet (rock drill utilized).
- 110 pounds of ammonium nitrate fuel oil (ANFO) explosives per hole.

- Larger blasts occur approximately twice a year and include 40 holes per blast.
- Smaller blasts occur a couple of times per week and include 10 holes per blast.
- There is a 5-millisecond delay between blasting in each hole.

3.2 Transportation Noise Sources

As part of the Project, Pacific Rock is requesting that Condition #38 be approved with this permit modification to continue allowing a maximum of 60 trucks (120 one-way trips) per day, and allow the Planning Director to authorize an increase in the maximum number of vehicles during emergencies. While the number of daily truck trips would not change, as shown in Table 6 the proposed haul truck operational hours have been expanded. Currently, haul truck activity occurs during daytime hours only (7:00 a.m. – 4:00 p.m.). Under the proposed Project, haul truck activity could occur during the additional nighttime hours of 5:30 a.m. to 7:00 a.m., daytime hours of 4:00 p.m. to 7:00 p.m., and the evening hours of 7:00 p.m. to 10:00 p.m. Additionally, the proposed 24-hour material load out and haul truck activities during emergency Public Works, Caltrans, or special projects also has the potential to produce noise impacts. Due to these extended haul truck hours, residential receptors along the Project haul route(s) may experience new noise impacts. Therefore, offsite haul truck noise impacts during the evening and nighttime hours are analyzed within this NVIA.

4.0 SIGNIFICANCE THRESHOLDS

According to the Appendix G Checklist in the CEQA Guidelines, a Project would have a significant environmental noise effect if it would result in the following:

a) *Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

b) *Generation of excessive groundborne vibration or groundborne noise levels?*

c) *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

4.1 Ventura County Noise Regulations & Significance Thresholds

As discussed in Section 2.3, Ventura County has adopted various guidelines, requirements and policies related to noise. Applicable Ventura County noise criteria are utilized to address CEQA Checklist item *a)*. Specifically, the Ventura County 2040 General Plan – Hazards and Safety Element and CEQA Guidelines include significance thresholds for noise impacts at sensitive receptors, which state the following:

(1) *Noise sensitive uses proposed to be located near highways, truck routes, heavy industrial activities and other relatively continuous noise sources shall incorporate noise control measures so that:*

  a. *Indoor noise levels in habitable rooms do not exceed CNEL 45; and*

  b. *Outdoor noise levels do not exceed CNEL 60 or L_{eq}1H of 65 dB(A) during any hour.*

(4) *New noise generators, proposed to be located near any noise sensitive use, shall incorporate noise control measures so that ongoing outdoor noise levels received by the noise sensitive receptor, measured at the exterior wall of the building, does not exceed any of the following standards:*

  a. *L_{eq}1H of 55dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 6:00 a.m. to 7:00 p.m.*

  b. *L_{eq}1H of 50dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 7:00 p.m. to 10:00 p.m.*

  c. *L_{eq}1H of 45dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 10:00 p.m. to 6:00 a.m.*

Part (1) of this standard is primarily intended to be applied to new sensitive receptors (e.g., schools, residences, etc.) located next to existing noise sources (i.e., roads, railroads, highways). However, as discussed in Section 2.3.1, this standard may also appropriately be applied to projects that cause new traffic noise impacts to existing sensitive receptors. When assessing haul truck noise impacts over the course of a full operating day (e.g., 10.5-hours, 24-hours, etc.), the CNEL standard in Part (1) is more appropriate than the L_{eq}(1H) standard, which only assesses noise impacts within a 1-hour timeframe. The CNEL standard also applies penalties to noise generated during the evening and nighttime hours, when receptors would be most sensitive to noise generated by new haul truck operations. Therefore, the standard presented in Part (1) from the County General Plan is utilized to determine the significance of noise impacts resulting from Project haul truck activity (i.e., transportation sources). Conversely, the L_{eq}(1H) standards in Part (4) are more appropriate for the inconsistent noises generated by industrial equipment sources (i.e., mining equipment, Aggregate and Recycle Plant). For these reasons, the CNEL criteria presented in Part (1) is applied to transportation receptors located near the Project haul route (R4 and

R5), and the daytime, evening, and nighttime L_{eq}(1H) criteria presented in Part (4) are applied to non-transportation receptors located near the Project site (R1, R2 and R3).

As discussed in Section 2.3.1, the Noise Element criteria are meant to apply "sensitive receptors", which are defined as "residences; schools; historic sites; cemeteries; parks, recreation, and open space areas; hospitals and care facilities; sensitive wildlife habitats, including the habitat of rare, threatened, or endangered species; hotels and short-term lodging (e.g., bed and breakfast, and motels); places of worship; and libraries". All of the receptors analyzed within this NVIA are considered "noise sensitive uses" per the 2040 General Plan, specifically "residences" (R2, R4 and R5), "parks, recreation, and open space" (R3) and "cemeteries" (R1). Therefore, the standards presented in Part (1) and Part (4) specific to these "noise sensitive uses" are applied to determine Project noise impacts.

In general, noise level changes of less than 3 dBA are not perceptible, and therefore 3+ dBA increase is commonly considered a "substantial increase" for the purposes of environmental noise assessment. This concept is used in Part (4) of the County standard to account for receptors where the existing background noise already exceeds the specified "fixed" criteria. Similarly, ambient plus 3+ dBA is also considered the significance criteria for Part (1) when the background CNEL noise levels exceed the specified standard. The applicable General Plan significance criteria are summarized in Table 7.

Table 7 Ventura County Noise Criteria

<table>
<tr><th colspan="3">Industrial Source (Non-Transportation) Criteria</th><th colspan="2">Traffic Source (Transportation) Criteria</th></tr>
<tr><th>Time Period</th><th>Hours</th><th>Threshold L_{eq}(1H)</th><th>Outdoor</th><th>Indoor</th></tr>
<tr><td>Daytime</td><td>6:00 a.m. – 7:00 p.m.</td><td>55 dBA or ambient +3 dBA</td><td rowspan="3">CNEL = 60 dBA or ambient +3 dBA
L_{eq}(1H) = 65 dBA or ambient +3 dBA</td><td rowspan="3">CNEL = 45 dBA or ambient +3 dBA</td></tr>
<tr><td>Evening</td><td>7:00 p.m. – 10:00 p.m.</td><td>50 dBA or ambient +3 dBA</td></tr>
<tr><td>Nighttime</td><td>10:00 p.m. – 6:00 a.m.</td><td>45 dBA or ambient +3 dBA</td></tr>
</table>

Source: Ventura County 2040 General Plan, Hazards and Safety Element, Noise (Chapter 7.9), September 2020.

Referring to monitoring results presented in Table 3, the ambient noise levels measured at the non-transportation receptors (R1 and R2/R3) are less than the applicable 1-hour (L_{eq}1H) "fixed thresholds" for the daytime, evening, and nighttime periods. Therefore, the "fixed thresholds" are utilized to determine the significance of Project noise impacts at Receptors R1, R2 and R3.

Table 8 Non-Transportation Significance Criteria

Receptor	Receptor Type	Daytime (L_{eq}1H)	Evening (L_{eq}1H)	Nighttime (L_{eq}1H)
Receptor 1	Cemetery	55.0 dBA	50.0 dBA	45.0 dBA
Receptor 2	Residence(s)	55.0 dBA	50.0 dBA	45.0 dBA
Receptor 3	Recreation/Open Space	55.0 dBA	50.0 dBA	45.0 dBA

See Appendix C for more detail.

For the Project haul route receptors (R4 and R5), modeled ambient noise levels shown in Table 5 exceed the outdoor "fixed threshold" of 60 dBA CNEL at Receptor 5 (R5). Therefore, per Ventura County guidance, the ambient noise levels "+3 dBA" would be utilized to determine the significance of the Project's outdoor noise impacts at haul route Receptor(s) R5. These adjusted significance criteria for R5 (i.e., R5-A, R5-B, R5-C) are summarized in Table 9 below. Please note, the modeled ambient outdoor noise level at Receptor 4 (R4) was below the applicable "fixed" CNEL thresholds. Therefore, the "fixed thresholds" of 60 dBA CNEL is utilized to determine the significance of traffic impacts at R4.

Table 9 Transportation Significance Criteria

Receptor	Receptor Type	Outdoor (CNEL)
Receptor 4	Residence	60.0 dBA
Receptor 5-A	Residence(s)	62.7 dBA
Receptor 5-B	Residence(s)	63.3 dBA
Receptor 5-C	Residence(s)	64.3 dBA

Note: Per Standard (1) within the Ventura County Hazards and Safety Element, Noise Chapter, the "fixed" CNEL significance criteria is 60 dBA for outdoor noise levels experienced at sensitive receptors. See Appendix E for more detail.

4.1.1 Neighboring City Criteria Discussion

As discussed in Section 2.3.4, although the Project site is located in unincorporated Ventura County, some of the affected receptors are located within the nearby Cities of Camarillo and Thousand Oaks. Specifically, residential receptors (i.e., R1 and R2) and recreation/open space receptors (i.e., R3) to the east are located within Thousand Oaks, and those located to the west (i.e., R5) are within Camarillo.

The Thousand Oaks General Plan Noise Element (City of Thousand Oaks, 2000) and Camarillo General Plan Noise Element (City of Camarillo, 2015) include land use planning standards for noise based on a sliding scale of impacts. These standards are identical to the sliding scale found in the Ventura County General Plan land-use compatibility chart (Appendix B). Since the Ventura County Noise Element noise criteria are identical to Thousand Oaks and Camarillo General Plan criteria, the Ventura County standards are used to determine significance of noise impacts at Receptors R1, R2, R3 and R4 in this NVIA. Additionally, the County 1-hour (L_{eq}1H) criteria during the daytime, evening, and nighttime periods is more stringent than the 24-hour CNEL standards, and is therefore conservative in comparison (i.e., impacts that do not exceed the Ventura County L_{eq}1H thresholds would not exceed the Thousand Oaks/Camarillo Noise Element CNEL thresholds).

The Camarillo Municipal Code also contains specific noise regulations (Chapter 10.34). As some of the Project haul route receptors (i.e., R5) are located within the City limits, these standards may apply. The Municipal Code includes noise level limits for daytime (7:00 a.m. to 9:00 p.m.) and nighttime (9:00 p.m. to 7:00 a.m.) that are identical to the Ventura County General Plan thresholds for these same time periods (55 dBA and 45 dBA respectively). The only differences are the Municipal Code lacks a separate evening (7:00 p.m. – 10:00 p.m.) standard, and the daytime period begins one hour later (7:00 a.m.) while the nighttime period begins one hour earlier (9:00 p.m.) compared to the periods in the Ventura County General Plan standards. Due to the inclusion of a separate evening standard/penalty, on balance the Ventura County thresholds are more stringent than the Camarillo Municipal Code. Furthermore, because the residential receptor(s) located within the City of Camarillo are haul route receptors (i.e., R5), and exposed to relatively continuous noise sources, the 24-hour CNEL Noise

Element significance threshold is more appropriately applied. For this reason, the Ventura County 2040 General Plan – Hazards and Safety Element (Chapter 7.9 – Noise) CNEL thresholds shown in Table 9 are utilized to determine Project impacts at haul route receptors.

4.2 Vibration Significance Thresholds

While the CEQA Guidelines refer to thresholds in the FTA's *Transit Noise and Vibration Impact Assessment* (Federal Transit Administration, 2018), they are not appropriate to apply to blasting vibration. The *Transit Noise and Vibration Impact Assessment* thresholds are meant to be applied to transit sources that occur frequently throughout the day, which have a higher likelihood of causing damage and annoyance than infrequent, short duration (about 1-second) blasting events. For this reason, as discussed in Section 2.3.3, blasting specific thresholds from the Caltrans *Transportation and Construction Vibration Guidance Manual* (California Department of Transportation, 2013) are used to determine the significance of Project blasting vibration in this NVIA. This threshold criterion is utilized to address CEQA Checklist item *b)*.

There are two (2) types of vibration significance thresholds, damage and annoyance. The damage thresholds are intended to prevent damage to structures while annoyance thresholds are intended to prevent annoyance to nearby residents. Table 22 in the Caltrans *Transportation and Construction Vibration Guidance Manual* includes a list of vibration levels and their effects on structures from a variety of sources. Table 10 below includes a number of these vibration levels. Note that a peak particle velocity (PVV) of 2.0 inches per second (in/sec) is utilized as the damage threshold in this NVIA.

Table 10 Vibration Structure Damage

Category	PPV (in/sec)
Equivalent to jumping on the floor	0.3
Equivalent to door slam	0.5
Equivalent to nail driving	0.9
No damage to a residential structure	**<2.0**
Probable damage to a residential structure	>4.0

Source: Table 22 within the Caltrans *Transportation and Construction Vibration Guidance Manual* (California Department of Transportation, 2013).

Table 11 presents the human response to blasting as described in the *Transportation and Construction Vibration Guidance Manual*. As there is a difference between perceptibility and annoyance, it is not appropriate to adopt a threshold of perceptibly to determine the significance of infrequent blasting events. The *Transportation and Construction Vibration Guidance Manual* indicates that "while a blaster can quite easily design his blasts to stay well below any vibration or air overpressure levels that could cause damage, it is virtually impossible to design blasts that are not perceptible by people in the vicinity." This NVIA conservatively uses the strongly perceptible PPV level of 0.50 in/sec to determine significance of blasting events from an annoyance standpoint.

Table 11 Human Response to Blasting Vibration

Average Human Response	PPV (in/sec)
Barely to distinctly perceptible	0.02 – 0.10
Distinctly to strongly perceptible	0.10 – **0.50**
Strongly perceptible to mildly unpleasant	0.50 – 1.00
Mildly to distinctly unpleasant	1.00 – 2.00
Distinctly unpleasant to intolerable	2.00 – 10.00

Source: Table 21 within the Caltrans *Transportation and Construction Vibration Guidance Manual* (California Department of Transportation, 2013).

5.0 METHODOLOGIES

5.1 Assessment Methodologies – Non-Transportation Sources

As discussed in Section 3.1, the primary modification proposed by the Project from an onsite (i.e., "non-transportation") noise perspective is the expansion of the excavation operations. To determine impacts at nearby receptors, excavation equipment noise levels are quantified in this NVIA based on the expanded mining boundary. Figure 2 (Appendix A) shows the location of the expanded mine boundary and the nearest receptors of concern (R1, R2 and R3). To quantify the noise generated by the Project non-transportation noise sources (i.e., mobile mining and processing equipment), reference data from the *Construction Noise Threshold Criteria and Control Plan* (Ventura County, 2010) and the FHWA's *Roadway Construction Noise Model User Guide* (Federal Highway Administration, 2006) was utilized. Appendix D contains more detail related to the mobile equipment reference noise levels.

In addition to the expanded mining boundary, the Project would allow the operation of a portable Recycle Plant in various locations near the center of the Project site (Figure 2). The Recycle Plant would operate during the same daytime time periods as aggregate excavation and processing operations. As discussed in Section 3.1, although the aggregate processing plant (Aggregate Plant) is an existing permitted operation, conservatively noise generated by the plant has also been included in the non-transportation noise analysis. Figure 2 (Appendix A) displays the general area where the proposed portable Recycle Plant would operate onsite, as well as the existing location of the aggregate processing plant. As shown on Figure 2, the area closest to each receptor where the Recycle Plant could potentially operate was assessed to determine worst-case daytime noise impacts.

As discussed in Section 2.2.2, existing onsite operations are generally not audible at R2 and R3, and only faintly audible at R1. The ridge of the mountain and existing pit walls generally block line-of-site between the equipment noise sources and nearby receptors (R1, R2 and R3). A detailed analysis of the topography in and around the Project site was conducted for the three (3) residences that comprise Receptor 2 (i.e., R2-A, R2-B, and R2-C) and for the portion of the nearby hiking trail(s) represented by Receptor 3 (R3). Line-of-sight assessments were conservatively modeled from a second story vantage point (i.e., 15-feet above the ground surface) using current topographic data. As shown in Figure 4A and Figure 4C (Appendix A), Receptors R2-A, R2-C and R3 do not have line-of-sight to new Project excavation areas due to intervening mountains and topography. However, as shown on Figure 4B, Receptor 2-B (R2-B) is expected to have line-of-sight to three (3) new excavation areas located to the north. Figure 5 depicts these three (3) potential line-of-site (LoS) areas, shown as LoS-A, LoS-B, and LoS-C, in relation to Receptor 2-B. Receptor 2-B will potentially have direct line-of-sight to mobile equipment operating in these areas, and therefore no noise attenuation would result in this location due to the lack of intervening topography. Therefore, noise levels generated by mobile equipment operating within area LoS-A (Figures 4B and 5) were utilized to represent worst-case daytime noise impacts at Receptor 2-B (R2-B). Appendix D contains additional detail regarding the line-of-sight analysis.

Figure 2 (Appendix A) displays where the portable Recycle Plant would operate, specifically within the bottom of the existing excavation pit near the center of the Project site. The existing Aggregate Plant is also located in this area. Due to the intervening mountain range (Figures 4A, 4B, and 4C), residences at Receptor 2 and hikers at Receptor 3 are not expected to have line-of-sight to the existing Aggregate Plant or proposed Recycle Plant locations. Therefore, noise attenuation is assumed for these receptor-source combinations. Although it is anticipated that the existing excavation pit walls may shield views of the existing Aggregate Plant and proposed Recycle Plant from Receptor 1 (R1), this receptor may have line-of-sight to the top portions of the plant structures. Therefore, conservatively it is assumed that Aggregate Plant and Recycle Plant noise would not be attenuated at Receptor R1.

The non-transportation (i.e., onsite industrial noise sources) impact calculations (Appendix D) are based on the following conservative assumptions:

- As shown in Table 6, excavation and aggregate processing operations would continue to occur during the daytime hours only (7:00 a.m. – 4:00 p.m.). The proposed Recycle Plant would also operate during daytime hours only. As such, only daytime noise impacts from onsite sources would occur at Receptors 1 (R1), 2 (R2) and 3 (R3).
- The excavation equipment identified in Section 3.1 is conservatively assumed to operate simultaneously in the mining area or applicable line-of-sight (i.e., LoS) area closest to each receptor during the peak hour. This includes a loader, a dozer, an excavator, a rock drill, and a water truck. This is conservative because in reality not all mobile equipment would operate simultaneously in a single physical location closest to each receptor. For example, the rock drill is only used prior to blasting events, and would therefore operate separately from the other mobile equipment.
- Noise levels associated with the existing Aggregate Plant and proposed portable Recycle Plant are based on field measurements collected by Sespe Consulting, Inc. in 2020 from comparable rock crushing/recycling operation in Otay Mesa, California. This data was utilized in a previous Sespe study with a similar crushing/recycle plant (Sespe Consulting, Inc., 2020). In addition to the plants, when these measurements were collected at the Otay Mesa facility other ancillary equipment, specifically haul trucks and two (2) loaders, were also operating nearby simultaneously. Therefore, the noise levels measured at this facility represent a conservative overestimation of the noise generated by Pacific Rock's existing Aggregate Plant and proposed Recycle Plant. Appendix B contains relevant source noise references for the existing Aggregate Plant and proposed Recycle Plant.
- Noise impacts at receptors are calculated using standard logarithmic propagation equations from the guidance documents. These equations are also found in the applicable guidance documents published by the Federal Transit Administration (FTA) and Caltrans. This equation uses a logarithmic scale, with an approximate noise propagation factor of 6 decibels (dB) per doubling of distance.

  Six (6) decibels per doubling of distance is accepted as the appropriate propagation factor for environmental noise impact assessments. As explained in the Caltrans *Technical Noise Supplement* (California Department of Transportation, 2013), sound from a small localized source radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates or drops off at a rate of 6 dBA for each doubling of the distance. This decrease, resulting from the geometric spreading of the energy over an ever-increasing area, is referred to as the inverse square law. Appendix B presents an excerpt from the Caltrans guidance document.
- Peak 1-hour (L_{eq}1H) excavation noise levels are conservatively calculated when excavation equipment is operating as close to the affected receptors as possible (Figure 2) or within closest area with direct line-of-sight to the affected receptor (Figure 5).
- When looking at onsite noise impacts from mobile equipment (i.e., excavation operations), the crest of intervening mountain ranges between the equipment sources and R2 (i.e. R2-A, R2-B, R2-C) and R3 is estimated to provide -10 dBA of attenuation. Please see the barrier insertion loss calculations in Appendix D, which quantify the amount on noise attenuation expected due to the mountain ridge blocking line-of-sight between source and receptor. This is true of Receptors R2-A (Figure 4A) and R2-C and R3 (Figure 4C) as the intervening topography blocks their line-of-sight to the mine expansion areas. However, there is a potential for line-of-sight to exist between portions of the extended excavation areas and R2-B in three (3) locations to the north (Figure 4B). The closest excavation area with line-of-sight to R2-B is approximately 1,652 feet away (Figure 5). Mining in this area (i.e., LoS-A) would result in worst-case noise

impacts to receptor R2-B and is therefore utilized to determine significance (see calculations in Appendix D). As the excavation proceeds, the mass and height of intervening mountains would increase between the source and receptor resulting in increased noise attenuation and lower impacts at R2-B.

- For the existing Aggregate Plant and proposed Recycle Plant, the crest of intervening terrain between the plant locations and R2 and R3 also completely blocks line-of-sight between the noise sources and these receptors. Figures 4A, 4B, and 4C (Appendix A) show the line-of-sight geometry, and Appendix D which contains barrier insertion loss calculations. Therefore, an attenuation of -10 dBA is assumed at Receptor 2 (R2) and 3 (R3) when analyzing noise impacts from the Aggregate Plant and Recycle Plant operations. However, as described above, there is a potential for line-of-sight to exist between the Recycle Plant and R1. Therefore, no attenuation is assumed for the plant noise levels at R1.
- Total vibration impacts from blasting activities are determined in this NVIA based on the International Society of Explosives Engineers *Blasters' Handbook*, 17th Edition (International Society of Explosives Engineers, 1998), the blasting parameters described in Section 3.1, and the closest distance between the blasts and the receptors. The vibration equation presented in the *Blasters' Handbook* is identical to the equation outlined in applicable Caltrans guidance documents (California Department of Transportation, 2013).

Limited evening and nighttime activities are proposed as part of the Project to satisfy potential Public Works, Caltrans, and other special or emergency projects. However, only load out to haul trucks would be conducted during any extended evening and nighttime operations. Excavation and aggregate processing activities would continue to occur during daytime hours only (see Section 3.0). Nighttime load out activities would potentially impact R1 but, because the funeral home is only occupied during the daytime hours, noise during limited evening and nighttime operations would not adversely affect this land use. Additionally, these limited evening and nighttime operations would also not impact R2 and R3 due to the large distance between the truck loading area and receptors (minimum 2,295 feet), as well as the minimum -10 dBA attenuation provided by the intervening terrain. As discussed in Section 2.2.2, the existing aggregate processing plant and truck loading noise was not audible at R2 and R3 during previous site visits.

5.2 Assessment Methodologies – Transportation Sources

Project traffic/transportation noise impacts at receptors located along haul routes would result from aggregate delivery haul trucks on public roads. Project transportation noise was assessed using the SoundPLAN Essential 4.0 model software. As discussed in Section 2.2.3, SoundPLAN Essential uses the FHWA's *Traffic Noise Model* (TNM) algorithm to predict traffic noise impacts. Baseline traffic data on affected roadways was collected by VRPA Technologies, Inc. (VRPA) by measuring actual vehicle counts measured over a 24-hour period on November 27th, 2018. As discussed in Section 3.2, the daily haul truck trips associated with the Project would not change from existing levels (i.e., 60 loads/day, 120 one-way trips/day).

Total traffic count was modeled with SoundPLAN by combining the actual traffic counted by VRPA with estimated average hourly haul truck activity from the Pacific Rock Quarry. Specifically, SoundPLAN estimates that the existing daily truck trips (120 truck trips/day) would be spread evenly throughout the current operating day hours (i.e., average of 13 truck trips/daytime hour). Per the existing CUP, haul truck activity is limited to occur between 7:00 a.m. and 4:00 p.m. only. Using the methodology described above and average hourly baseline traffic data during the daytime, evening, and nighttime time periods, the SoundPLAN Essential model was used to calculate the baseline CNEL noise levels at Receptors R4 and R5 located along the haul route. Figure 6 (Appendix A) displays the results of the baseline noise model.

While the daily number of haul truck trips would not change from existing permitted levels (i.e., 60 loads/day, 120 one-way trips/day), the time period truck trips may occur would change. Specifically, allowing proposed 24-hour haul truck activity to satisfy Public Works, Caltrans, and other special/emergency projects would result in redistribution of daytime haul truck trips to periods during the evening and nighttime hours. The Project was modeled in SoundPLAN Essential assuming that all truck trips occur evenly throughout the evening (7:00 p.m. – 10:00 p.m.) and nighttime (10:00 p.m. – 7:00 a.m.) hours (i.e., average of 5 truck trips per evening/nighttime hour). This is conservative, as the CNEL noise metric adds the greatest penalty/weight to noise generated during these time periods (+5 dBA for evening noise, +10 dBA for nighttime noise).

Project noise impacts at haul route receptors (R4 and R5) were modeled over a 24-hour period (CNEL) for both the existing and proposed Project trip scenarios. The cumulative incremental noise impacts at each receptor are then compared to the appropriate criteria to determine significance.

6.0 PROJECT-LEVEL IMPACTS & MITIGATION MEASURES

6.1 Generation of Noise Levels in Excess of Applicable Standards

Impact Statement

Impact NO-1: *Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?* **(Appendix G Threshold Criteria (a))**

6.1.1 Non-Transportation Impact Analysis

To address the CEQA Criteria *a)* for non-transportation source noise impacts, the applicable Ventura County 1-hour (L_{eq}1H) noise criteria presented in Table 8 are utilized. Non-transportation (i.e., onsite) Project noise impacts are presented and compared to the applicable significance thresholds in Table 12 below. For the reasons discussed in Section 5.1, these impacts are conservative as the vast majority of Project operation days would result in lesser impacts. Where line-of-site between receptor and noise source is blocked, a -10 dBA attenuation factor was applied. Specifically, a -10 dBA attenuation is applied at R2-A, R2-C and R3 due to the intervening topography blocking line-of-sight between the expanded excavation operations and receptors. Please see Appendix D for applicable barrier insertion loss calculations. This attenuation factor was also applied to proposed Recycle Plant and existing Aggregate Plant noise impacts at Receptors R2 (i.e., R2-A, R2-B, and R2-C) and R3 due to the mountain ridge blocking line-of-sight. Figure 4A, 4B and 4C (Appendix A) show the line-of-sight assessments for R2 and R3 receptors respectively. See Appendix D for assumptions and noise impact calculation.

Table 12 Non-Transportation Noise Impacts & Significance Determination (Prior to Mitigation)

Parameter	1-Hour (L_{eq}1H) – Noise Level (dBA)				
	R1	R2-A	R2-B	R2-C	R3
Baseline Noise Level (dBA):	41.6	44.8	44.8	44.8	44.8
Mobile Excavation Equipment Noise Impacts					
Distance to Equipment Source (feet)[D]:	1,160	1,161	1,652	943	390
Noise Reduction due to Shielding (dBA)[A]:	---	-10	---	-10	-10
Equipment Noise Level (L_{eq}1H) @ Receptor (dBA):	59.8	49.8	56.7	51.6	59.2
Aggregate Plant Noise Impacts					
Distance to Equipment Source (feet):	2,474	2,728	2,781	2,703	2,201
Noise Reduction due to Shielding (dBA)[A]:	---	-10	-10	-10	-10
Equipment Noise Level (L_{eq}1H) @ Receptor (dBA):	55.2	39.4	39.2	39.4	41.2
Recycle Plant Noise Impacts					
Distance to Equipment Source (feet):	1,833	2,547	2,688	2,580	1,955
Noise Reduction due to Shielding (dBA)[A]:	---	-10	-10	-10	-10
Equipment Noise Level (L_{eq}1H) @ Receptor (dBA):	52.8	40.0	39.5	39.8	42.3
Total Non-Transportation Equipment Noise Impacts & Significance Determination					
Cumulative Noise Level (L_{eq}1H) @ Receptor (dBA)[C]:	**61.0**	**51.6**	**57.1**	**52.8**	**59.6**
Applicable Significance Threshold (dBA)[B]:	**55.0**	**55.0**	**55.0**	**55.0**	**55.0**
Significant?	**Yes**	**No**	**Yes**	**No**	**Yes**

Footnotes (see Table 12 on previous page):

A – See Figure 4A (Receptor 2-A) and Figure 4C (Receptor 2-C and 3) which show the line-of-sight assessment for these receptors.

B – Significance threshold shown are the Ventura County General Plan/CEQA Guidelines "fixed" noise standards for daytime hours (6:00 a.m. – 7:00 p.m.). Onsite non-transportation operations would occur during daytime hours only (i.e., 7:00 a.m. – 4:00 p.m.), and therefore only the daytime L_{eq}1H criteria applies.

C – The total Project noise level represents the cumulative worst-case noise level experienced at Receptors R1, R2 and R3 due to operation of onsite equipment sources (i.e., mobile excavation equipment, proposed Recycle Plant, existing Aggregate Plant) operating simultaneously within a given hour.

D – As shown on Figure 5, the mining area with direct line-of-sight to Receptor 2-B is approximately 1,652-feet away. Mobile excavation equipment operating within this area (i.e., LoS-A) will produce worst-case noise impacts at R2-B and is therefore utilized to determine the significance of impacts.

As shown in Table 12 above, the predicted peak hour Project noise levels (L_{eq}1H) exceed the Ventura County General Plan/CEQA Guidelines daytime L_{eq}1H noise threshold at Receptor 1 (R1), Receptor 2-B (R2-B), and Receptor 3 (R3) due to expanded excavation activities as well as the existing Aggregate Plant and proposed Recycle Plant operations. Therefore, unmitigated noise impacts at R1, R2-B, and R3 due to onsite non-transportation sources are considered potentially significant. Please refer to the following section for the recommended mitigation measures.

Level of Significance Before Mitigation

Potential for a significant noise impact is predicted at Receptor 1 (R1), Receptor 2-B (R2), and Receptor 3 (R3).

Mitigation Measures

As shown in Table 12, peak one hour (L_{eq}1H) Project noise levels from onsite non-transportation sources (i.e., expanded excavation operations, existing Aggregate Plant, proposed Recycle Plant) exceed the applicable Ventura County daytime significance criteria at Receptors 1 (R1), 2-B (R2-B) and 3 (R3). Therefore, to ensure noise generated by onsite non-transportation equipment sources does not exceed applicable significance thresholds at Receptors R1, R2-B and R3, the following mitigation measures are recommended. Please see Appendix D for more details regarding the proposed mitigation measures.

NO-1. Blasting, excavation, and materials processing and recycling activities shall continue to occur during daytime operation hours (7:00 a.m. to 4:00 p.m.) only.

NO-2. Excavation equipment (loader, dozer, excavator, rock drill, water truck) shall be fitted with a manufacturer's approved exhaust muffler.

NO-3. Excavation equipment, including the drill rig, shall not idle for more than 30 minutes at any one time.

NO-4. The existing Aggregate Plant and proposed Recycle Plant shall not operate simultaneously for any time period.

NO-5. Neither the proposed Recycle Plant and nor the existing Aggregate Plant shall operate when excavation is occurring within 1,600-feet of the Conejo Mountain Funeral Home (Receptor 1).

NO-6. The predicted noise impacts associated with onsite excavation equipment shall be verified with noise level measurements upon commencement of mining activities within line-of-sight of Receptor 1 (R1) and Receptor 2-B (R2-B). In the event that actual noise levels exceed the assumptions contained within this analysis, additional noise control measures shall be implemented.

Based on information in the Ventura County Construction Guidelines (Ventura County, 2010) and EPA's *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances* (U.S. Environmental Protection Agency, 1971) presented in Appendix B, the above mitigations have been determined to be sufficient to reduce the noise impacts to less than significant at nearby receptors. Furthermore, Pacific Rock has advised Sespe during preparation of this report that the above mitigations are feasible.

At Receptor 1 (R1), in some instances combined noise levels resulting from operations of mobile equipment and one of the processing plants (i.e., Aggregate or Recycle Plants) still exceed applicable Ventura County standards, even with the implementation of Mitigation Measures NO-1 through NO-4. Additional noise propagation calculations show that Project noise impacts at this receptor will fall below the applicable Ventura County General Plan daytime significance threshold if neither the proposed Recycle Plant nor the existing Aggregate Plant are operational when mining equipment is operating within 1,600-feet of the receptor (see Appendix D). Figure 8 depicts the potential excavation areas located less than 1,600-feet away from R1. Therefore, if excavation is occurring within 1,600 feet of R1, neither the Recycle Plant nor the Aggregate Plant shall be operated (as required by Mitigation Measure NO-5) to ensure Project noise impacts at R1 are less than significant.

Table 13 below presents the mitigated noise levels expected while onsite operations are occurring in the Project site areas closest to or within line-of-sight of the affected receptors. The mitigated noise levels for excavation equipment are based on the EPA's *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances* (Appendix B), which notes that installation of a manufacturer's "improved muffler" on each equipment's "exhaust" would result in a "probable noise reduction" of -10 dBA. The EPA document also notes these quieter equipment noise levels are obtainable by "implementing noise control features requiring no major redesign or extreme cost" (Appendix B). Since the exhaust stack is considered the dominant noise component on the front-end loader, dozer, and excavator (Appendix D), a -10 dBA reduction is assumed for these pieces of equipment due to the installation of an improved muffler. For the rock drill and water truck, conservatively it is assumed this control measure would achieve a -5 dBA noise reduction, as the exhaust stack is the secondary noisy component for these equipment pieces (Appendix D). Use of an improved muffler is also presented in the Ventura County Construction Guidelines as a feasible mitigation option, which states using "quieter methods or equipment and implementing feasible noise controls" can reduce equipment noise impacts. The Ventura County Construction Guidelines includes the EPA's mitigated equipment noise levels by reference. See Appendix B for applicable Ventura County/EPA mitigation references, and Appendix D for mitigated equipment noise levels and mitigated noise impact calculations.

Table 13 Non-Transportation Noise Impacts & Significance Determination with Mitigation

Receptor	Unmitigated Noise Level (L_{eq}1H) @ Receptor (dBA) [A]	Mitigated Noise Level (L_{eq}1H) @ Receptor (dBA) [D]	Ventura County Significance Criteria (dBA) [B]	Significant?
Receptor 1 (R1) [C]	61.0	54.9	55	No
Receptor 2-A (R2-A)	51.6	47.8	55	No
Receptor 2-B (R2-B)	57.1	51.4	55	No
Receptor 2-C (R2-C)	52.8	48.5	55	No
Receptor 3 (R3)	59.5	53.5	55	No

Notes (also see following page):

A – Prior to mitigation, noise impacts at R2-A and R2-C were shown to be below the applicable significance thresholds due to intervening topography (see Table 12). However, since the proposed mitigation measures would apply to all excavation equipment, the mitigated noise levels at these receptors are also shown here for informational purposes.

B – Significance threshold shown is Ventura County General Plan noise criteria for daytime hours (6:00 a.m. – 7:00 p.m.).

C – While mitigated noise levels at R1 appear very close to the 55 dBA significance threshold, this is due to the design of the proposed mitigation measures. With mitigations NO-4 and NO-5 implemented, worst case noise impacts at R1 would occur when only mobile mining equipment (no Recycle and Aggregate Plant operations per Mitigation Measure NO-5) is operating and excavation is occurring within 1,600 feet of the receptor (this scenario produces an estimated 54.9 dBA level at R1). The majority of excavation operations would occur further than 1,600-feet from R1, and therefore noise impacts would usually be below those shown in Table 13. Please see the calculations in Appendix D for more detail.

D – Mitigated noise levels at receptors R1, R2 and R3 take into account predicted noise reductions resulting through the implementation of Mitigation Measures NO-1 through NO-4, while mitigated noise levels shown for R1 also take into account reductions resulting from the implementation of Mitigation Measure NO-5. Please see Appendix D for additional detail.

As shown in Table 13, non-transportation noise sources are expected to have a less than significant impact at Receptors R1, R2 and R3 with mitigation incorporated. It is also important to note this study was designed to produce conservative worst-case Project noise impacts to nearby receptors. For example, inclusion of the existing Aggregate Plant as a new noise source represents a conservative assumption. In reality, when taking into account the shielding or absorption effects from intervening topography/vegetation between source and receptor, as well as the fact that most excavation and processing operations will not occur simultaneously, near the outermost Project site boundary or within direct line-of-sight of affected receptors, as was assumed in this analysis, noise levels are expected to be less than those calculated within this NVIA. Furthermore, as mining progresses to a final depth and the pit walls deepen, additional noise attenuation can be assumed.

Per Mitigation Measure NO-6, to ensure noise impacts to nearby noise-sensitive receptors to the west (R1) and east (R2-B) are not significant, reference sound levels associated with onsite excavation and processing equipment would be verified through noise level measurements upon commencement of mining and processing activities in areas within line-of-sight of Receptor 1 and Receptor 2-B (Figure 5).

Level of Significance After Mitigation

Upon implementation of Mitigation Measures NO-1 through NO-6 described above, Project non-transportation impacts to nearby Receptors R1, R2 and R3 would be less than significant as shown in Table 13.

6.1.2 Transportation Impact Analysis

To address the CEQA Criteria *a)* for transportation Project impacts, prediction of noise impacts from Project transportation sources (i.e., haul trucks) is addressed in this section. Project traffic noise would result from aggregate delivery haul trucks on public roadways. Project traffic noise impacts on affected road segments of Howard Road, Pancho Road, and Pleasant Valley Road (Figure 3) were modeled using SoundPLAN Essential compute software. Please see Section 5.2 which summarizes the assumptions and methodologies utilized in the traffic noise model.

Figure 6 and Figure 7 (Appendix A) display the results of both the baseline and Project road noise model respectively. Table 14 summarizes the predicted cumulative CNEL noise levels experienced by the Project haul route Receptors R4 and R5 under the baseline and Project conditions. Haul truck noise impacts are below the applicable Ventura County Noise Element significance criteria. Please see Appendix E for more details regarding the transportation noise model and resulting impact assessment.

Table 14 Transportation Noise Level & Significance Determination

Parameter	R4 (CNEL – dBA)	R5-A (CNEL – dBA)	R5-B (CNEL – dBA)	R5-C (CNEL – dBA)
Baseline Outdoor Noise Level	50.3	59.7	60.3	61.3
Total Project Outdoor Noise Level	55.2	61.1	61.4	61.6
Significance Threshold	**60.0**	**62.7**	**63.3**	**64.3**
Significant?	No	No	No	No

See Figure 6 and Figure 7 (Appendix A) and the model output files in Appendix E for more detail.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

Level of Significance After Mitigation

Not Applicable.

6.2 Generation of Excessive Groundborne Vibration

Impact Statement

Impact NO-2: *Generation of excessive groundborne vibration or groundborne noise levels?* **(Appendix G Threshold Criteria (b))**

As discussed in Section 5.1, total vibration impacts from blasting activities are determined in this NVIA based on the International Society of Explosives Engineers *Blasters' Handbook*, 17^{th} Edition (International Society of Explosives Engineers, 1998), assuming the closest distance between the blasts and the receptors. See Appendix F for the calculations and additional information.

Blasting vibration impacts at Receptors R1, R2 and R3 are presented and compared to the applicable Caltrans significance criteria in Table 15. These estimates are conservative, as it assumes the blasts occur within the Project site area closest to each receptor. Blasting would continue to be conducted during the daytime hours only (see Section 3.1). Table 15 presents the results of the blasting vibration analysis in terms of peak particle velocity (PPV). Note that the peak blasting vibration impact would only slightly increase at R1 and R2 (R2-A, R2-B, R2-C) above the threshold of perception (i.e., 0.02 in/sec) due to the Project. While predicted vibration levels are slightly higher at R3, this may be considered acceptable due to the transitory use of the open space area and trails and the fact that no permanent structures are found in this location. Please see Appendix F for the vibration impact calculations.

Table 15 Peak Project Vibration Impacts and Significance Determination

Receptor	Project Vibration Impact – PPV (in/sec)	Structure Damage Threshold – PPV (in/sec)	Significant?	Annoyance Threshold – PPV (in/sec)	Significant?
Receptor 1	0.086	2.0	**No**	0.50	**No**
Receptor 2-A	0.086	2.0	**No**	0.50	**No**
Receptor 2-B	0.050	2.0	**No**	0.50	**No**
Receptor 2-C	0.120	2.0	**No**	0.50	**No**
Receptor 3	0.492	2.0	**No**	0.50	**No**

See Appendix F for more detail.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

Level of Significance After Mitigation

Not Applicable.

6.3 Airport & Airstrip Vicinity Analysis

Impact Statement

Impact NO-3: *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?* **(Appendix G Threshold Criteria (c))**

Impact Analysis

The proposed Project site is not located within the vicinity of a private airstrip or within 2.0 miles of any public airports or public airstrips. As discussed in Section 2.2, the closest airport/airstrip is Camarillo Airport, located approximately 4.5 miles northwest of the Project site. Additionally, per Figure 11-15 within the Ventura County 2040 General Plan – Health and Safety Background Report (Ventura County, 2020), neither the Project site nor the affected receptors are located within the CNEL contour areas for the Camarillo Airport, or the Point Mugu Naval Air Station located approximately 7.2 miles away to the southwest (see Figure 11-15 – Camarillo Airport Noise Contours and Figure 11-17 – NAWS at Point Mugu Noise Contours; Ventura County 2014 General Plan – Health and Safety Background Report, Section 11.6 – Noise and Vibration). Therefore, the Project would have no impact related to public or private airport/airstrip noise levels.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

None required.

Level of Significance After Mitigation

Not Applicable.

7.0 FINDINGS

This NVIA finds that:

- Noise impacts from onsite sources (“Non-Transportation”) are less than significant after mitigation.
- Noise impacts from traffic sources (“Transportation”) are less than significant.
- Groundborne vibration impacts are less than significant.
- The Project would result in a Class II impact, significant but mitigable to less than significant levels.

8.0 REFERENCES

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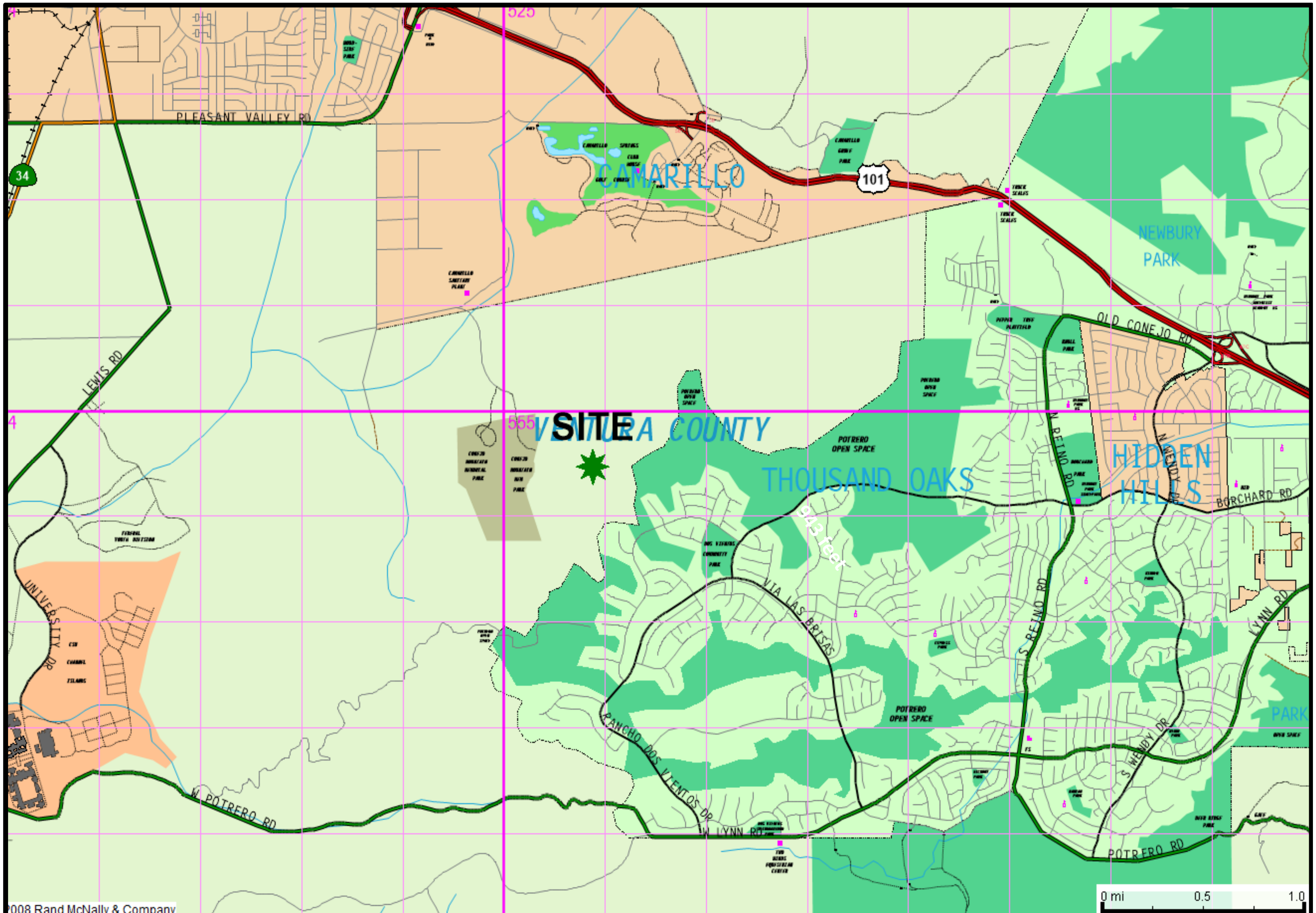
APPENDIX A

FIGURES



Source: Rand McNally & Company (2008)

N

SESPE CONSULTING, INC.

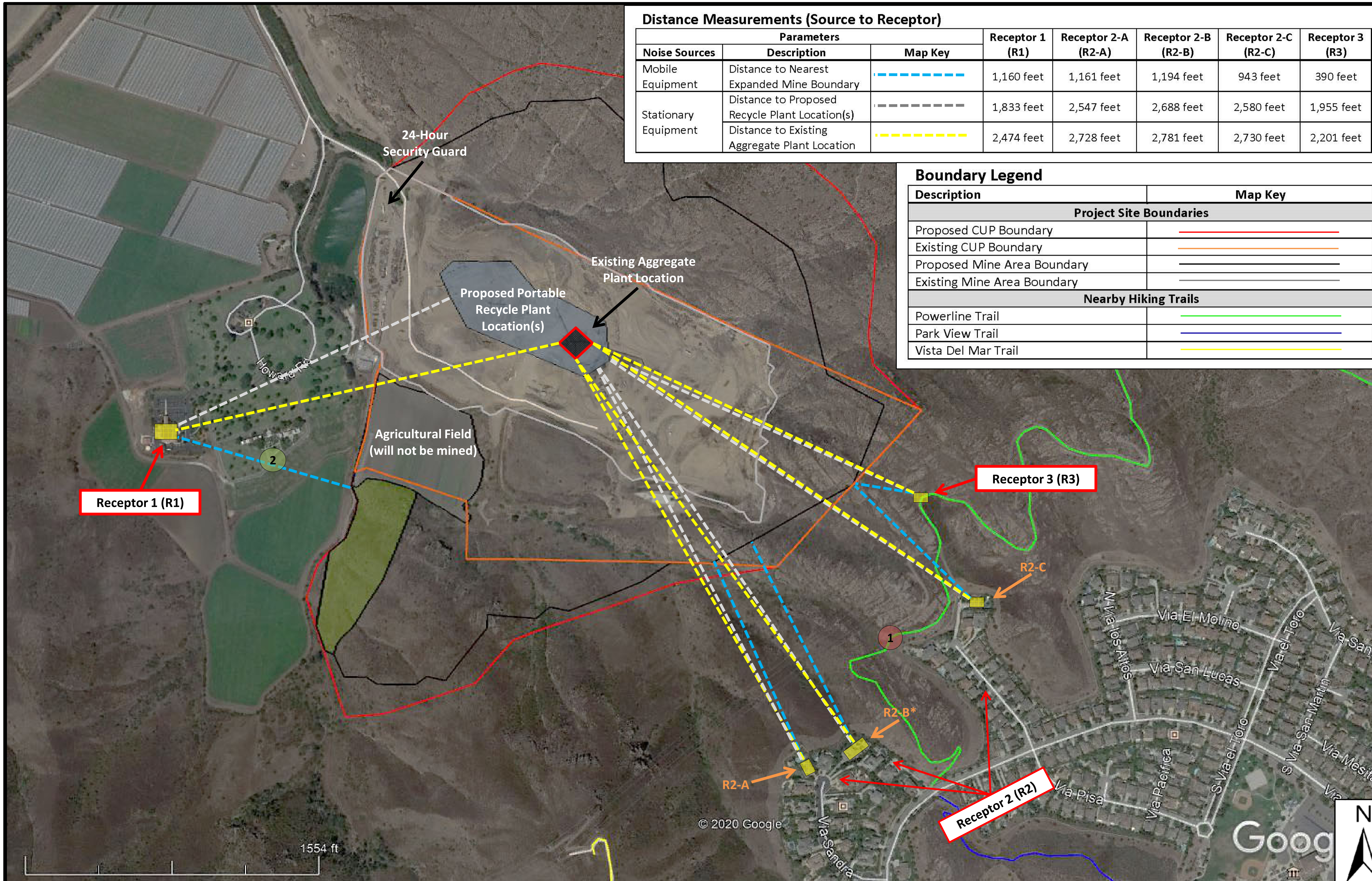
FIGURE 1	SITE LOCATION MAP Pacific Rock Quarry 1000 S. Howard Road Camarillo, CA 93012		
PROJECT #:	PA01.09.01	DATE:	2/3/17
SCALE:	As Shown	DRAWN BY:	GPS

Distance Measurements (Source to Receptor)

Parameters			Receptor 1 (R1)	Receptor 2-A (R2-A)	Receptor 2-B (R2-B)	Receptor 2-C (R2-C)	Receptor 3 (R3)
Noise Sources	Description	Map Key					
Mobile Equipment	Distance to Nearest Expanded Mine Boundary	blue dashed line	1,160 feet	1,161 feet	1,194 feet	943 feet	390 feet
Stationary Equipment	Distance to Proposed Recycle Plant Location(s)	grey dashed line	1,833 feet	2,547 feet	2,688 feet	2,580 feet	1,955 feet
	Distance to Existing Aggregate Plant Location	yellow dashed line	2,474 feet	2,728 feet	2,781 feet	2,730 feet	2,201 feet

Boundary Legend

Description	Map Key
Project Site Boundaries	
Proposed CUP Boundary	red line
Existing CUP Boundary	orange line
Proposed Mine Area Boundary	black line
Existing Mine Area Boundary	grey line
Nearby Hiking Trails	
Powerline Trail	green line
Park View Trail	blue line
Vista Del Mar Trail	yellow line



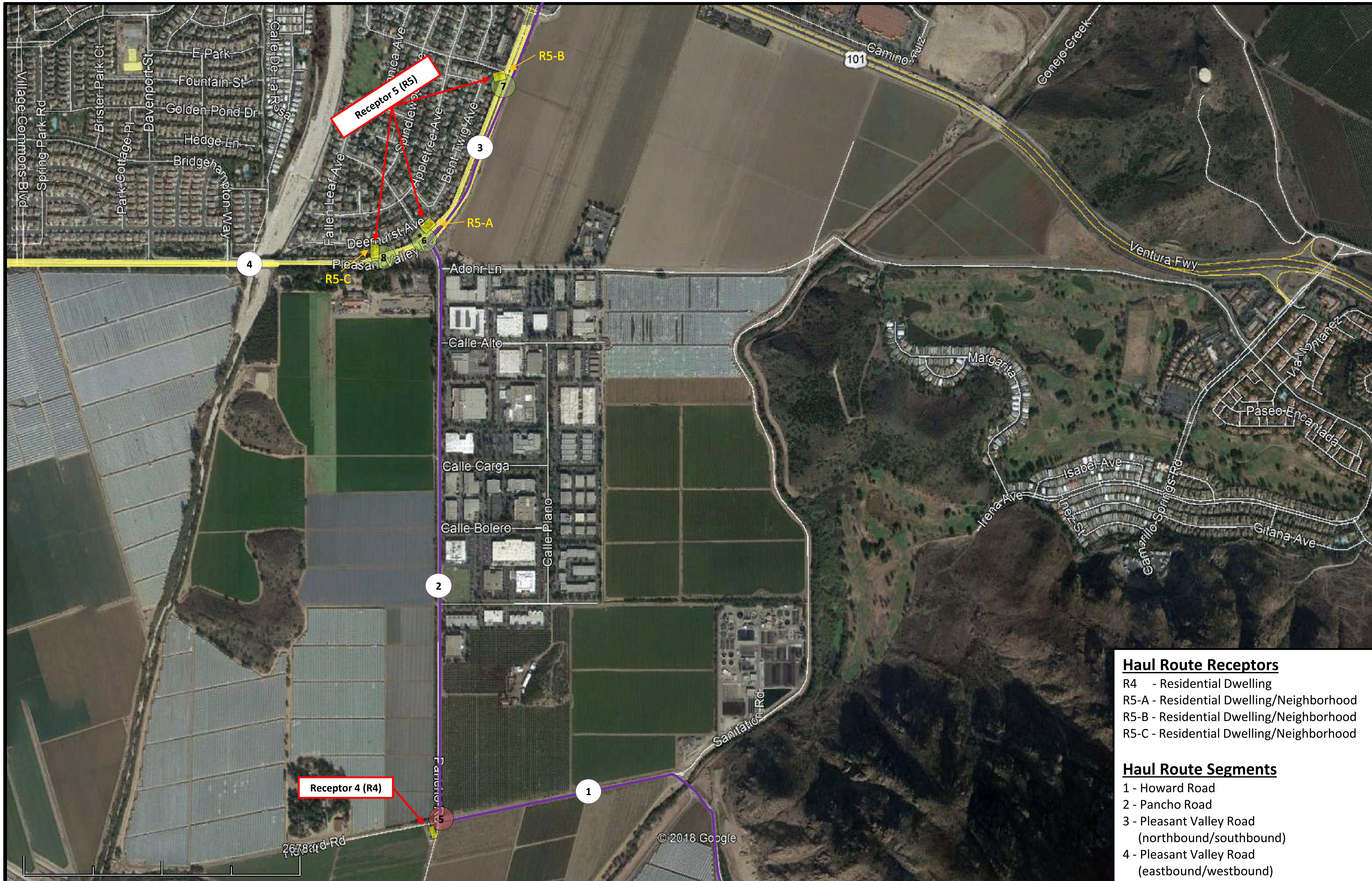
Source: Google Earth (2020)

- Receptor Locations
- 24-Hour Monitoring Location
- 15-Minute Monitoring Location(s)
- Proposed Recycle Plant Location(s)
- Existing Aggregate Plant Location

* Figure 5 shows the expanded mining areas that Receptor 2-B (R2-B) will have a direct line-of-sight (LoS) with no attenuation due to intervening topography. Therefore, worst case noise impacts @ R2-B were determined by assessing mobile equipment operating within LoS of R2-B, and not at the nearest mining boundary (as shown here).

SESPE CONSULTING, INC.

FIGURE 2	SITE AERIAL & FACILITY RECEPTORS Pacific Rock Quarry 1000 South Howard Road Camarillo, CA 93012		
PROJECT #:	PA01.09.01	DATE:	11/3/20
SCALE:	As Shown	DRAWN BY:	GPS



Haul Route Receptors

R4 - Residential Dwelling
R5-A - Residential Dwelling/Neighborhood
R5-B - Residential Dwelling/Neighborhood
R5-C - Residential Dwelling/Neighborhood

Haul Route Segments

1 - Howard Road
2 - Pancho Road
3 - Pleasant Valley Road (northbound/southbound)
4 - Pleasant Valley Road (eastbound/westbound)

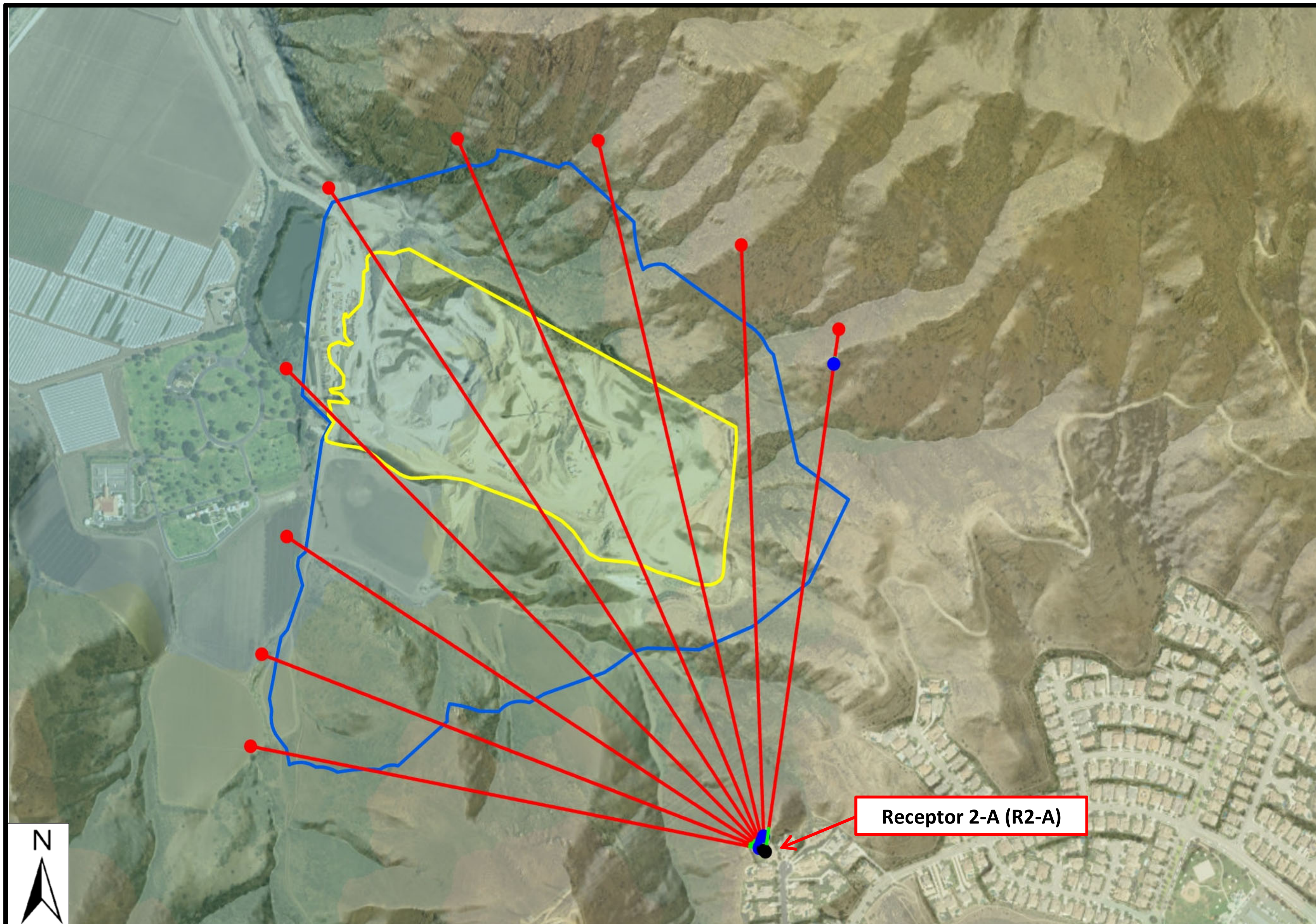
Source: Google Earth (2018)

- Proposed Haul Route Segment (approximate)
- Receptor Location
- 24-Hour Monitoring Location
- 15-Minute Monitoring Locations
- * Three (3) separate 15-minute measurements were collected at Monitoring Location #6

N

SESPE CONSULTING, INC.

FIGURE	AERIAL & HAUL ROUTE RECEPTORS		
3	Pacific Rock Quarry 1000 S. Howard Road Camarillo, CA 93012		
PROJECT #:	PA01.09.01	DATE:	12/27/18
SCALE:	As Shown	DRAWN BY:	GPS



Source: ArcMap (2017)

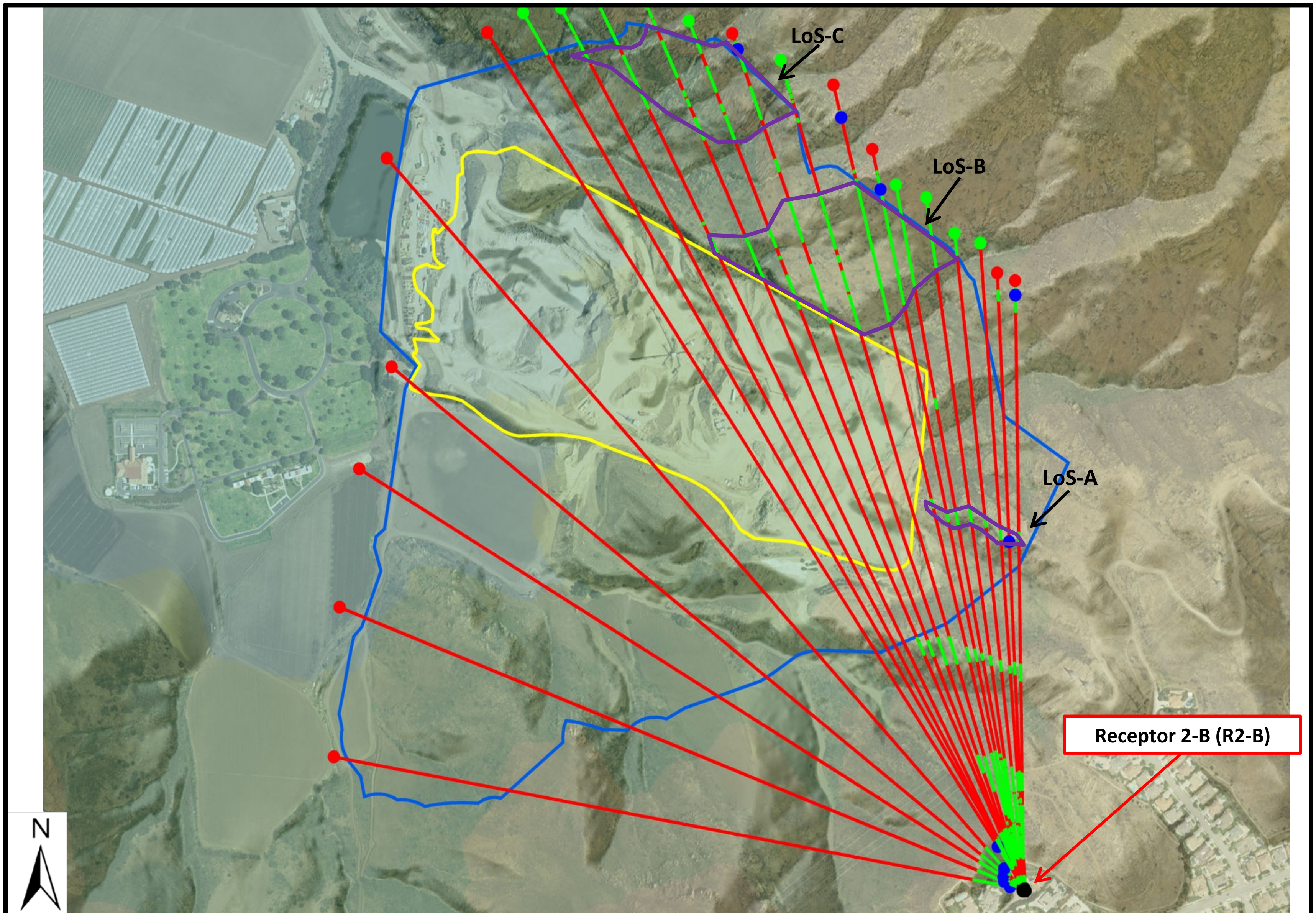
Existing Mining Boundary (approximate)

Proposed Mining Boundary (approximate)

Notes: Second floor vantage points (i.e., 15-feet above ground surface) were modeled. Line segments/areas shown in green have line-of-sight (LoS), while line segments/areas shown in red do not have line-of-sight (LoS).

SESPE CONSULTING, INC.

FIGURE 4A	RECEPTOR 2-A: LINE-OF-SIGHT Pacific Rock Quarry 1000 S. Howard Road Camarillo, CA 93012		
PROJECT #:	PA01.09.01	DATE:	2/13/19
SCALE:	N/A	DRAWN BY:	GPS



Source: ArcMap (2017)

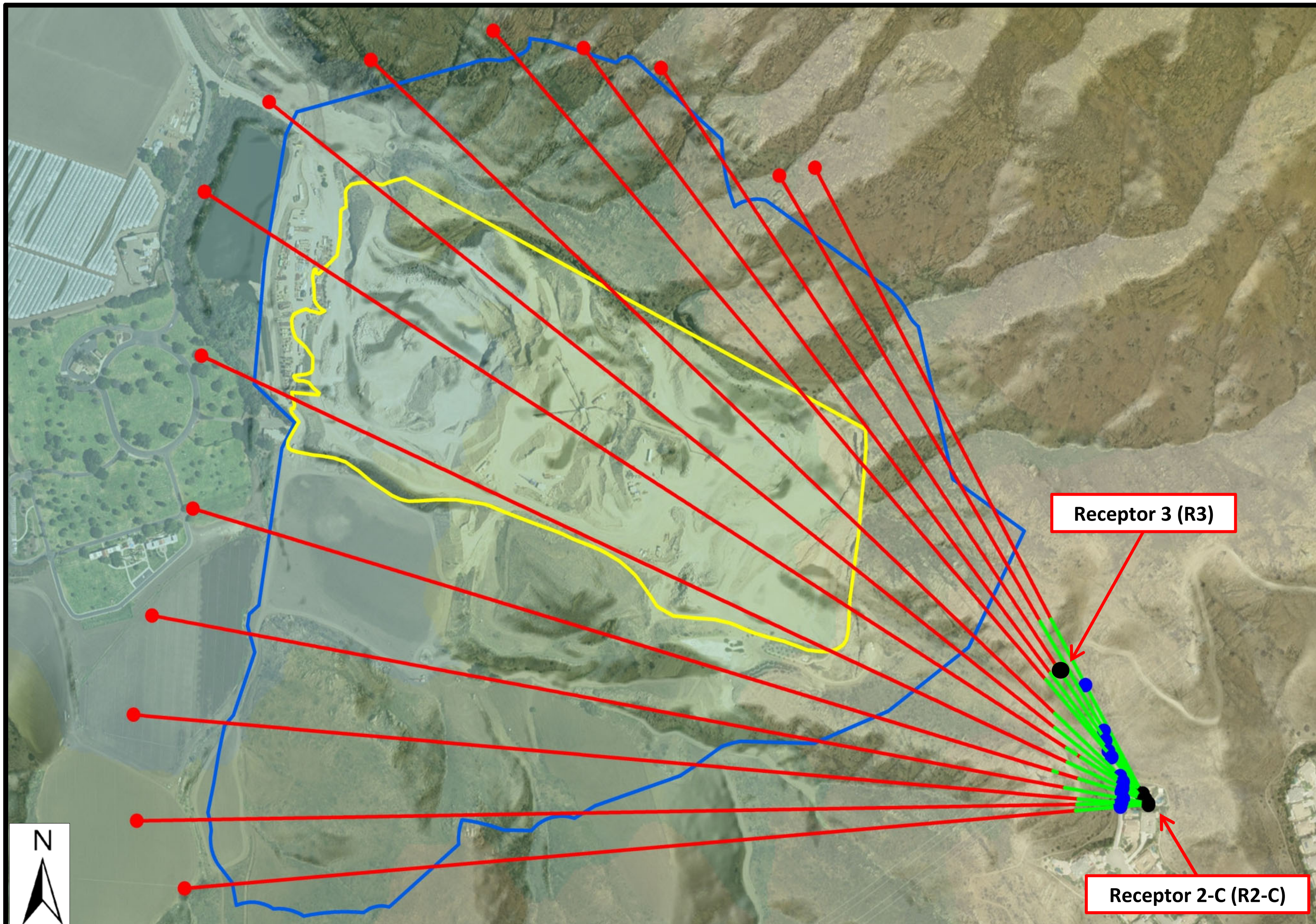
Existing Mining Boundary (approximate)

Proposed Mining Boundary (approximate)

Notes: Second floor vantage points (i.e., 15-feet above ground surface) were modeled. Line segments/areas shown in green have line-of-sight (LoS), while line segments/areas shown in red do not have line-of-sight (LoS).

SESPE CONSULTING, INC.

FIGURE 4B	RECEPTOR 2-B: LINE-OF-SIGHT Pacific Rock Quarry 1000 S. Howard Road Camarillo, CA 93012		
PROJECT #:	PA01.09.01	DATE:	2/13/19
SCALE:	N/A	DRAWN BY:	GPS



Source: ArcMap (2017)

Existing Mining Boundary (approximate)

Proposed Mining Boundary (approximate)

Notes: Second floor vantage points (i.e., 15-feet above ground surface) were modeled. Line segments/areas shown in green have line-of-sight (LoS), while line segments/areas shown in red do not have line-of-sight (LoS).

SESPE CONSULTING, INC.

FIGURE 4C	RECEPTORS 2-C & 3: LINE-OF-SIGHT Pacific Rock Quarry 1000 S. Howard Road Camarillo, CA 93012		
PROJECT #:	PA01.09.01	DATE:	2/3/19
SCALE:	N/A	DRAWN BY:	GPS

Source: Google Earth (2018)

Existing Mining Boundary (approximate)

Proposed Mining Boundary (approximate)

SESPE CONSULTING, INC.

FIGURE 5	R2-B LINE-OF-SIGHT DISTANCES Pacific Rock Quarry 1000 S. Howard Road Camarillo, CA 93012		
PROJECT #:	PA01.09.01	DATE:	2/3/18
SCALE:	As Shown	DRAWN BY:	GPS

FIGURE 6
Traffic Noise Model - Baseline CNEL (24-Hour)

Average Baseline - CNEL
Operating Hours = 7:00 a.m. - 4:00 p.m.
13 truck trips/hour

Receptors:
#1 = Receptor 4 (R4)
#2 = Receptor 5-A (R5-A)
#3 = Receptor 5-B (R5-B)
#4 = Receptor 5-C (R5-C)

Vehicle Types Modeled:
-Heavy-Duty Trucks
-Medium-Duty Trucks
-Automobiles
-Motorcycles
-Buses

Signs and Symbols

Ground Absorption
Wall
Receptor
Haul Route(s)
Surface

1 : 1183

0 0.15 0.3 0.6 0.9 1.2 feet

SESPE CONSULTING, INC.

FIGURE 7
Traffic Noise Model - Project CNEL (24-Hour)

Average Project - CNEL
Operating Hours = 24 hours/day
5 truck trips/hour

Receptors:
#1 = Receptor 4 (R4)
#2 = Receptor 5-A (R5-A)
#3 = Receptor 5-B (R5-B)
#4 = Receptor 5-C (R5-C)

Vehicle Types Modeled:
-Heavy-Duty Trucks
-Medium-Duty Trucks
-Automobiles
-Motorcycles
-Buses

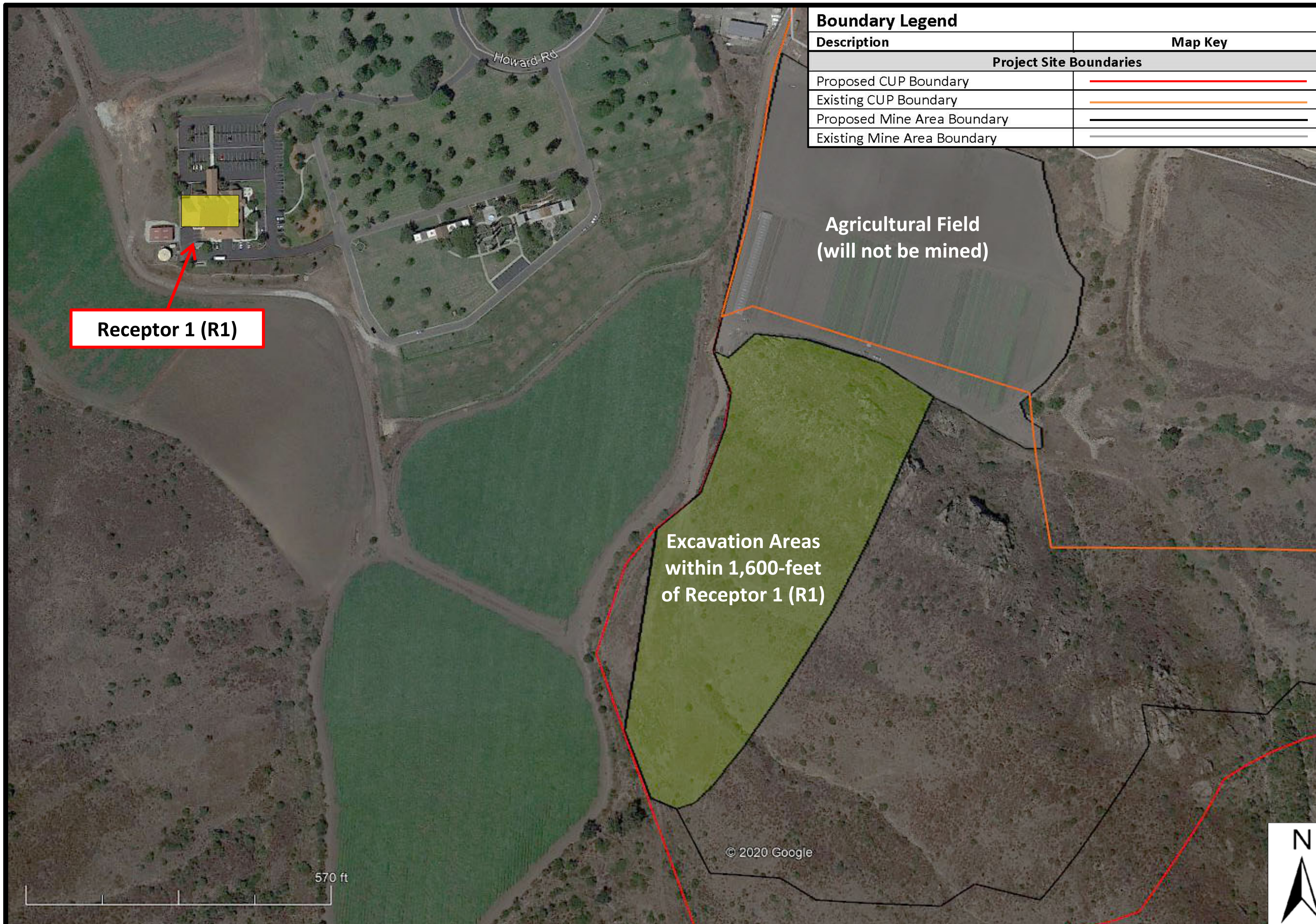
Signs and Symbols

Ground Absorption
Wall
Receptor
Haul Route(s)
Surface

1 : 1183

0 0.15 0.3 0.6 0.9 1.2 feet

SESPE CONSULTING, INC.



Boundary Legend

Description	Map Key
Project Site Boundaries	
Proposed CUP Boundary	
Existing CUP Boundary	
Proposed Mine Area Boundary	
Existing Mine Area Boundary	

Source: Google Earth (2020)

Note: To ensure Project noise levels at Receptor 1 (R1) comply with the applicable General Plan noise criteria, neither the existing Aggregate Plant or the proposed Recycle Plant shall operate at any time when excavation is occurring within 1,600-feet of Receptor R1. Please see Mitigation Measure NO-5 and the propagation calculations presented in Appendix D.

SESPE CONSULTING, INC.

FIGURE 8	MITIGATION MEASURE NO-5 Pacific Rock Quarry 1000 S. Howard Road Camarillo, CA 93012		
PROJECT #:	PA01.09.01	DATE:	11/3/20
SCALE:	As Shown	DRAWN BY:	GPS

APPENDIX B

REGULATORY REFERENCES

7.9 Noise

The predominant sources of noise in the county include traffic noise on major roadways, transit and freight trains, and aircraft. In addition to the information provided in Section 11.6, “Noise and Vibration,” of the Background Report on existing conditions, Table 7-1 includes the calculated future noise levels at 50 feet from County roadways, as well as distances to the 60, 65, and 70 dBA CNEL noise contours for all modeled roadways.

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. These uses include: residences; schools; historic sites; cemeteries; parks, recreation, and open space areas; hospitals and care facilities; sensitive wildlife habitats, including the habitat of rare, threatened, or endangered species; hotels and other short-term lodging (e.g., bed and breakfasts, and motels); places of worship; and libraries.

HAZ-9	To protect the health, safety, and general welfare of county residents by striving to eliminate or avoid the adverse noise impacts on existing and future noise sensitive uses.

HAZ-9.1 **Limiting Unwanted Noise**

The County shall prohibit discretionary development which would be impacted by noise or generate project-related noise which cannot be reduced to meet the standards prescribed in Policy Haz-9.2. This policy does not apply to noise generated during the construction phase of a project. (SO)

HAZ-9.2 **Noise Compatibility Standards**

EIR HC

The County shall review discretionary development for noise compatibility with surrounding uses. The County shall determine noise based on the following standards:

1. New noise sensitive uses proposed to be located near highways, truck routes, heavy industrial activities and other relatively continuous noise sources shall incorporate noise control measures so that indoor noise levels in habitable rooms do not exceed Community Noise Equivalent Level (CNEL) 45 and outdoor noise levels do not exceed CNEL 60 or Leq1H of 65 dB(A) during any hour.

2. New noise sensitive uses proposed to be located near railroads shall incorporate noise control measures so that indoor noise levels in habitable rooms do not exceed Community Noise Equivalent Level (CNEL) 45 and outdoor noise levels do not exceed L10 of 60 dB(A)

3. New noise sensitive uses proposed to be located near airports:

    a. Shall be prohibited if they are in a Community Noise Equivalent Level (CNEL) 65 dB or greater, noise contour; or

    b. Shall be permitted in the Community Noise Equivalent Level (CNEL) 60 dB to CNEL 65 dB noise contour area only if means will be taken to ensure interior noise levels of CNEL 45 dB or less.

4. New noise generators, proposed to be located near any noise sensitive use, shall incorporate noise control measures so that ongoing outdoor noise levels received by the noise sensitive receptor, measured at the exterior wall of the building, does not exceed any of the following standards:

   a. Leq1H of 55dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 6:00 a.m. to 7:00 p.m.;

   b. Leq1H of 50dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 7:00 p.m. to 10:00 p.m.; and

   c. Leq1H of 45dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 10:00 p.m. to 6:00 a.m.

5. Construction noise and vibration shall be evaluated and, if necessary, mitigated in accordance with the Construction Noise Threshold Criteria and Control Plan (Advanced Engineering Acoustics, November 2005). (RDR)

Table 7-1 Projected 2040 Noise Levels and Contours

Corridor and Segment		Noise (dBA CNEL) at 50 feet from Roadway	Noise Contour Distance in Feet		
			60 dBA	65 dBA	70 dBA
Roadways					
1	Aggen Road north of Los Angeles Avenue (SR 118)	55.0	32	10	3
2	Balcom Canyon Road south of South Mountain Road	58.2	65	21	7
3	Balcom Canyon Road north of Los Angeles Avenue (SR 118)	57.1	51	16	5
4	Bardsdale Avenue east of Sespe Street	56.7	47	15	5
5	Beardsley Road north of Central Avenue	62.8	190	60	19
6	Box Canyon Road south of Santa Susana Pass Road	59.3	86	27	9
7	Bradley Road north of Los Angeles Avenue (SR 118)	62.2	166	52	17
8	Briggs Road south of Telegraph Road	62.9	197	62	20
9	Briggs Road north of Telegraph Road	58.8	75	24	8
10	Bristol Road west of Montgomery Avenue	65.9	387	123	39
11	Broadway Road west of Grimes Canyon Road (SR 23)	61.0	125	40	13
12	Burnham Road south of Baldwin Road (SR 150)	57.7	59	19	6
13	Burnham Road east of Santa Ana Road	57.3	54	17	5
14	Calle Yucca north of Camino Manzanas	54.2	26	8	3
15	Camino Dos Rios west of Lynn Road	57.2	52	17	5
16	Canada Larga Road east of Ventura Avenue	54.4	28	9	3
17	Casitas Vista Road west of Ojai Freeway (SR 33)	58.6	72	23	7
18	Center School Road south of Los Angeles Avenue (SR 118)	56.2	42	13	4
19	Center Street (Piru) west of Telegraph Road (SR 126)	54.7	29	9	3
20	Central Avenue west of Ventura Freeway (US 101)	67.9	619	196	62
21	Central Avenue west of Santa Clara Avenue	67.9	620	196	62
22	Central Avenue east of Vineyard Avenue (SR 232)	64.5	284	90	28
23	Channel Islands Boulevard west of Rice Avenue	68.4	693	219	69
24	Creek Road east of Country Club Drive	55.8	38	12	4
25	Creek Road east of Ventura Avenue (SR 33)	62.6	181	57	18
26	Donlon Road north of La Cumbre Road	52.0	16	5	2
27	Doris Avenue east of Victoria Avenue	64.9	311	98	31

	Corridor and Segment	Noise (dBA CNEL) at 50 feet from Roadway	Noise Contour Distance in Feet		
			60 dBA	65 dBA	70 dBA
28	El Roblar Drive west of Maricopa Highway (SR 33)	57.7	58	18	6
29	Etting Road east of Dodge Road	62.0	159	50	16
30	Fairview Road east of Maricopa Highway (SR 33)	51.4	14	4	1
31	Fairway Drive north of Valley Vista Drive	57.3	53	17	5
32	West Fifth Street east of North Harbor Boulevard	59.6	92	29	9
33	Foothill Road west of Peck Road	61.1	128	40	13
34	Foothill Road west of Briggs Road	56.2	42	13	4
35	Foothill Road east of North Wells Road	62.1	161	51	16
36	Foothill Road east of Saticoy Avenue	63.3	211	67	21
37	Gonzales Road east of North Harbor Boulevard	63.3	213	67	21
38	Grimes Canyon Road north of Los Angeles Avenue (SR 118)	61.5	142	45	14
39	Guiberson Road east of Chambersburg Road (SR 23)	57.7	58	18	6
40	Harbor Boulevard north of Gonzales Road	70.6	1,153	365	115
41	Harbor Boulevard south of Gonzales Road	70.3	1,074	340	107
42	Howe Road east of Torrey Road	51.6	14	5	1
43	Hueneme Road east of Las Posas Road	67.1	512	162	51
44	Hueneme Road east of Nauman Road	66.9	495	156	49
45	Hueneme Road east of Wood Road	66.2	417	132	42
46	Hueneme Road east of Olds Road	68.7	746	236	75
47	Kanan Road east of Lindero Canyon Road	66.6	460	145	46
48	Kanan Road east of Hollytree Drive/Oak Hills Drive	66.6	454	143	45
49	Kanan Road south of Tamarind Street	68.2	667	211	67
50	La Luna Avenue south of Lomita Avenue	56.4	44	14	4
51	Laguna Road east of Pleasant Valley Road	60.4	109	34	11
52	Las Posas Road north of East Fifth Street (SR 34)	67.7	587	186	59
53	Las Posas Road south of East Fifth Street (SR 34)	67.8	601	190	60
54	Las Posas Road south of Hueneme Road	65.6	361	114	36
55	Lewis Road south of Pleasant Valley Road	69.0	788	249	79
56	Lewis Road north of Potrero Road	67.9	617	195	62
57	Lockwood Valley Road west of Kern County Line	56.8	48	15	5
58	Lockwood Valley Road east of Maricopa Highway (SR 33)	49.0	8	3	1
59	Lomita Avenue east of Tico Road	59.1	82	26	8
60	Main Street (Piru) north of Telegraph Road (SR 126)	56.7	46	15	5
61	Moorpark Road north of Santa Rosa Road	70.7	1,168	369	117
62	Old Telegraph Road west of Grand Avenue	59.2	82	26	8
63	Olds Road north of Hueneme Road	61.4	137	43	14
64	Olivas Park Drive west of Victoria Avenue	68.9	769	243	77
65	Pasadena Avenue east of Sespe Street	50.7	12	4	1
66	Patterson Road south of Doris Avenue	52.5	18	6	2
67	Pleasant Valley Road south of East Fifth Street (SR 34)	69.4	861	272	86
68	Pleasant Valley Road west of Las Posas Road	68.2	663	210	66
69	Portero Road east of Lake Sherwood Drive East	62.8	193	61	19
70	Portero Road west of Stafford Road	59.9	97	31	10
71	Portero Road west of Hidden Valley Road	52.4	17	6	2
72	Portero Road at Milepost 2.75	58.6	73	23	7
73	Portero Road east of Lewis Road	62.7	188	59	19
74	Rice Avenue south of East Fifth Street (SR 34)	72.9	1,936	612	194
75	Rice Avenue north of Channel Islands Boulevard	71.9	1,559	493	156

	Corridor and Segment	Noise (dBA CNEL) at 50 feet from Roadway	Noise Contour Distance in Feet		
			60 dBA	65 dBA	70 dBA
76	Rice Avenue north of Hueneme Road	59.8	96	30	10
77	Rice Road south of Lomita Avenue	59.8	96	30	10
78	Rose Avenue south of Los Angeles Avenue (SR 118)	64.2	265	84	26
79	Rose Avenue south of Central Avenue	64.5	279	88	28
80	Rose Avenue north of Collins Street	67.3	540	171	54
81	Santa Ana Boulevard east of Ventura River	58.8	76	24	8
82	Santa Ana Road south of Baldwin Road (SR 150)	54.6	29	9	3
83	Santa Ana Road south of Santa Ana Boulevard	60.7	119	37	12
84	Santa Clara Avenue north of Friedrich Road	69.0	803	254	80
85	Santa Clara Avenue south of Los Angeles Avenue (SR 118)	69.9	983	311	98
86	Santa Rosa Road west of Moorpark Road	70.8	1,203	380	120
87	Santa Rosa Road west of East Las Posas Road	69.0	801	253	80
88	Santa Susana Pass Road east of Katherine Road	58.2	66	21	7
89	Sespe Street north of South Mountain Road	61.6	144	45	14
90	Sespe Street south of Pasadena Avenue	55.7	37	12	4
91	South Mountain Road east of Balcom Canyon Road	55.1	32	10	3
92	South Mountain Road south of Santa Clara River	58.4	69	22	7
93	Stockton Road east of Balcom Canyon Road	56.4	43	14	4
94	Sturgis Road west of Pleasant Valley Road	65.4	350	111	35
95	Tapo Canyon Road south of Bennett Road	52.8	19	6	2
96	Telegraph Road west of Briggs Road	65.2	331	105	33
97	Telegraph Road west of Olive Road	64.7	292	92	29
98	Tico Road north of Ventura Avenue (SR 150)	56.6	46	14	5
99	Tierra Rejada Road east of Moorpark Freeway (SR 23)	71.8	1,526	483	153
100	Torrey Road south of Telegraph Road (SR 126)	56.9	49	16	5
101	Valley Vista Drive south of Calley Aurora	59.5	88	28	9
102	Ventura Avenue north of Canada Larga Road	57.5	57	18	6
103	Ventura Avenue north of Shell Road	60.2	105	33	10
104	Victoria Avenue south of Olivas Park Drive	73.8	2,386	755	239
105	Walnut Avenue north of Los Angeles Avenue (SR 118)	53.3	21	7	2
106	Wendy Drive north of Gerald Drive	63.6	229	72	23
107	Wood Road south of Hueneme Road	58.8	75	24	7
108	Wood Road south of East Fifth Street (SR 34)	67.8	601	190	60
109	Wooley Road west of Rice Avenue	68.4	694	219	69
110	Yerba Buena Road north of Pacific Coast Highway (SR 1)	49.4	9	3	1
	Freeways / Highways				
111	SR 1 at Calleguas Creek	73.7	2,368	749	237
112	SR 1 at Seacliff Colony, Junction SR 101	66.9	488	154	49
113	SR 1 at Las Cruces, SR 101, Mobil Oil Pier	59.1	81	26	8
114	SR 23 at Grimes Canyon Road	69.9	987	312	99
115	SR 23 at Junction SR 126, Ventura Road	67.7	585	185	59
116	SR 33 at West Junction SR 150, Baldwin Road	66.7	465	147	47
117	SR 33 at Los Padres National Forest Boundary	55.5	35	11	4
118	SR 33 at Sespe Gorge Maintenance Station	51.0	13	4	1
119	SR 33 at Ventura/Santa Barbara County Line	53.9	25	8	2
120	SR 34 at Junction SR 118, Los Angeles Avenue	68.4	692	219	69
121	U.S. Highway 101 at Victoria Avenue	80.9	12,207	3,860	1221
122	U.S. Highway 101 at Ventura/Santa Barbara County Line	79.5	8,815	2,787	881

Corridor and Segment		Noise (dBA CNEL) at 50 feet from Roadway	Noise Contour Distance in Feet		
			60 dBA	65 dBA	70 dBA
123	SR 118 at Junction SR 232 (Westbound)	75.8	3,761	1,189	376
124	SR 118 at SR 34, Somis Road (Westbound)	72.5	1,787	565	179
125	SR 118 at Grimes Canyon Road	72.8	1,919	607	192
126	SR 118 at West Junction SR 23, Moorpark Avenue	71.7	1,475	466	147
127	SR 118 at East Junction SR 23, Spring Road	72.5	1,780	563	178
128	SR 150 at Santa Barbara/Ventura County Line	49.1	8	3	1
129	SR 150 at Junction SR 33 South (South)	63.0	197	62	20
130	SR 150 at Santa Paula North City Limit	59.0	80	25	8
131	SR 232 and Junction SR 118	65.8	381	120	38

Notes: SR = State Route; dBA = a-weighted decibels;
Gray shaded cells reflect roadway segments exceeding 60 dBA CNEL at 50 feet from the roadway centerline.
All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow, and does not account for shielding of any type or finite roadway adjustments. All noise levels are reported as A-weighted noise levels.
Source: Modeled by Ascent Environmental in 2019; based on traffic data provided by GHD (2019).

HAZ-9.3 **Development Along Travel Routes**

The County shall evaluate discretionary development for noise generated by project-related traffic along the travel route to the nearest intersection which allows for movement of traffic in multiple directions. In all cases, the evaluation of project-related roadway noise shall be evaluated along the travel route(s) within 1,600 feet of the project site. (RDR)

HAZ-9.4 **Acoustical Analysis Required**

The County shall require an acoustical analysis by a qualified acoustical engineer for discretionary development involving noise exposure or noise generation in excess of the established standards. The analysis shall provide documentation of existing and projected noise levels at on-site and off-site receptors and shall recommend noise control measures for mitigating adverse impacts. (RDR)

HAZ-9.5 **Site and Building Design**

EJ HC

The County shall require discretionary development and County-initiated projects to comply with adopted noise standards through proper site and building design features, such as building location and orientation, setbacks, natural barriers and vegetation, and building construction. The County shall only consider sound walls if noise mitigation measures have been evaluated or integrated into the project and found infeasible. (RDR)

HAZ-9.6 **Airport Noise Compatibility**

EJ

The County shall use the aircraft noise analysis prepared for local airports or the noise contours from the current NBVC-Point Mugu Air Installations Compatible Use Zones (AICUZ) study, as most appropriate for a project location, as an accurate mapping of the long-term noise impact of the airport's aviation activity. The County shall restrict new discretionary residential land uses to areas outside of the 60 decibel Community Noise Equivalence Level (dB CNEL) aircraft noise contour unless interior noise levels can be mitigated to meet a maximum 45 dB CNEL. (RDR)

HAZ-9.7 **Noise Control Priorities**

The priorities for noise control for discretionary development shall be as follows:

1. Reduction of noise emissions at the source.
2. Attenuation of sound transmission along its path, using barriers, landform modification, dense plantings, building orientation and placement, and the like.
3. Rejection of noise at the reception point using noise control building construction, hearing protection or other means.

(RDR)

HAZ-9.8 **Implement Noise Control Measures for Traffic Noise**

The County shall require noise control measures to be implemented along roadways for new discretionary development generating traffic noise if either of the following circumstances would exist:

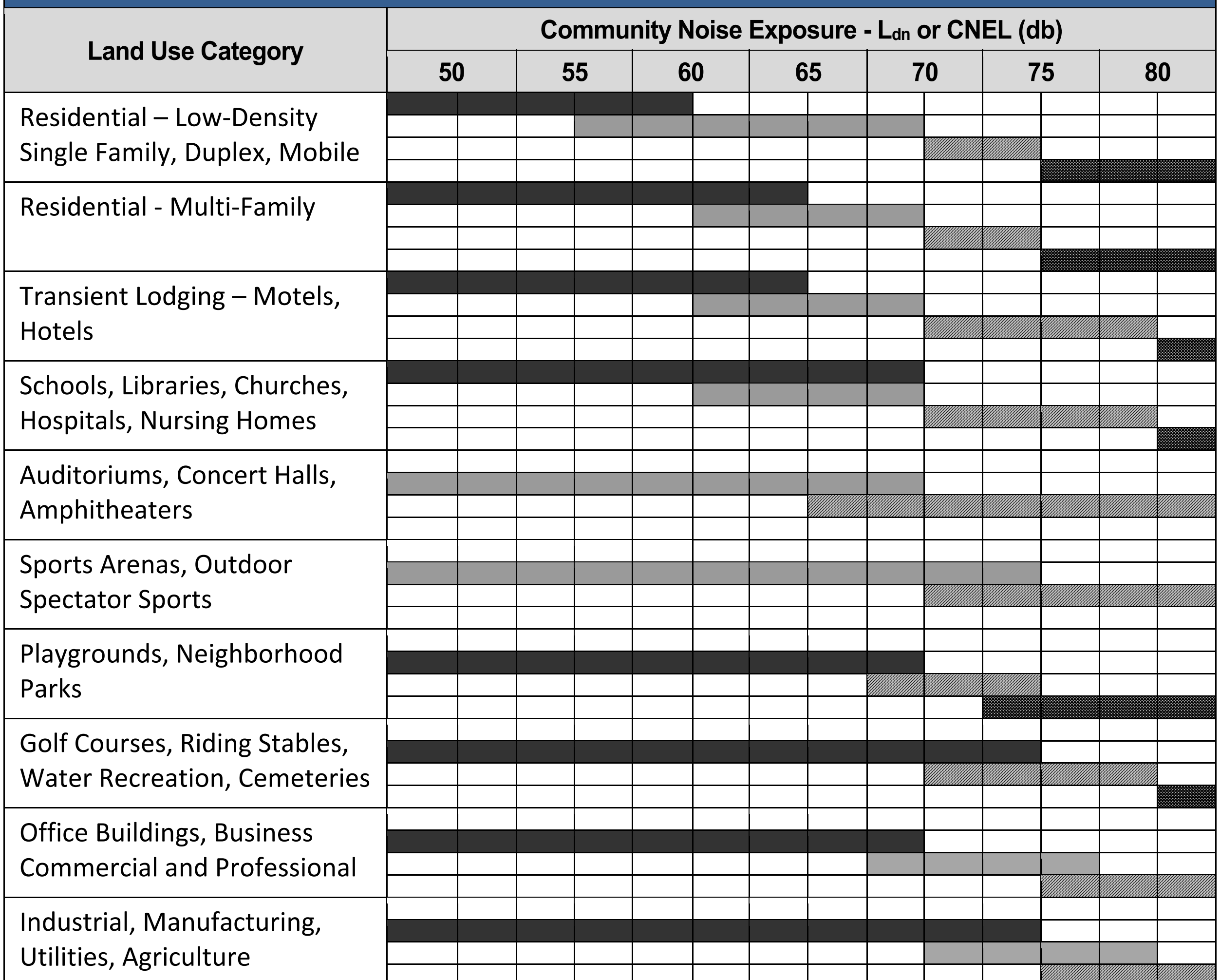
- The discretionary development would result in traffic noise levels above a County noise compatibility standard stated in Policy HAZ 9.2 in an area where traffic noise levels, under existing conditions, do not exceed the County noise compatibility standard; or,
- The discretionary development would result in an increase in traffic noise levels of 3 dBA or greater in an area where traffic noise levels under existing conditions exceed a County noise compatibility standard stated in Policy HAZ 9.2.

Noise control measures may include increased vegetation, roadway pavement improvements and maintenance, and site and building design features. If such measures are not sufficient to reduce a new discretionary development's fair-share of traffic-generated noise at sensitive receptors, a sound wall barrier may be constructed. All feasible[1] noise reduction measures shall be implemented to ensure the development's fair-share of traffic-generated noise is reduced, consistent with Policy HAZ 9.2. (RDR)

EIR

[1] "Feasible" means that this mitigation measure shall be applied to future discretionary projects under the 2040 General Plan when and to the extent it is "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors" as determined by the County in the context of such future projects based on substantial evidence. This definition is consistent with the definition of "feasible" set forth in CEQA (Pub. Res. Code, § 21066.1) and the CEQA Guidelines (§ 15164). The County shall be solely responsible for making this feasibility determination in accordance with CEQA.

TABLE 11-10
STATE LAND USE COMPATIBILITY STANDARDS FOR COMMUNITY NOISE ENVIRONMENT



Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
Normally Unacceptable	New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable	New construction or development generally should not be undertaken.

Source: California Governor's Office of Planning and Research 2003

21. Noise and Vibration

A. Definition of Issue

Noise is defined as any unwanted sound that is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying. Noise impacts can occur during the construction and/or operational phases of a project.

With the exception of a few large-scale construction projects that last a period of years, most projects involve only short term construction noise impacts. The severity of construction noise impacts varies based on the location of sensitive receptors; type or phase of construction; combination of equipment used; site layout; and, construction methods that are employed.

Operational noise typically includes long-term impacts—that is, impacts that persist throughout the life of a project. Impacts from operational noise vary based on the: location of sensitive receptors; type of equipment or machinery that is used; site layout; and, duration and times during which noise-generating uses occur.

Vibration is defined as a motion that repeatedly reverses itself. The most common type of environmental impact involving vibration consists of ground vibration, which is the periodic displacement of earth, which creates vibration waves that move through soil and rock strata, foundations of nearby buildings, and then throughout the parts of the building structure. Ground-borne vibration can result in sensible movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. The rumbling sound caused by the vibration of room surfaces is called ground-borne noise.

The operation of construction equipment and construction techniques (e.g., pile driving, blasting, or excavation) can generate temporary ground vibration impacts. Moreover, heavy duty vehicles traveling along roadways with potholes and bumps, steel-wheeled/steel-rail vehicles (e.g., trains), and equipment used in industrial operations which are related to a proposed project can generate recurring ground vibration impacts throughout the life of a project. If the amplitudes are high enough, ground vibration can: cause damage to buildings, ranging from more severe (yet uncommon) structural damage to less severe cosmetic damage (e.g., cracked plaster); and, generate ground-borne noise that is discomforting or a nuisance to individuals who live or work close to vibration-generating activities.

B. Definition of Terms

The following is a partial glossary of acoustic and vibration terminology. For a more comprehensive glossary of noise-related terms, see the Ventura County General Plan Hazards Appendix (§2.16.2). For a more comprehensive glossary of vibration-related terms, see the Transit Noise and Vibration Impact Assessment.[1]

Ambient Noise **-** The noise that results from the combination of all sources, near and far, which constitutes the existing environmental setting for the purposes of evaluating noise impacts. The ambient noise levels are expressed as L_{eqT} or CNEL as judged appropriate to the situation.

A-weighted Sound Level [L_A - dB(A)] **-** Sound pressure level measured using the A-weighting network, a filter which discriminates against low and very high frequencies in a manner similar to the human hearing mechanism at moderate sound levels (ANSI S1.4).

Community Noise Equivalent Level [CNEL - dB(A)] **-** The long-term time average sound level, weighted as follows:

- Frequency response is filtered using the A-weighting network.
- Sounds occurring between 7 p.m. and 10 p.m. are weighted by 5 dB (in effect, the number of noise events is multiplied by 3.15).

[1] Hanson, Carl E., David A. Towers, and Lance D. Meister. (May 2006). *Transit Noise and Vibration Impact Assessment.* Federal Transit Administration, Office of Planning and Environment. FTA-VA-90-1003-06. Available on-line at: http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf.

- Sounds occurring between 10 p.m. and 7 a.m. are weighted by 10 dB (in effect, the number of noise events is multiplied by 10).

Decibel (dB) **-** A unit of sound measurement equal to 10 times the base-10 logarithmic ratio squared of the magnitude of acoustic pressure divided by and relative to a specified reference level. The airborne acoustic pressure reference level is the threshold of hearing of an average human, which is equal to 20 micropascals (μPa or 2×10^{-5} Pa) and is equivalent to 0 dB, the quietest sound a human can hear. A 3 dB increase is barely detectable. A 10 dB increase represents a doubling of loudness.

Noise Contour **-** A line on a map that indicates locations of constant ambient sound level near or around known sources of noise. In practice, noise contours are often shown as calculated for the dominant source of noise only.

Noise Sensitive Uses **-** Dwellings, schools, hospitals, nursing homes, churches and libraries.

Time Average Sound Level (L_{eqT} - dB) **-** The level, in decibels, of the mean sound pressure averaged over time period T. This is often referred to as "equivalent sound level" and hence the "eq" subscript. The "equivalence" is to a sound of constant level that has the same total acoustic energy content.

Vibration Category 1 (High Sensitivity Use) **-** Buildings where vibration would interfere with operations within the building, including levels that may be well below those associated with human annoyance. Examples include: concert halls; vibration-sensitive research and manufacturing; hospitals with vibration-sensitive equipment; and, university research operations.

Vibration Category 2 (Residential) - All residential land uses and any buildings where people sleep, such as hotels and hospitals.

Vibration Category 3 (Institutional) - Schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment, but still have the potential for activity interference.

C. Applicable General Plan Goals and Policies

The following goals and policies of the Ventura County General Plan are applicable to this issue:

Countywide Goals, Policies and Programs:

Goal 2.16.1

Policies 2.16.2-1 through -3

Lake Sherwood/Hidden Valley Area Plan:

Goals 3.3.1-1 & -2

Policies 3.3.2-1 through 5

Oak Park Area Plan:

Goals 2.4.1-1 & -2

Policies 2.4.2-1 through -5

Ojai Valley Area Plan:

Goals 2.4.1-1 & -2

Policies 2.4.2-1 through -3

Piru Area Plan:

Goals 2.4.1-1 & -2

Policies 2.4.2-1 through -3

Thousand Oaks Area Plan:

Goals 2.3.1-1 & -2

Policy 2.3.2

D. Threshold of Significance Criteria

Noise Thresholds:

Any project that produces noise in excess of the standards for noise in the Ventura County General Plan Goals, Policies and Programs (Section 2.16) or the applicable Area Plan , has the potential to cause a significant noise impact. Noise-generating uses that either individually or when combined with other recently approved, pending, and probable future projects, exceeds the noise thresholds of General Plan Noise Policy 2.16.2-1(4) are considered to have a potentially significant impact.

Vibration Thresholds:

1. Construction Threshold - Any project that either individually or when combined with other recently approved, pending, and probable future projects, includes construction activities involving blasting, pile-driving, vibratory compaction, demolition, and drilling or excavation which exceed the threshold

criteria provided in the Transit Noise and Vibration Impact Assessment (Section 12.2),[2] is considered to have a potentially significant impact.

Table 1 - Screening Distances for Vibration Assessment

Vibration-Generating Transit Use	Critical Distance for Land Use Categories* Distance from Right-of-Way or Property Line (feet)		
	Category 1	Category 2	Category 3
Steel-Wheeled/Steel-Rail Vehicle Transit Uses			
Conventional Commuter Railroad	600	200	120
Rail Rapid Transit	600	200	120
Light Rail Transit	450	150	100
Intermediate Capacity Transit	200	100	50
Rubber-Tire Heavy Vehicle Uses			
Rubber-Tire Heavy Vehicles (if not previously screened out)**	100	50	--

*See the "Definition of Technical Terms" (above) for the land uses that fall within each of the Categories, as well as the Transit Noise and Vibration Impact Assessment, Appendix A, for the definitions of vibration-generating transit uses listed in this table. For the purposes of screening procedures, concert halls and television studios should be evaluated as Category 1, and theaters and auditoriums should be evaluated as Category 2.

**See the discussion below.

Source: Transit Noise and Vibration Impact Assessment, Table 9.2.

2. Transit Use Thresholds - Table 1 lists the thresholds for vibration-generating transit uses, based on the type of transit use and the location of the transit use in relation to sensitive use categories. If a project would result in a transit use located within any of the critical distances of the vibration-sensitive uses listed in Table 1, the project has the potential to result in a significant impact and must be evaluated using the Transit Noise and Vibration Impact Assessment (Chapters 8 through 11).[3]

3. Commercial/Industrial Use Vibration Thresholds:

   a. Any project that would generate new heavy vehicle (e.g., semi truck or bus) trips on uneven roadways located within proximity to sensitive uses has the potential to either individually or when combined with other recently approved, pending, and probable future projects, exceed the threshold criteria of the Transit Use Thresholds for rubber-tire heavy vehicle uses (Item No. 3 and Table 1, above), thereby resulting in a potentially significant impact.

[2] Ibid

[3] Ibid.

b. Any project that involves blasting, pile-driving, vibratory compaction, demolition, drilling, excavation, or other similar types of vibration-generating activities has the potential to either individually or when combined with other recently approved, pending, and probable future projects, exceed the threshold criteria[4] provided in the *Transit Noise and Vibration Impact Assessment* (Section 12.2),[5] thereby resulting in a potentially significant impact.

E. Methodology

Noise

Construction noise impacts shall be evaluated using the assessment methodology, criteria, and reporting procedures provided in the Construction Noise Threshold Criteria and Control Measures.[6] All other types of noise impacts shall be evaluated pursuant to the following procedures.

Step 1 - Preliminary Noise Assessment

A preliminary noise assessment shall be conducted by the County Agency responsible for administering the proposed development project. The purpose of the preliminary noise assessment is to determine if a consultant prepared acoustical analysis is required. (See Step 2, below) The preliminary noise assessment shall consist of the following:

a. **Determine if the Proposed Use is Noise Sensitive or a Noise Generator -** If the proposed use is *noise sensitive*, see Steps 1.b, 1c and 1.d below. If the proposed use is a potential noise generator, see Step 1.e below.

b. **Consult) GIS Noise Exposure/Contour Maps -** Using Planning GIS, view the project site with the noise layers turned on, in order to determine whether or not the noise-sensitive use site is within the 60 dB(A) CNEL contour of a highway or airport . If the project is located within this contour, the noise impact is potentially significant and a consultant prepared acoustical analysis must be completed.

c. **Consult Land Use Maps -** Locate the project area on the General Land Use, Existing Community and Area Plan Maps (as appropriate) of the General Plan, which are available from the Resource Management Agency, GIS Development and Mapping Services Division. If the project is noise-sensitive and is within 500 feet of an industrially designated area, the noise impact is potentially significant and a consultant prepared acoustical analysis must be completed.

d. **Consult GIS Aerial Imagery –** Using Planning GIS, view the project site with the most current aerial imagery layer turned on to determine if a railroad exists within the vicinity of the project site. If a railroad exists, use the measuring tool to determine the distance between the noise-sensitive use site and the railroad. If the noise-sensitive project site is located within 3,400[7] feet of a railroad, the noise impact is potentially significant and a consultant prepared acoustical analysis must be completed.

e. **Estimate Potential Noise Impact -** If the project is a noise-generator, it will be necessary to determine:

- The noise-generating equipment's and activities' estimated noise levels and the times at which the noise levels would occur; and,

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[4] The severity of vibration-related impacts to buildings and humans are the same regardless of the source of the vibration, be it from construction or operational activities, provided that the equipment is equivalent in terms of their vibration-generating potential. Therefore, the construction-related threshold criteria are to be used for commercial/industrial operations.

[5] Hanson, Carl E., David A. Towers, and Lance D. Meister. (May 2006).

[6] Advanced Engineering Acoustics. (November 2005). *County of Ventura Construction Noise Threshold and Criteria Plan*. Available on-line at: http://www.ventura.org/rma/planning/pdf/ceqa/Construction_Noise_Thresholds.pdf..

[7] This distance was determined based on: (1) the maximum indoor noise level for habitable rooms (45 CNEL) stated in the Ventura County General Plan *Goals, Policies and Programs*, Noise Policy 2.16.2-1(1)a; and, (2) the calculated distance in feet between main line railroad tracks and the 45 CNEL contours, for railroads within Ventura County (Ventura County General Plan *Hazards Appendix*, 2005, 94).

- The proximity of the noise-generating equipment to the noise-sensitive uses using the project plans, information gathered during a site visit, aerial imagery, and land use maps that are available from the Resource Management Agency, GIS Development and Mapping Services Division.

In general, noise decreases by 5 dB for each doubling of the distance from the noise source. If the noise from the proposed project is estimated to exceed any of the following standards at the nearest *noise sensitive use*, the noise impact is deemed to have a potentially significant noise impact and a consultant prepared acoustical analysis must be completed:

55 dB(A) between 6:00 a.m. and 7:00 p.m.,

50 dB(A) between 7:00 p.m. and 10:00 p.m., or

45 dB(A) between 10:00 p.m. and 6:00 a.m.

If the preliminary noise assessment reveals that the project does not have the potential to create a significant noise impact and an acoustical analysis is not required, the agency that is responsible for administering the project shall complete the Initial Study Checklist and discussion of responses to the checklist pursuant to the "Instructions for Preparing an Initial Study" provided in the Ventura County Initial Study Assessment Guidelines. However, if the preliminary noise assessment reveals that the project has the potential to create a significant noise impact, a consultant prepared acoustical analysis must be prepared pursuant to the criteria provided in Step 2 (below).

Step 2 - Consultant Prepared Acoustical Analysis

If it is determined that a quantitative assessment is required, a qualified noise consultant shall prepare the analysis (see attached Noise Consultant Qualifications). The agency that is responsible for administering the project will ensure that the consultant meets the minimum qualifications.

Acoustical Analysis Requirements

The purpose of the consultant prepared acoustical analysis is to: determine if the project would result in any potentially significant noise impacts; identify any feasible mitigation measures that might exist to reduce the severity of the noise impacts; and, determine if the noise impacts, after mitigation, are still potentially significant. As such, the acoustical analysis must include a(n):

- Discussion of the existing environmental setting (e.g., a description of the noise sources and *ambient noise* levels of the project site and surrounding area);
- Discussion of recently approved, pending, and probable future noise-generating projects[8] that have the potential to contribute to cumulative impacts to the noise environment and, as such, are included in the acoustical analysis;
- Discussion of the methodology used in collecting noise data (e.g., noise equipment and metrics used). Noise measurements should be taken using standard industry practices, after taking into consideration site-specific characteristics (e.g., buildings, walls, topography, and the location of existing and potential future noise-sensitive receptors in relation to noise generators) which might have an influence on the noise measurements;
- Discussion of the methodology used in calculating project-specific and cumulative noise impacts (e.g., noise models used);
- Presentation of the data on the existing noise environment, as well as data on projected noise levels; and,
- Initial Study checklist and discussion pursuant to the requirements of the "Instructions for Preparing an Initial Study" in the Ventura County Initial Study Assessment Guidelines.

[8] The list of recently approved, pending, and probable future projects is available on-line at: http://www.ventura.org/rma/planning/Permits/projects.html.

Step 3 - Environmental Document Determination

If the acoustical analysis shows that there would be no significant impact, the Initial Study Checklist should be checked LS. If the study shows that there would be potentially significant noise impacts, but feasible mitigation measures could be incorporated into the project which could reduce the impact to a less than significant level, then the Initial Study Checklist should be checked PS-M. If the study shows that there would be significant, immitigable noise impacts (except construction related noise), the project could not be approved because of the General Plan noise policies. .

Step 4 - Update Data Base

In a continuing effort to update County noise data, a copy of all consultants' acoustical analysis shall be sent to the Planning Director.

Vibration:

Construction-Related Vibration

The agency that is responsible for administering the project shall request from the applicant information regarding the: types of construction activities that will be required; duration of each construction phase; and, types and number of construction equipment that will be used during each phase of construction. Using the list of recently approved, pending, and probable future projects,[9] the agency also shall identify other vibration-generating projects located within the vicinity of the project site that have the potential to contribute to cumulative impacts relating to vibration. Once this information is obtained, the agency that is responsible for administering the project shall evaluate potential construction-related vibration impacts using the assessment methodology provided in the Transit Noise and Vibration Impact Assessment (Section 12.2 et seq).[10]

As discussed in the Transit Noise and Vibration Impact Assessment, many projects will not have the potential to create prolonged annoyance or damage from construction vibrations and, therefore, will only require a qualitative assessment of potential construction-related vibration impacts. In these cases, the agency that is responsible for administering the project shall prepare the Initial Study checklist and discussion pursuant to the requirements of the "Instructions for Preparing an Initial Study" in the Ventura County Initial Study Assessment Guidelines.

Steel-Wheeled/Steel-Rail Vehicle Transit Uses

In order to determine if a project has the potential to generate a significant impact using the threshold criteria provided above (Threshold Criterion No. 3 and Table 1), the agency that is responsible for administering the project will need to determine if any vibration-sensitive uses are located within proximity to the project site. This information can be gathered by observation during a site visit and using the aerial imagery in Planning GIS. During the site visit, the agency that is responsible for administering the project shall identify any vibration-sensitive uses located within proximity to the project site. Using Planning GIS, the agency that is responsible for administering the project should view the project site with the most current aerial imagery data layer, identify the location of the vibration sensitive use that was identified during the site visit vis-à-vis the project site, and use the measuring tool to determine the distance between the vibration-sensitive use and the project site.

If the project site is located outside of the critical distance for the vibration-sensitive use specified in Table 1 (above), the project would have a less-than-significant impact, and the agency that is responsible for administering the project shall complete the Initial Study checklist and discussion pursuant to the requirements of the "Instructions for Preparing an Initial Study" in the Ventura County Initial Study Assessment Guidelines.

If the project site is located within the critical distance specified in Table 1 (above), the project shall be evaluated for potential vibration impacts using the assessment methodology, criteria, and reporting procedures provided in the Transit Noise and Vibration Impact Assessment (Chapters 9 through 11, and

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[9] See Footnote 13 (above).

[10] Hanson, Carl E., David A. Towers, and Lance D. Meister. (May 2006).

13).[11] Both project-specific and the project's contribution to cumulative impacts shall be evaluated. Cumulative impacts shall be evaluated by incorporating into the assessment all recently approved, pending, and probable future projects located within the vicinity of the project site that have the potential to contribute to cumulative impacts relating to vibration.[12] A qualified engineer must prepare the analysis. The agency that is responsible for administering the project will be responsible for selecting the consultant, and shall develop its own contract procedures with which to hire consultants. The consultants must meet the qualifications discussed in the Construction-Related Vibration Section (above). The analysis must include an Initial Study checklist and discussion that meets the requirements of the "Instructions for Preparing an Initial Study" in the Ventura County Initial Study Assessment Guidelines.

Rubber-Tire Heavy Vehicle Transit Uses

Rubber-tire heavy vehicles traveling on roadways typically will not produce a significant vibration impact, except in situations where a large number of heavy vehicles (e.g., semi trucks or buses) are traveling along uneven roadways within proximity to sensitive uses. Therefore, if a project would build, place or expand vibration-sensitive uses in close proximity to roadways on which a large number of rubber-tire heavy vehicles travel, the following initial screening questions must be asked to determine if the project would result in a potentially significant vibration impact:

1. Will the project result in the location of vibration-sensitive uses in close proximity to roadways with expansion joints, speed bumps, or other design features that result in unevenness in the road? Such roadway irregularities can result in perceptible ground-borne vibration at distances up to 75 feet away.
2. Will the project result in buses, trucks or other heavy vehicles operating near a vibration-sensitive use? Research using electron microscopes and manufacturing of computer chips are examples of vibration-sensitive uses.
3. Will the project result in the operation of vehicles inside or directly underneath buildings that are vibration-sensitive? Special considerations are often required for shared-use facilities such as a bus station located inside an office building complex.

If the answer is "no" to all three of the initial screening questions, the project would have a less-than-significant impact, and the agency that is responsible for administering the project shall complete the Initial Study checklist and discussion that meets the requirements of the "Instructions for Preparing an Initial Study" in the Ventura County Initial Study Assessment Guidelines.

If the answer is "yes" to any one of the initial screening questions, the project must be evaluated using the screening criteria in Table 1 (above). If the project would result in the location of rubber-tire heavy vehicle uses within any of the critical distances of the sensitive use categories listed in Table 1, the project has the potential to generate a significant impact, and must be evaluated using the Transit Noise and Vibration Impact Assessment.[13] Both project-specific and the project's contribution to cumulative noise impacts shall be evaluated. Cumulative impacts shall be evaluated by incorporating into the assessment all recently approved, pending, and probable future projects located within the vicinity of the project site that have the potential to contribute to cumulative impacts relating to vibration.[14] A qualified engineer must prepare the analysis. The agency that is responsible for administering the project will be responsible for selecting the consultant, and shall develop its own contract procedures with which to hire consultants. The consultants must meet the qualifications discussed in the Construction-Related Vibration Section (above). The analysis must include an Initial Study checklist and discussion that meets the requirements of the "Instructions for Preparing an Initial Study" in the Ventura County Initial Study Assessment Guidelines.

[11] Hanson, Carl E., David A. Towers, and Lance D. Meister. (May 2006).

[12] See Footnote 13 (above).

[13] Hanson, Carl E., David A. Towers, and Lance D. Meister. (May 2006).

[14] See Footnote 13 (above).

Commercial- or Industrial-Generated Vibration

Any project that would generate new heavy vehicle (e.g., semi truck or bus) trips on uneven roadways located within proximity to sensitive uses shall be evaluated using the methodology prescribed for rubber-tire heavy vehicle transit uses (above).

Any project that involves blasting, pile-driving, vibratory compaction, demolition, drilling, excavation, or other similar types of vibration-generating activities shall be evaluated using the methodology prescribed for construction-related vibration (above).

Adopted by the Board of Supervisors on July 27, 2010

Attachment
Noise Consultant Qualifications

The Environmental Quality Advisory Committee has established the following minimum qualifications for noise consultants for the purpose of conducting acoustical analysis. Noise consultants must demonstrate that they meet the minimum qualifications as defined below:

Education - Consultants should hold an advanced degree from an accredited institution (e.g., M.A., M.S., or Ph.D.) in Physics, Mathematics, Engineering or related discipline. Consultants without an advanced degree in these fields must provide documentation of at least five years of relevant research or field work in acoustical engineering.

Experience - All consultants must possess a working knowledge of physics, acoustical principles, utilization of sound level meters, and applicable state codes. Experience with CEQA is highly desirable. Consultants also must have experience in the following:

- Acquiring and evaluating data;
- Creating mitigation monitoring and reporting programs; and,
- Evaluating designs for compliance with standards relative to land use.

Local and State Expertise - Consultants must provide evidence of expertise in community/industrial noise (e.g., the preparation of Noise Elements of General Plans, technical reports, studies, mitigation measures, or noise ordinances).

Professional Certification - Evidence of professional certification is highly desirable though not required.

Vibration Consultant Qualifications

Environmental Quality Advisory Committee has established the following minimum qualifications for vibration consultants for the purpose of conducting vibration analyses. Vibration consultants must demonstrate that they meet the minimum qualifications for vibration consultants as defined below:

Education - Consultants should hold an advanced degree from an accredited institution (e.g., M.A., M.S., or Ph.D.) in Physics, Mathematics, Engineering or related discipline. Consultants without an advanced degree in these fields must provide documentation of at least five years of relevant research or field work in engineering activities involving vibration impact assessment.

Experience: All consultants must possess a working knowledge of physics, vibration principles, and applicable state codes. Experience with CEQA is highly desirable. Consultants also must have at least five years experience in the following:

- Acquiring and evaluating data;
- Creating mitigation monitoring and reporting programs; and,
- Evaluating designs for compliance with standards relative to land use.

Local and State Expertise - Consultants must provide evidence of expertise in transportation, construction, and/or industrial vibration (e.g., the preparation of environmental assessments, technical reports, studies, or mitigation measures).

Professional Certification - Evidence of professional certification is highly desirable though not required.

TABLE IV. IMMEDIATE ABATEMENT POTENTIAL OF CONSTRUCTION EQUIPMENT

Equipment	Noise Level in dB(A) at 50 ft — Present	Noise Level in dB(A) at 50 ft — With Feasible Noise Control[1]	Important Noise Sources[2]	Usage[3]
Earthmoving				
front loader	79	75	E C F I H	.4
backhoes	85	75	E C F I H	.16
dozers	80	75	E C F I H	.4
tractors	80	75	E C F I W	.4
scrapers	88	80	E C F I W	.4
graders	85	75	E C F I W	.08
truck	91	75	E C F I T	.4
paver	89	80	E D F I	.1
Materials Handling				
concrete mixer	85	75	E C F W T	.4
concrete pump	82	75	E C H	.4
crane	83	75	E C F I T	.16
derrick	88	75	E C F I T	.16
Stationary				
pumps	76	75	E C	1.0
generators	78	75	E C	1.0
compressors	81	75	E C H I	1.0
Impact				
pile drivers	101	95	W P E	.04
jack ha mers	88	75	P W E C	.1
rock drills	98	80	W E P	.04
pneumatic tools	86	80	P W E C	.16
Other				
saws	78	75	W	.04
vibrator	76	75	W E C	.4

Notes:

1. Estimated levels obtainable by selecting quieter procedures or machines and implementing noise control features requiring no major redesign or extreme cost.
2. In order of importance:

T	Power Transmission System, Gearing	F	Cooling Fan
C	Engine Casing	W	Tool-Work Interaction
E	Engine Exhaust	H	Hydraulics
P	Pneumatic Exhaust	I	Engine Intake

3. Percentage of time equipment is operating at noisiest mode in most used phase on site.

this table, one may determine that control of engine noise, and particularly of engine exhaust noise, will affect many items of equipment with high usage factors and thus should be given high priority.

Table V presents a brief listing of the noise control techniques applicable to the sources indicated in Table IV, together with an estimate of the noise reductions that may readily be achieved by means of these techniques.

2.2 Home Appliances

The use of convenient and sometimes necessary appliances constitutes a growing noise problem within the home. Almost without exception, appliances could be significantly quieter. However, manufacturers offer three primary arguments for opposing quieter redesign; they believe

- that the public associates the noise generated by a device with its power;
- that quieter appliances would be marketed at a price disadvantage and since the public has not objected to noise, that the public, in general, is satisfied;
- that since appliances are generally controlled by the operator, the option, as with air conditioners, "to have quiet or to be cool" is "option enough".

Yet, in keeping with the public's growing awareness of noise, many appliances are advertised as being "noiseless", "quiet", "vibration-free".

Although many manufacturers have made detailed acoustic measurements of the noise output of their appliances, very little data has been reported in the open literature. Some of the

TABLE V. NOISE CONTROL FOR CONSTRUCTION EQUIPMENT

Source	Control Techniques	Probable Noise Reduction in dB(A)*
Engine		
exhaust	improved muffler	10
casing	improved design of block	2
	enclosure	10
fan (cooling)	redesign	5
	silencers, ducts and mufflers	5
intake	silencers	5
Transmission	redesign, new materials	7
	enclosure	7
Hydraulics	redesign, new materials	7
	enclosure	10
Exhaust (pneumatic)	muffler	5-10
Tool-Work interaction	enclosure	7-20
	change in principle	10-30

*Note that noise reductions are not additive. Incremental reductions can be realized only by simultaneous quieting of all sources of equal strength.

Relationship Between Indoor and Outdoor Levels

The contribution of outdoor noise to indoor noise levels is usually small. That pan of a sound level within a building caused by an outdoor source obviously depends on the source's intensity and the sound level reduction afforded by the building. Although the sound level reduction provided by different buildings differs greatly, dwellings can be categorized into two broad classes-- those built in warm climates and those built in cold climates. Further, the sound level reduction of a building is largely determined by whether its windows are open or closed. Table II shows typical sound level reductions for these categories of buildings and window conditions, as well as an approximate national average sound level reduction.

Table II
Typical Sound Level Reductions of Buildings

	Windows Opened	**Windows Closed**
Warm Climate	12dB	24dB
Cold Climate	17dB	27dB
Approximate National Average	15dB	25dB

Sample measurements of outdoor and indoor noise levels during 24-hour periods are depicted in Figure 7. Despite the sound level reduction of buildings, indoor levels are often comparable to or higher than levels measured outside. Thus, indoor levels often are influenced primarily by internal noise sources such as appliances, radio and television, heating and ventilating equipment, and people. However, many outdoor noises may still annoy people in their homes more than indoor noises do. Indeed, people sometimes turn on indoor sources to mask the noise coming from outdoors.

An example of the range of hourly sound levels measured inside living areas in plotted for each hour of the day in Figure 8. The figure shows the median levels and the range of levels observed for 80% of the data. During late night hours the typical hourly sound level was approximately 36 dB. This level was probably dominated by outdoor noise. However, during the day, the hourly average levels ranged from about 40 to 70 dB, indicating the wide range of activities in which people engage.

INDIVIDUAL NOISE EXPOSURE PATTERNS

During a 24-hour period, people are exposed to a wide range of noises, including noise at home, work, school, places of recreation, shopping establishments, and while enroute to these or other. locations. Clearly, no single exposure pattern can be typical of all people, or even of those people who follow a common life style. Figure 9 shows hypothetical exposure patterns for broad classes of people. From these levels and some assumptions about the hours spent at different daytime activities, 24-hour average sound levels can be estimated for factory and office workers, housewives, and preschool and school-age children. Estimates based on these assumptions are found in Table III.

3.5.1 Barrier Design Goals and Insertion Loss.

The first step in barrier design is to establish the design goals. Design goals may not be limited simply to noise reduction at receivers, but may also include other considerations of safety and maintenance as well. These other considerations are discussed later in Sections 4 through 13.

In this section, the acoustical design goals of noise reduction will be discussed. Acoustical design goals are usually referred to in terms of barrier *Insertion Loss* (IL). IL is defined as the sound level at a given receiver before the construction of a barrier minus the sound level at the same receiver after the construction of the barrier. The construction of a noise barrier usually results in a partial loss of soft-ground attenuation. This is due to the barrier forcing the sound to take a higher path relative to the ground plane. Therefore, barrier IL is the net effect of barrier diffraction, combined with this partial loss of soft-ground attenuation.

Typically, a 5-dB(A) IL can be expected for receivers whose line-of-sight to the roadway is just blocked by the barrier. A general rule-of-thumb is that each additional 1 m of barrier height above line-of-sight blockage will provide about 1.5 dB(A) of additional attenuation (see Figure 13).

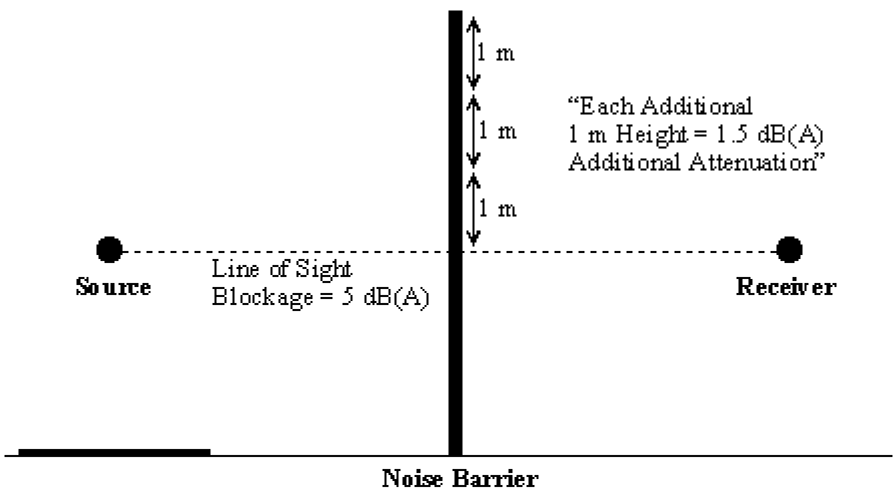

Figure 13. Line-of-sight

Properly-designed noise barriers should attain an IL approaching 10 dB(A), which is equivalent to a perceived halving in loudness for the first row of homes directly behind the barrier. For those residents not directly behind the barrier, a noise reduction of 3 to 5 dB(A) can typically be provided, which is just slightly perceptible to the human ear. Table 4 shows the relationship between barrier IL and design feasibility.

Table 4. Relationship between barrier insertion loss and design feasibility.

Barrier Insertion Loss	Design Feasibility	Reduction in Sound Energy	Relative Reduction in Loudness
5 dB(A)	Simple	68%	Readily perceptible
10 dB(A)	Attainable	90%	Half as loud
15 dB(A)	Very difficult	97%	One-third as loud
20 dB(A)	Nearly impossible	99%	One-fourth as loud

Source: Excerpt from the Federal Highway Administration's *Noise Barrier Design Handbook* (http://www.fhwa.dot.gov/environment/noise/noise_barriers/design_construction/design/design00.cfm)

Aggregate & Recycle Plant/Rock Crushing Source Noise

Noise Measurement Data - Rock Crushing/Processing Activities (dBA)							
		Measured Noise Levels			Reference Noise Levels		
Location #	Measurement #	Measured L_{eq}	Measured L_{eq} (Combined)	Distance from Source (ft.)	Reference Distance (ft.) [A]	L_{eq} @ 50-feet [B]	L_{eq} @ 50-feet (Combined)
Location #1	#1	76.0	81.2	205	50	88.3	93.4
	#2	80.6				92.9	
	#3	83.8				96.1	
Location #2	#1	79.4	76.4	145	50	88.6	85.7
	#2	76.3				85.5	
	#3	61.9				71.1	
Location #3	#1	77.7	80.7	42	50	76.2	79.2
	#2	83.7				82.2	
	#3	77.9				76.4	
Location #4	#1	83.4	81.5	51	50	83.6	81.6
	#2	74.3				74.5	
	#3	82.4				82.6	
Location #5	#1	83.0	81.0	54	50	83.7	81.7
	#2	82.2				82.9	
	#3	72.1				72.8	
Location #6	#1	85.1	82.7	78	50	89.0	86.5
	#2	76.7				80.6	
Location #7	#1	79.0	78.2	96	50	84.7	83.8
	#2	77.1				82.8	
Location #8	#1	83.4	83.4	140	50	92.3	92.3
Location #9	#1	73.3	73.3	120	50	80.9	80.9
Location #10	#1	72.8	72.8	70	50	75.7	75.7
						Plant Noise Level (L_{eq}) - Statistical Average @ 50-feet [C]:	**84.1** dBA

Note: The noise levels shown above were measured while a rock crushing plant was operating "at maximum capacity". In addition to the plant, mobile equipment (haul trucks, loaders) were also operating in the vicinity during the measurements. Despite the addition of mobile sources, these measured sound levels are conservatively utilized to represent Pacific Rock's existing Aggregate Plant and the proposed Recycle Plant.

A - Distances (feet) estimated using Google Earth ™.

B - L_{eq}Calc = Selected_L_{eq} - 20*log(D/50). "Selected_L_{eq}" = reference noise level @ 50-feet. D = distance to location/receptor (feet).
Source: Ventura County's *Construction Noise Threshold and Control Plan* and FHWA's *Roadway Construction Noise Model*.

C - A total of 22 noise measurements (3-minutes each) were collected at 10 locations surrounding the crushing/processing equipment at an Otay Mesa aggregate facility.
Measurements were collected while the crushing equipment was operating at approximately full capacity and within line-of-sight of the noise source(s).
Noise measurements were then statistically combined/averaged to determine an average source noise level (L_{eq} = 84.1 dBA) at a reference distance of 50-feet.

2.1.3.8 White and Pink Noise

White noise is noise with a special frequency spectrum that has the same amplitude (level) for each frequency interval over the entire audible frequency spectrum. It is often generated in laboratories for calibrating sound level measuring equipment, specifically its frequency response. One might expect that the octave or one-third-octave band spectrum of white noise would be a straight line, but this is not true. Beginning with the lowest audible octave, each subsequent octave spans twice as many frequencies than the previous ones, and therefore contains twice the energy. This corresponds with a 3-dB step increase for each octave band, and 1 dB for each one-third-octave band.

Pink noise, in contrast, is defined as having the same amplitude for each octave band (or one-third-octave band), rather than for each frequency interval. Its octave or one-third-octave band spectrum is truly a straight "level" line over the entire audible spectrum. Therefore, pink noise generators are conveniently used to calibrate octave or one-third-octave band analyzers.

Both white and pink noise sound somewhat like the static heard from a radio that is not tuned to a particular station.

2.1.4 Sound Propagation

From the source to receiver, noise changes both in level and frequency spectrum. The most obvious is the decrease in noise as the distance from the source increases. The manner in which noise reduces with distance depends on the following important factors.

- Geometric spreading from point and line sources.
- Ground absorption.
- Atmospheric effects and refraction.
- Shielding by natural and manmade features, noise barriers, diffraction, and reflection.

2.1.4.1 Geometric Spreading from Point and Line Sources

Sound from a small localized source (approximating a point source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates or drops off at a rate of

6 dBA for each doubling of the distance (6 dBA/DD). This decrease, resulting from the geometric spreading of the energy over an ever-increasing area, is referred to as the inverse square law. Doubling the distance increases each unit area, represented by squares with sides “a” in Figure 2-7, from a^2 to $4a^2$.

Because the same amount of energy passes through both squares, the energy per unit area at 2D is reduced four times from that at distance D. Therefore, for a point source the energy per unit area is inversely proportional to the square of the distance. Taking $10\log_{10}(1/4)$ results in a 6-dBA/DD reduction. This is the point source attenuation rate for geometric spreading.

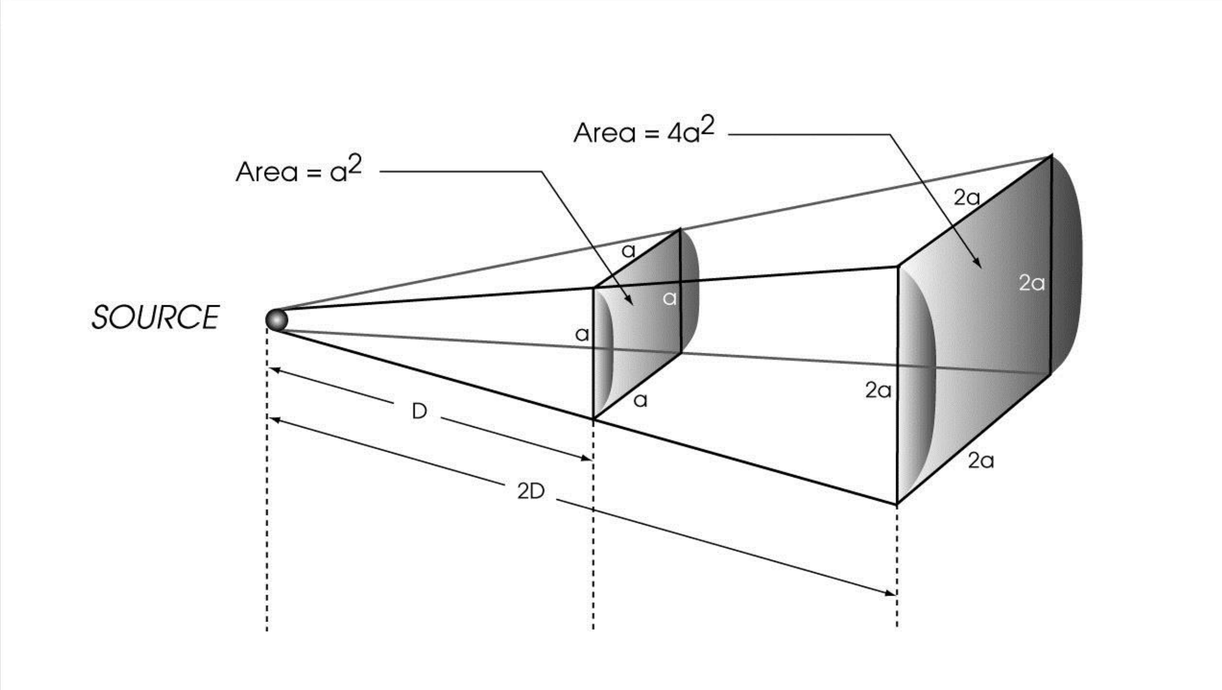

Figure 2-7. Point Source Propagation (Spherical Spreading)

As seen in Figure 2-8, based on the inverse square law the change in noise level between any two distances because of spherical spreading can be found using the following equation:

$$dBA_2 = dBA_1 + 10\log_{10}[(D_1/D_2)]^2 = dBA_1 + 20\log_{10}(D_1/D_2) \qquad \textbf{(2-13)}$$

Where:

dBA_1 = noise level at distance D_1

dBA_2 = noise level at distance D_2

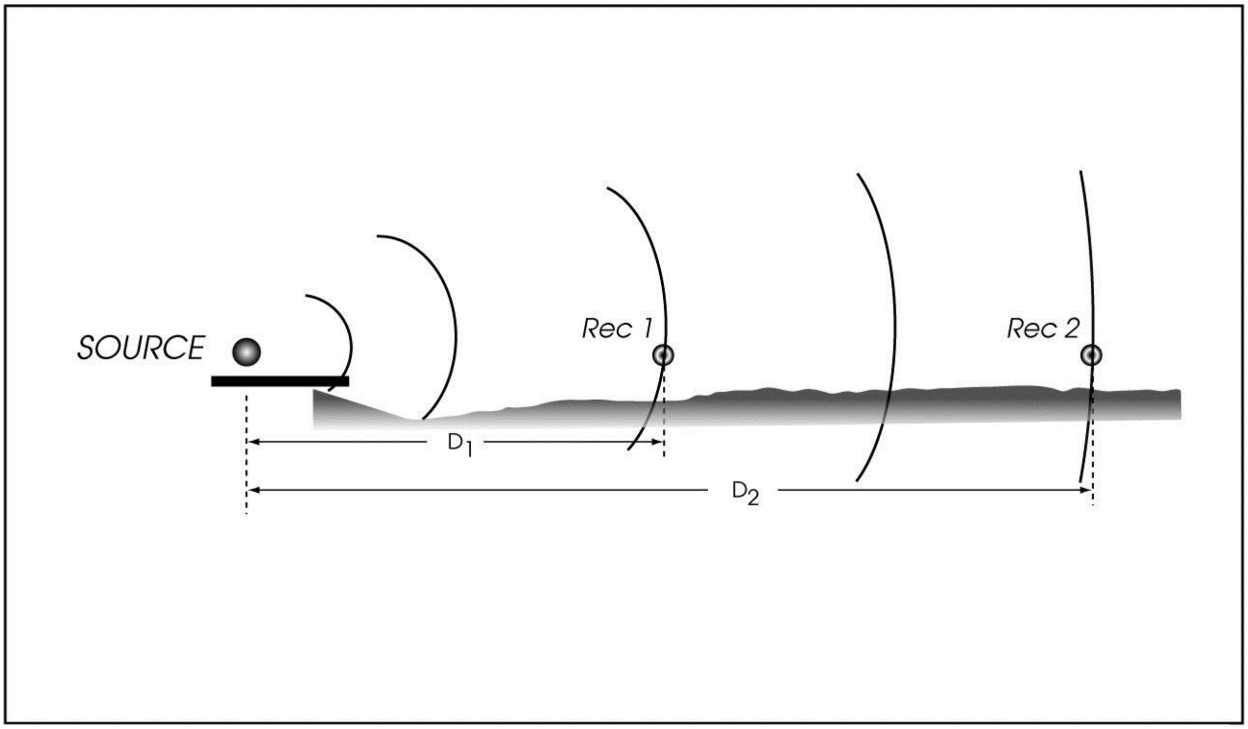

Figure 2-8. Change in Noise Level with Distance from Spherical Spreading

However, highway traffic noise is not a single, stationary point source. The movement of the vehicles makes the source of the sound appear to emanate from a line (line source) rather than a point when viewed over a time interval (Figure 2-9). This results in cylindrical spreading rather than spherical spreading. Because the change in surface area of a cylinder only increases by two times for each doubling of the radius instead of the four times associated with spheres, the change in sound level is 3 dBA/DD. The change in noise levels for a line source at any two different distances from cylindrical spreading is determined using the following equation:

$$dBA_2 = dBA_1 + 10\log_{10}(D_1/D_2) \qquad \textbf{(2-14)}$$

Where:

dBA_1 = noise level at distance D_1 and conventionally the known noise level

dBA_2 = noise level at distance D_2 and conventionally the unknown noise level

Note

The expression $10\log_{10}(D_1/D_2)$ is negative when D_2 is more than D_1 and positive when D_1 is more than D_2. Therefore, the equation automatically accounts for the receiver being farther or closer with respect to the source—$\log_{10}$ of a number less than 1 gives a negative result, $\log_{10}$ of a number more than 1 is positive, and $\log_{10}(1) = 0$.

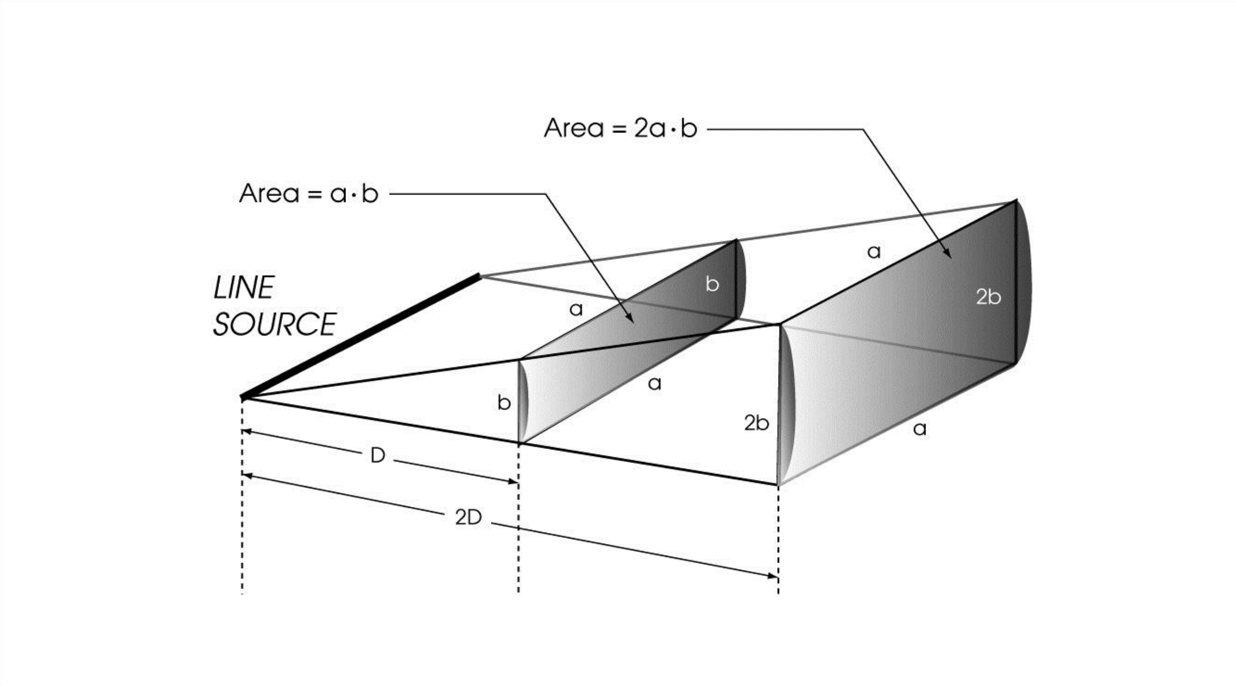

Figure 2-9. Line Source Propagation (Cylindrical Spreading)

2.1.4.2 Ground Absorption

Most often, the noise path between the highway and observer is very close to the ground. Noise attenuation from ground absorption and reflective wave cancellation adds to the attenuation from geometric spreading. Traditionally, this excess attenuation has been expressed in terms of decibels of attenuation per doubling of distance. This approximation is done for simplification only; for distances of less than 200 feet, the prediction results based on this scheme are sufficiently accurate. The sum of the geometric spreading attenuation and excess ground attenuation (if any) is referred to as the attenuation or dropoff rate. For distances of 200 feet or more, the approximation causes excessive inaccuracies in predictions. The amount of excess ground attenuation depends on the height of the noise path and characteristics of the intervening ground or site. In practice, excess ground attenuation may vary from 0 to 8–10 dBA/DD or more. In fact, it varies as the noise path height changes from the source to receiver and with vehicle type because the source heights are different. The complexity of terrain also influences the propagation of sound by potentially increasing the number of ground reflections.

The FHWA TNM is the model that is currently approved by FHWA for use in noise impact studies. The TNM has complex algorithms that directly calculate excess ground attenuation based on ground type and site geometry.

APPENDIX C

SIGNIFICANCE THRESHOLDS & AMBIENT NOISE MEASUREMENT LOGS

Ambient Measurements + Significance Thresholds

Measure Ambient Noise Levels + Ventura County Significance Thresholds

Ventura County Noise Significance Thresholds					
Facility Thresholds			Haul Route Thresholds		
Standard	Hours	Noise Threshold (L_{eq}1H)	Outdoor		Indoor
			CNEL	L_{eq}1H	CNEL
Daytime	6:00 a.m. - 7:00 p.m.	55 dBA or ambient +3 dBA	60 dBA	65 dBA	45 dBA
Evening	7:00 p.m. - 10:00 p.m.	50 dBA or ambient +3 dBA			
Nighttime	10:00 p.m. - 6:00 a.m.	45 dBA or ambient +3 dBA			

Source: Ventura County *2040 General Plan Noise Element* (September 2020) / Ventura County *Initial Study Assessment Guidelines* (April 2011)

CNEL = Community Noise Equivalent Level, is a long-term average sound level with a +5 dBA penalty added to evening (7:00 p.m. - 10:00 p.m.) noise and a +10 dBA penalty added to nighttime (10:00 p.m. - 7:00 a.m.) noise.

Facility Receptors - Ambient/Baseline Measurements & Ventura County Significance Thresholds									
Receptor	Measurement / Study	Receptor Type	Date(s) Measured	Ambient Noise Levels (L_{eq}1H)			County Thresholds (L_{eq}1H) [C, D]		
				Daytime	Evening	Nighttime	Daytime	Evening	Nighttime
R1 [B]	Study #2	Cemetery	12/20/2018	41.6	32.9	32.7	55	50	45
R2 [A]	Study #1	Residence(s)	12/20/2018 12/21/2018	44.8	36.2	36.0	55	50	45
R3 [A]	Study #1	Recreation/Open Space	12/20/2018 12/21/2018	44.8	36.2	36.0	55	50	45

Haul Route Receptors - Ambient/Baseline Measurements & Ventura County Significance Thresholds														
Receptor	Measurement / Study	Receptor Type	Date(s) Measured	Ambient Noise Levels (L_{eq}1H & CNEL) [E]					County Thresholds (L_{eq}1H & CNEL) [C, E]				
				Daytime	Evening	Nighttime	CNEL		Daytime	Evening	Nighttime	CNEL	
							Outdoor	Indoor [F]				Outdoor	Indoor
R4 [A]	Study #3	Residence	1/23/2019 1/24/2019	59.8	50.7	47.9	58.9	38.9	62.8	53.7	50.9	61.9	45.0
R5 [B]	Study #4 Study #5 Study #6	Residence(s)	1/23/2019 1/24/2019	77.4	66.3	65.4	62.2	42.2	80.4	69.3	68.4	65.2	45.2

A - Ambient noise levels at Receptors 2 (R2), 3 (R3) and 4 (R4) represent actual L_{eq}1H noise levels measured during the daytime, evening, and nighttime timeframes over a 24-hours period.

B - For Receptors 1 (R1) and 5 (R5) where 24-hour measurements were not collected, a dBA ±change was calculated by comparing measured short-duration (15-minute) L_{eq} values at these locations to the measured L_{eq} noise level at the appropriate 24-hour reference location during the identical time period. The difference between these values (i.e., correction factor) is is then applied to the applicable daytime, evening, nighttime, and CNEL 24-hour L_{eq}1H measurements to estimate the noise levels at Receptors R1 and R5.

C - Ambient noise levels at Facility receptors (R1, R2 and R3) are below the Ventura County "fixed" thresholds, and therefore the "fixed" thresholds are utilized to determine the significance of Facility noise impacts on these receptors. However, because the ambient noise levels at haul route receptors (R4 and R5) already exceeds the "fixed" thresholds, per Ventura County guidance the measured "ambient noise level +3 decibels (dBA)" is utilized to determine the significance of haul route noise impacts at Receptors R4 and R5.

D - Because the Facility (i.e., mining and processing operations) will operate during daytime hours (i.e., 7:00 a.m. - 4:00 p.m.) only, the daytime threshold is utilized to determine the significance of Facility noise impacts. The evening and nighttime ambient noise levels and significance thresholds are shown for information purposes only.

E - As discussed in Appendix E, the applicable CNEL thresholds are utilized to determine the significance of Project haul truck impacts. The measured L_{eq}1H noise levels, and adjusted thresholds, for the daytime, evening, and nighttime timeframes are shown for informational purposes only.

F - Based on the EPA's *Protective Noise Levels* document (March, 1974), an outdoor to indoor attenuation of -20 dBA is assumed. This takes into account the average noise reduction provided while windows are closed (-25 dBA) and while windows are open (-15 dBA). This is a conservatively low estimate of noise attenuation as residences are expected to generally keep windows closed, especially those facing sources of noise. The -20 dBA attenuation is applied to the CNEL values. See Appendix B for the applicable excerpt from the EPA guidance document.

Study #1 - Facility
Long-Duration (24-Hours)

	Time	Date
Start:	1:00:53 PM	12/20/2018
End:	1:00:53 PM	12/21/2018

Baseline Noise Level (24-Hour)

24-Hour L_{eq}:	42.6

Baseline Noise Level (L_{eq}1H) @ R2

Daytime:	44.8
Evening:	36.2
Nighttime:	36.0

	15-Min L_{eq}	24-Hour L_{eq}	Difference
Study #2 (R1)	46.9	50.1	-3.2

	Daytime	Evening	Nighttime
Study #2 (R1)	41.6	32.9	32.7

Study	Study Time	Session Time	OL Status	L_{avg} Meter1	L_{max} Meter1	L_{min} Meter1	Time	Baseline SPL ($10^{(Leq/10)}$)
Study #1	0:01:00	0:01:00		46	55.7	32.8	1:01:53 PM	39810.71706
Receptors 2 & 3	0:02:00	0:02:00		38.9	50.9	30.9	1:02:53 PM	7762.471166
	0:03:00	0:03:00		36.1	45.7	30.2	1:03:53 PM	4073.802778
	0:04:00	0:04:00		33.1	35.5	31.4	1:04:53 PM	2041.737945
	0:05:00	0:05:00		33.3	36.5	31.6	1:05:53 PM	2137.96209
	0:06:00	0:06:00		33	36.7	30	1:06:53 PM	1995.262315
	0:07:00	0:07:00		35.7	38.4	32	1:07:53 PM	3715.352291
	0:08:00	0:08:00		33	36.6	30.8	1:08:53 PM	1995.262315
	0:09:00	0:09:00		35	38.7	31.9	1:09:53 PM	3162.27766
	0:10:00	0:10:00		35.9	39	33.3	1:10:53 PM	3890.45145
	0:11:00	0:11:00		33.9	38.2	31.9	1:11:53 PM	2454.708916
	0:12:00	0:12:00		33.9	35.7	32.2	1:12:53 PM	2454.708916
	0:13:00	0:13:00		33.6	35.7	31.7	1:13:53 PM	2290.867653
	0:14:00	0:14:00		34.1	37.6	30.7	1:14:53 PM	2570.395783
	0:15:00	0:15:00		39.1	41.6	35.1	1:15:53 PM	8128.305162
	0:16:00	0:16:00		35	38.3	32.7	1:16:53 PM	3162.27766
	0:17:00	0:17:00		34.1	38	32.7	1:17:53 PM	2570.395783
	0:18:00	0:18:00		33.7	35.4	32.8	1:18:53 PM	2344.228815
	0:19:00	0:19:00		33.9	41.3	31.6	1:19:53 PM	2454.708916
	0:20:00	0:20:00		32.4	34.3	31	1:20:53 PM	1737.800829
	0:21:00	0:21:00		32.9	36.6	31.4	1:21:53 PM	1949.8446
	0:22:00	0:22:00		32.7	34.2	31.7	1:22:53 PM	1862.087137
	0:23:00	0:23:00		33	35	31.7	1:23:53 PM	1995.262315
	0:24:00	0:24:00		35	38.5	32.3	1:24:53 PM	3162.27766
	0:25:00	0:25:00		41.8	46.3	34.9	1:25:53 PM	15135.61248
	0:26:00	0:26:00		37.2	40.7	34.8	1:26:53 PM	5248.074602
	0:27:00	0:27:00		38.3	46.1	34.2	1:27:53 PM	6760.829754
	0:28:00	0:28:00		48.6	54	37.8	1:28:53 PM	72443.59601
	0:29:00	0:29:00		39	43.8	37	1:29:53 PM	7943.282347
	0:30:00	0:30:00		37	37.9	36.1	1:30:53 PM	5011.872336
	0:31:00	0:31:00		44.8	50.4	36.3	1:31:53 PM	30199.5172
	0:32:00	0:32:00		53.8	62.8	37.9	1:32:53 PM	239883.2919
	0:33:00	0:33:00		37.7	39.1	37.1	1:33:53 PM	5888.436554
	0:34:00	0:34:00		37.7	39.3	36.9	1:34:53 PM	5888.436554
	0:35:00	0:35:00		37.7	38.9	37.2	1:35:53 PM	5888.436554
	0:36:00	0:36:00		37.7	39.3	36.8	1:36:53 PM	5888.436554
	0:37:00	0:37:00		38.1	42.2	36.7	1:37:53 PM	6456.54229
	0:38:00	0:38:00		37.7	40.9	36.5	1:38:53 PM	5888.436554
	0:39:00	0:39:00		37.5	41.3	36.4	1:39:53 PM	5623.413252
	0:40:00	0:40:00		39	50	36.9	1:40:53 PM	7943.282347
	0:41:00	0:41:00		37.7	42	36.5	1:41:53 PM	5888.436554
	0:42:00	0:42:00		37.5	40.5	36.6	1:42:53 PM	5623.413252
	0:43:00	0:43:00		40.9	45.5	36.9	1:43:53 PM	12302.68771
	0:44:00	0:44:00		37.4	40.2	36.1	1:44:53 PM	5495.408739
	0:45:00	0:45:00		37.4	39.3	36.3	1:45:53 PM	5495.408739
	0:46:00	0:46:00		36.5	37.4	35.9	1:46:53 PM	4466.835922
	0:47:00	0:47:00		36.4	37.5	35.9	1:47:53 PM	4365.158322
	0:48:00	0:48:00		36.9	37.9	36.1	1:48:53 PM	4897.788194
	0:49:00	0:49:00		37.1	38.4	36.2	1:49:53 PM	5128.61384
	0:50:00	0:50:00		39.1	49.2	36.3	1:50:53 PM	8128.305162
	0:51:00	0:51:00		37.8	40.2	35.9	1:51:53 PM	6025.595861
	0:52:00	0:52:00		38.9	40.9	37.2	1:52:53 PM	7762.471166
	0:53:00	0:53:00		41.2	47.1	37	1:53:53 PM	13182.56739
	0:54:00	0:54:00		39.5	43.2	37.2	1:54:53 PM	8912.509381
	0:55:00	0:55:00		38.1	41.4	36.6	1:55:53 PM	6456.54229
	0:56:00	0:56:00		38.3	41.5	36.6	1:56:53 PM	6760.829754
	0:57:00	0:57:00		39.5	41.8	37.6	1:57:53 PM	8912.509381
	0:58:00	0:58:00		38.9	42.7	37.3	1:58:53 PM	7762.471166
	0:59:00	0:59:00		38.5	42.8	36.7	1:59:53 PM	7079.457844
	1:00:00	1:00:00		41.8	46.2	36.8	2:00:53 PM	15135.61248
	1:01:00	1:01:00		45	51.3	38.1	2:01:53 PM	31622.7766
	1:02:00	1:02:00		47.7	53.5	37.7	2:02:53 PM	58884.36554
	1:03:00	1:03:00		39.5	42.7	37.3	2:03:53 PM	8912.509381
	1:04:00	1:04:00		39.6	42.1	37.6	2:04:53 PM	9120.108394
	1:05:00	1:05:00		38.9	41.7	37.4	2:05:53 PM	7762.471166
	1:06:00	1:06:00		40.1	42.2	38.2	2:06:53 PM	10232.92992
	1:07:00	1:07:00		39.5	42.4	37.4	2:07:53 PM	8912.509381
	1:08:00	1:08:00		39.7	41.8	38	2:08:53 PM	9332.543008
	1:09:00	1:09:00		43.4	48.1	38.6	2:09:53 PM	21877.61624
	1:10:00	1:10:00		50.5	59.7	38.1	2:10:53 PM	112201.8454
	1:11:00	1:11:00		38.8	41.4	37.6	2:11:53 PM	7585.77575
	1:12:00	1:12:00		39.9	44	37.7	2:12:53 PM	9772.37221
	1:13:00	1:13:00		49.4	55.7	43.3	2:13:53 PM	87096.359
	1:14:00	1:14:00		45.7	53.4	38.8	2:14:53 PM	37153.52291
	1:15:00	1:15:00		38.9	41.8	37.3	2:15:53 PM	7762.471166
	1:16:00	1:16:00		38.4	41.6	37.3	2:16:53 PM	6918.309709
	1:17:00	1:17:00		37.5	39.7	36.6	2:17:53 PM	5623.413252
	1:18:00	1:18:00		38.2	41.6	36.6	2:18:53 PM	6606.93448
	1:19:00	1:19:00		39.4	41.2	38	2:19:53 PM	8709.6359
	1:20:00	1:20:00		38.9	43.3	37	2:20:53 PM	7762.471166
	1:21:00	1:21:00		37.6	39.1	36.8	2:21:53 PM	5754.399373
	1:22:00	1:22:00		37.5	39	36.8	2:22:53 PM	5623.413252
	1:23:00	1:23:00		39.1	41.3	37.5	2:23:53 PM	8128.305162

Study #1 - Facility
Long-Duration (24-Hours)

Study	Study Time	Session Time	OL Status	L_{avg} Meter1	L_{max} Meter1	L_{min} Meter1				Baseline SPL
	1:24:00	1:24:00		37.8	39.2	36.9			2:24:53 PM	6025.595861
	1:25:00	1:25:00		39.8	44.7	37			2:25:53 PM	9549.92586
	1:26:00	1:26:00		37.7	38.7	36.8			2:26:53 PM	5888.436554
	1:27:00	1:27:00		37.6	41	36.6			2:27:53 PM	5754.399373
	1:28:00	1:28:00		35	37.7	31.7			2:28:53 PM	3162.27766
	1:29:00	1:29:00		35.3	38.2	32.2			2:29:53 PM	3388.441561
	1:30:00	1:30:00		36.4	39.4	33.6			2:30:53 PM	4365.158322
	1:31:00	1:31:00		33.8	36.3	31.3			2:31:53 PM	2398.832919
	1:32:00	1:32:00		33.7	37.3	30.7			2:32:53 PM	2344.228815
	1:33:00	1:33:00		33.7	37.5	30.8			2:33:53 PM	2344.228815
	1:34:00	1:34:00		33.9	36.9	32.1			2:34:53 PM	2454.708916
	1:35:00	1:35:00		33	35.3	31.4			2:35:53 PM	1995.262315
	1:36:00	1:36:00		35.2	38.1	32			2:36:53 PM	3311.311215
	1:37:00	1:37:00		34.8	39.8	32			2:37:53 PM	3019.95172
	1:38:00	1:38:00		37	40.2	34.5			2:38:53 PM	5011.872336
	1:39:00	1:39:00		36	39.5	32.1			2:39:53 PM	3981.071706
	1:40:00	1:40:00		34.8	38	32.2			2:40:53 PM	3019.95172
	1:41:00	1:41:00		34.9	38.2	32.6			2:41:53 PM	3090.295433
	1:42:00	1:42:00		35.7	40.4	32.9			2:42:53 PM	3715.352291
	1:43:00	1:43:00		34.5	39	32.5			2:43:53 PM	2818.382931
	1:44:00	1:44:00		35.7	39.4	32.2			2:44:53 PM	3715.352291
	1:45:00	1:45:00		35.3	39.7	32.5			2:45:53 PM	3388.441561
	1:46:00	1:46:00		33.7	37.3	31.6			2:46:53 PM	2344.228815
	1:47:00	1:47:00		33.5	35.7	31.5			2:47:53 PM	2238.721139
	1:48:00	1:48:00		33.1	35.4	31.7			2:48:53 PM	2041.737945
	1:49:00	1:49:00		34.3	37.1	32.7			2:49:53 PM	2691.534804
	1:50:00	1:50:00		33.8	39.2	31.7			2:50:53 PM	2398.832919
	1:51:00	1:51:00		55.2	72.4	32			2:51:53 PM	331131.1215
	1:52:00	1:52:00		38.9	46.3	33.4			2:52:53 PM	7762.471166
	1:53:00	1:53:00		37.6	44.7	32.1			2:53:53 PM	5754.399373
	1:54:00	1:54:00		37.5	47.3	33.2			2:54:53 PM	5623.413252
	1:55:00	1:55:00		38.9	50.2	31.7			2:55:53 PM	7762.471166
	1:56:00	1:56:00		37.1	46.4	32			2:56:53 PM	5128.61384
	1:57:00	1:57:00		40.3	54	32.5			2:57:53 PM	10715.19305
	1:58:00	1:58:00		33.5	39.3	31.7			2:58:53 PM	2238.721139
	1:59:00	1:59:00		32.9	35	31.4			2:59:53 PM	1949.8446
	2:00:00	2:00:00		33	35.3	31.4			3:00:53 PM	1995.262315
	2:01:00	2:01:00		33.7	36	31.7			3:01:53 PM	2344.228815
	2:02:00	2:02:00		36.6	46.3	31.5			3:02:53 PM	4570.881896
	2:03:00	2:03:00		34.1	42.8	31.7			3:03:53 PM	2570.395783
	2:04:00	2:04:00		38.2	44.3	32.2			3:04:53 PM	6606.93448
	2:05:00	2:05:00		39.8	44.7	33.7			3:05:53 PM	9549.92586
	2:06:00	2:06:00		33.9	37.2	31.7			3:06:53 PM	2454.708916
	2:07:00	2:07:00		33.9	37.7	31.8			3:07:53 PM	2454.708916
	2:08:00	2:08:00		33.2	43.4	31.2			3:08:53 PM	2089.296131
	2:09:00	2:09:00		32.5	34.2	31.4			3:09:53 PM	1778.27941
	2:10:00	2:10:00		34.6	40.2	32.2			3:10:53 PM	2884.031503
	2:11:00	2:11:00		33.7	36	32.6			3:11:53 PM	2344.228815
	2:12:00	2:12:00		33.5	34.8	32.2			3:12:53 PM	2238.721139
	2:13:00	2:13:00		33.5	34.7	32.3			3:13:53 PM	2238.721139
	2:14:00	2:14:00		33.4	35.3	32.4			3:14:53 PM	2187.761624
	2:15:00	2:15:00		33	34.2	31.9			3:15:53 PM	1995.262315
	2:16:00	2:16:00		34.4	36.2	32.8			3:16:53 PM	2754.228703
	2:17:00	2:17:00		35.8	37.2	34.7			3:17:53 PM	3801.893963
	2:18:00	2:18:00		34.6	36.7	33			3:18:53 PM	2884.031503
	2:19:00	2:19:00		38.3	44.5	33.5			3:19:53 PM	6760.829754
	2:20:00	2:20:00		38.9	45.3	34.4			3:20:53 PM	7762.471166
	2:21:00	2:21:00		35.5	42.1	33.3			3:21:53 PM	3548.133892
	2:22:00	2:22:00		37.9	49	33.8			3:22:53 PM	6165.950019
	2:23:00	2:23:00		35.6	38.4	34			3:23:53 PM	3630.780548
	2:24:00	2:24:00		41.6	45.6	34.1			3:24:53 PM	14454.39771
	2:25:00	2:25:00		38	47.9	35.1			3:25:53 PM	6309.573445
	2:26:00	2:26:00		38	42.5	35.8			3:26:53 PM	6309.573445
	2:27:00	2:27:00		37	43.5	34.4			3:27:53 PM	5011.872336
	2:28:00	2:28:00		41	47.3	36.1			3:28:53 PM	12589.25412
	2:29:00	2:29:00		62.7	70.9	39.7			3:29:53 PM	1862087.137
	2:30:00	2:30:00		47.6	54	37.2			3:30:53 PM	57543.99373
	2:31:00	2:31:00		39.5	42.2	36.1			3:31:53 PM	8912.509381
	2:32:00	2:32:00		39.5	42.9	35.9			3:32:53 PM	8912.509381
	2:33:00	2:33:00		38.4	49	34.6			3:33:53 PM	6918.309709
	2:34:00	2:34:00		37.1	40.1	35.1			3:34:53 PM	5128.61384
	2:35:00	2:35:00		39.5	44.4	35.2			3:35:53 PM	8912.509381
	2:36:00	2:36:00		40.6	47.3	36			3:36:53 PM	11481.53621
	2:37:00	2:37:00		37.4	44.7	35.5	R1	Study #2	3:37:53 PM	5495.408739
	2:38:00	2:38:00		37.7	44.2	35.3	R1	Study #2	3:38:53 PM	5888.436554
	2:39:00	2:39:00		37.4	45	35.1	R1	Study #2	3:39:53 PM	5495.408739
	2:40:00	2:40:00		38.2	46.7	35.3	R1	Study #2	3:40:53 PM	6606.93448
	2:41:00	2:41:00		38.1	46.3	35.4	R1	Study #2	3:41:53 PM	6456.54229
	2:42:00	2:42:00		43.5	60.8	36	R1	Study #2	3:42:53 PM	22387.21139
	2:43:00	2:43:00		58.8	70.2	35.8	R1	Study #2	3:43:53 PM	758577.575
	2:44:00	2:44:00		53.6	66.3	36.1	R1	Study #2	3:44:53 PM	229086.7653
	2:45:00	2:45:00		50.6	62.3	35.2	R1	Study #2	3:45:53 PM	114815.3621
	2:46:00	2:46:00		53.4	65.7	34.8	R1	Study #2	3:46:53 PM	218776.1624
	2:47:00	2:47:00		53.9	68.7	34.9	R1	Study #2	3:47:53 PM	245470.8916

Study	Study Time	Session Time	OL Status	L_{avg} Meter1	L_{max} Meter1	L_{min} Meter1
	2:48:00	2:48:00		36.5	38.3	35.2
	2:49:00	2:49:00		37.6	44.8	34.4
	2:50:00	2:50:00		35.1	39.2	34
	2:51:00	2:51:00		35.1	38.1	34.2
	2:52:00	2:52:00		35.2	36.7	34.1
	2:53:00	2:53:00		35.4	36.8	34.3
	2:54:00	2:54:00		35.9	39.4	34.7
	2:55:00	2:55:00		35.2	37.5	34
	2:56:00	2:56:00		35.1	36.4	34.2
	2:57:00	2:57:00		35.4	40.6	33.6
	2:58:00	2:58:00		36.8	42.2	33.8
	2:59:00	2:59:00		38.9	43.9	33.7
	3:00:00	3:00:00		37.1	42.3	33.8
	3:01:00	3:01:00		42.5	54.1	33.8
	3:02:00	3:02:00		36.2	38.7	34.1
	3:03:00	3:03:00		34.7	36.2	33.4
	3:04:00	3:04:00		34	36.5	32.9
	3:05:00	3:05:00		33.8	35.2	33
	3:06:00	3:06:00		37.9	47.7	33
	3:07:00	3:07:00		41.1	51.7	34.2
	3:08:00	3:08:00		42.4	55.9	34.2
	3:09:00	3:09:00		38.7	47.1	33.9
	3:10:00	3:10:00		39.9	49.7	34.2
	3:11:00	3:11:00		35.9	39.1	33.5
	3:12:00	3:12:00		35.2	38.4	34.1
	3:13:00	3:13:00		35.1	37.7	34.1
	3:14:00	3:14:00		34.6	36.3	33.7
	3:15:00	3:15:00		35.4	36.8	34.3
	3:16:00	3:16:00		35.5	37.7	34.2
	3:17:00	3:17:00		34.3	37.5	33.2
	3:18:00	3:18:00		34.1	36.4	33.1
	3:19:00	3:19:00		34.3	36.9	33
	3:20:00	3:20:00		35.6	41.8	33.4
	3:21:00	3:21:00		37.9	42.7	34.6
	3:22:00	3:22:00		43.7	55.1	35.9
	3:23:00	3:23:00		41.3	52.3	34.1
	3:24:00	3:24:00		37.1	46.8	33.8
	3:25:00	3:25:00		35.3	39.6	34
	3:26:00	3:26:00		34	35	32.9
	3:27:00	3:27:00		35	37.6	32.8
	3:28:00	3:28:00		36.1	40.9	33.2
	3:29:00	3:29:00		35.6	40.5	33.6
	3:30:00	3:30:00		37.4	40.1	34.1
	3:31:00	3:31:00		33.8	35.8	32.8
	3:32:00	3:32:00		34.4	40	32.9
	3:33:00	3:33:00		33.4	34.6	32.5
	3:34:00	3:34:00		33.3	35.4	32.4
	3:35:00	3:35:00		33.4	35.8	32.5
	3:36:00	3:36:00		34.3	38.8	32.4
	3:37:00	3:37:00		36.3	41.3	32.6
	3:38:00	3:38:00		37.8	42.5	34.1
	3:39:00	3:39:00		43.7	53	33.3
	3:40:00	3:40:00		36.9	44.8	32.7
	3:41:00	3:41:00		43.9	52.9	33.6
	3:42:00	3:42:00		37.2	45.8	32.6
	3:43:00	3:43:00		33.5	35.2	32.8
	3:44:00	3:44:00		33.6	34.4	32.7
	3:45:00	3:45:00		33.3	34	32.3
	3:46:00	3:46:00		33.7	35.2	32.7
	3:47:00	3:47:00		34.4	36.7	33
	3:48:00	3:48:00		39.8	43.2	34.4
	3:49:00	3:49:00		35.1	38.1	32.6
	3:50:00	3:50:00		33.8	35.2	32.6
	3:51:00	3:51:00		35.4	37.4	33
	3:52:00	3:52:00		37.3	44.4	34.4
	3:53:00	3:53:00		34.5	38.4	33
	3:54:00	3:54:00		35.2	41.9	32.8
	3:55:00	3:55:00		34.2	35.6	33
	3:56:00	3:56:00		47.6	55.5	33.4
	3:57:00	3:57:00		54.2	59.9	34.1
	3:58:00	3:58:00		34	44	32.1
	3:59:00	3:59:00		34.3	40.7	32.4
	4:00:00	4:00:00		33.1	35.6	31.7
	4:01:00	4:01:00		32.1	33	31.5
	4:02:00	4:02:00		38.2	45.5	31.9
	4:03:00	4:03:00		48.3	60	34.4
	4:04:00	4:04:00		43.3	51.3	37.3
	4:05:00	4:05:00		37.2	40.7	32
	4:06:00	4:06:00		35.2	39.2	32.6
	4:07:00	4:07:00		49.7	56.4	32.9
	4:08:00	4:08:00		40.9	49.5	33.3
	4:09:00	4:09:00		33.9	34.6	32.8
	4:10:00	4:10:00		34.6	42.7	31.7
	4:11:00	4:11:00		33.2	37.2	30.9

			Baseline SPL
R1	Study #2	3:48:53 PM	4466.835922
R1	Study #2	3:49:53 PM	5754.399373
R1	Study #2	3:50:53 PM	3235.936569
R1	Study #2	3:51:53 PM	3235.936569
R1	Study #2	3:52:53 PM	3311.311215
		3:53:53 PM	3467.368505
		3:54:53 PM	3890.45145
		3:55:53 PM	3311.311215
		3:56:53 PM	3235.936569
		3:57:53 PM	3467.368505
		3:58:53 PM	4786.300923
		3:59:53 PM	7762.471166
		4:00:53 PM	5128.61384
		4:01:53 PM	17782.7941
		4:02:53 PM	4168.693835
		4:03:53 PM	2951.209227
		4:04:53 PM	2511.886432
		4:05:53 PM	2398.832919
		4:06:53 PM	6165.950019
		4:07:53 PM	12882.49552
		4:08:53 PM	17378.00829
		4:09:53 PM	7413.102413
		4:10:53 PM	9772.37221
		4:11:53 PM	3890.45145
		4:12:53 PM	3311.311215
		4:13:53 PM	3235.936569
		4:14:53 PM	2884.031503
		4:15:53 PM	3467.368505
		4:16:53 PM	3548.133892
		4:17:53 PM	2691.534804
		4:18:53 PM	2570.395783
		4:19:53 PM	2691.534804
		4:20:53 PM	3630.780548
		4:21:53 PM	6165.950019
		4:22:53 PM	23442.28815
		4:23:53 PM	13489.62883
		4:24:53 PM	5128.61384
		4:25:53 PM	3388.441561
		4:26:53 PM	2511.886432
		4:27:53 PM	3162.27766
		4:28:53 PM	4073.802778
		4:29:53 PM	3630.780548
		4:30:53 PM	5495.408739
		4:31:53 PM	2398.832919
		4:32:53 PM	2754.228703
		4:33:53 PM	2187.761624
		4:34:53 PM	2137.96209
		4:35:53 PM	2187.761624
		4:36:53 PM	2691.534804
		4:37:53 PM	4265.795188
		4:38:53 PM	6025.595861
		4:39:53 PM	23442.28815
		4:40:53 PM	4897.788194
		4:41:53 PM	24547.08916
		4:42:53 PM	5248.074602
		4:43:53 PM	2238.721139
		4:44:53 PM	2290.867653
		4:45:53 PM	2137.96209
		4:46:53 PM	2344.228815
		4:47:53 PM	2754.228703
		4:48:53 PM	9549.92586
		4:49:53 PM	3235.936569
		4:50:53 PM	2398.832919
		4:51:53 PM	3467.368505
		4:52:53 PM	5370.317964
		4:53:53 PM	2818.382931
		4:54:53 PM	3311.311215
		4:55:53 PM	2630.267992
		4:56:53 PM	57543.99373
		4:57:53 PM	263026.7992
		4:58:53 PM	2511.886432
		4:59:53 PM	2691.534804
		5:00:53 PM	2041.737945
		5:01:53 PM	1621.810097
		5:02:53 PM	6606.93448
		5:03:53 PM	67608.29754
		5:04:53 PM	21379.6209
		5:05:53 PM	5248.074602
		5:06:53 PM	3311.311215
		5:07:53 PM	93325.43008
		5:08:53 PM	12302.68771
		5:09:53 PM	2454.708916
		5:10:53 PM	2884.031503
		5:11:53 PM	2089.296131

Study	Study Time	Session Time	OL Status	L_{avg} Meter1	L_{max} Meter1	L_{min} Meter1
	4:12:00	4:12:00		38.8	49.3	31
	4:13:00	4:13:00		37.8	46.6	32.3
	4:14:00	4:14:00		33.3	41.9	31.7
	4:15:00	4:15:00		32.5	33.3	31.9
	4:16:00	4:16:00		33.7	35.9	32.3
	4:17:00	4:17:00		32.8	34.6	31.9
	4:18:00	4:18:00		33.4	38.7	31.9
	4:19:00	4:19:00		34.5	45	31.8
	4:20:00	4:20:00		32.7	34.8	31.9
	4:21:00	4:21:00		32.8	35	31.9
	4:22:00	4:22:00		33.6	36.2	32.6
	4:23:00	4:23:00		34.5	36.8	33
	4:24:00	4:24:00		34.3	35.5	33.5
	4:25:00	4:25:00		40.1	45.3	34
	4:26:00	4:26:00		38	42.8	35.7
	4:27:00	4:27:00		41.3	46.7	33.7
	4:28:00	4:28:00		34.5	36	33.6
	4:29:00	4:29:00		38.7	41.9	35.4
	4:30:00	4:30:00		42.9	46.5	39
	4:31:00	4:31:00		37.2	39.4	36
	4:32:00	4:32:00		37.3	39.2	35.6
	4:33:00	4:33:00		34.6	35.9	33.7
	4:34:00	4:34:00		34.6	35.6	33.7
	4:35:00	4:35:00		35.1	36	33.8
	4:36:00	4:36:00		36.3	42.7	34.1
	4:37:00	4:37:00		35.3	38.1	34
	4:38:00	4:38:00		35.1	36.5	34.1
	4:39:00	4:39:00		35	37.2	34
	4:40:00	4:40:00		34.8	35.4	34.1
	4:41:00	4:41:00		35.4	36.5	34.5
	4:42:00	4:42:00		35.3	37.9	34
	4:43:00	4:43:00		34.8	36.2	33.8
	4:44:00	4:44:00		34.4	35.4	33.7
	4:45:00	4:45:00		34.6	36.5	33.3
	4:46:00	4:46:00		35.2	39.6	33.9
	4:47:00	4:47:00		37	47.7	33.7
	4:48:00	4:48:00		34.4	35.8	33.3
	4:49:00	4:49:00		34.1	35.3	32.8
	4:50:00	4:50:00		33.7	34.6	32.7
	4:51:00	4:51:00		34.3	36.1	33.2
	4:52:00	4:52:00		33.9	37.4	32.9
	4:53:00	4:53:00		34.6	36.6	33.2
	4:54:00	4:54:00		34.5	35.9	33.6
	4:55:00	4:55:00		35	38.2	34.1
	4:56:00	4:56:00		34	34.8	33.4
	4:57:00	4:57:00		35	37.6	33.6
	4:58:00	4:58:00		34.7	35.6	33.9
	4:59:00	4:59:00		35.1	36.2	33.9
	5:00:00	5:00:00		42.4	49.5	34.6
	5:01:00	5:01:00		35.8	37.8	34.4
	5:02:00	5:02:00		36.5	37.7	35.2
	5:03:00	5:03:00		35.8	36.9	34.9
	5:04:00	5:04:00		37.6	45.1	35.2
	5:05:00	5:05:00		35.8	39.3	34.4
	5:06:00	5:06:00		34.9	35.9	34
	5:07:00	5:07:00		35.5	36.1	34.8
	5:08:00	5:08:00		35	36.4	33.8
	5:09:00	5:09:00		39.9	46.9	33.8
	5:10:00	5:10:00		44.2	52.4	33.8
	5:11:00	5:11:00		35.1	43.7	33
	5:12:00	5:12:00		38.2	41	35
	5:13:00	5:13:00		35.1	36.8	33.9
	5:14:00	5:14:00		34.2	35.5	33
	5:15:00	5:15:00		35.5	37.6	34.2
	5:16:00	5:16:00		35.9	38	34
	5:17:00	5:17:00		35.7	37.9	33.9
	5:18:00	5:18:00		34	35.9	32.1
	5:19:00	5:19:00		34.2	37.2	32.7
	5:20:00	5:20:00		36.4	38.6	34.2
	5:21:00	5:21:00		35	37.3	32.7
	5:22:00	5:22:00		34.2	36.2	31.9
	5:23:00	5:23:00		33.8	35.7	32.1
	5:24:00	5:24:00		33.9	34.9	33
	5:25:00	5:25:00		32.6	33.8	31.9
	5:26:00	5:26:00		32.9	34.8	31.9
	5:27:00	5:27:00		33.7	35.2	32.4
	5:28:00	5:28:00		37.6	41.6	33.7
	5:29:00	5:29:00		39.3	42.3	34.1
	5:30:00	5:30:00		38.6	40	37.6
	5:31:00	5:31:00		38.2	39.6	37.4
	5:32:00	5:32:00		38.2	39.8	37.5
	5:33:00	5:33:00		38	38.7	37.4
	5:34:00	5:34:00		38.4	40.9	37.5
	5:35:00	5:35:00		38	38.8	37.1

	Baseline SPL
5:12:53 PM	7585.77575
5:13:53 PM	6025.595861
5:14:53 PM	2137.96209
5:15:53 PM	1778.27941
5:16:53 PM	2344.228815
5:17:53 PM	1905.460718
5:18:53 PM	2187.761624
5:19:53 PM	2818.382931
5:20:53 PM	1862.087137
5:21:53 PM	1905.460718
5:22:53 PM	2290.867653
5:23:53 PM	2818.382931
5:24:53 PM	2691.534804
5:25:53 PM	10232.92992
5:26:53 PM	6309.573445
5:27:53 PM	13489.62883
5:28:53 PM	2818.382931
5:29:53 PM	7413.102413
5:30:53 PM	19498.446
5:31:53 PM	5248.074602
5:32:53 PM	5370.317964
5:33:53 PM	2884.031503
5:34:53 PM	2884.031503
5:35:53 PM	3235.936569
5:36:53 PM	4265.795188
5:37:53 PM	3388.441561
5:38:53 PM	3235.936569
5:39:53 PM	3162.27766
5:40:53 PM	3019.95172
5:41:53 PM	3467.368505
5:42:53 PM	3388.441561
5:43:53 PM	3019.95172
5:44:53 PM	2754.228703
5:45:53 PM	2884.031503
5:46:53 PM	3311.311215
5:47:53 PM	5011.872336
5:48:53 PM	2754.228703
5:49:53 PM	2570.395783
5:50:53 PM	2344.228815
5:51:53 PM	2691.534804
5:52:53 PM	2454.708916
5:53:53 PM	2884.031503
5:54:53 PM	2818.382931
5:55:53 PM	3162.27766
5:56:53 PM	2511.886432
5:57:53 PM	3162.27766
5:58:53 PM	2951.209227
5:59:53 PM	3235.936569
6:00:53 PM	17378.00829
6:01:53 PM	3801.893963
6:02:53 PM	4466.835922
6:03:53 PM	3801.893963
6:04:53 PM	5754.399373
6:05:53 PM	3801.893963
6:06:53 PM	3090.295433
6:07:53 PM	3548.133892
6:08:53 PM	3162.27766
6:09:53 PM	9772.37221
6:10:53 PM	26302.67992
6:11:53 PM	3235.936569
6:12:53 PM	6606.93448
6:13:53 PM	3235.936569
6:14:53 PM	2630.267992
6:15:53 PM	3548.133892
6:16:53 PM	3890.45145
6:17:53 PM	3715.352291
6:18:53 PM	2511.886432
6:19:53 PM	2630.267992
6:20:53 PM	4365.158322
6:21:53 PM	3162.27766
6:22:53 PM	2630.267992
6:23:53 PM	2398.832919
6:24:53 PM	2454.708916
6:25:53 PM	1819.700859
6:26:53 PM	1949.8446
6:27:53 PM	2344.228815
6:28:53 PM	5754.399373
6:29:53 PM	8511.380382
6:30:53 PM	7244.359601
6:31:53 PM	6606.93448
6:32:53 PM	6606.93448
6:33:53 PM	6309.573445
6:34:53 PM	6918.309709
6:35:53 PM	6309.573445

Study	Study Time	Session Time	OL Status	L_{avg} Meter1	L_{max} Meter1	L_{min} Meter1
	5:36:00	5:36:00		38.2	38.9	37.6
	5:37:00	5:37:00		38.2	39.7	37.9
	5:38:00	5:38:00		38.7	39.6	38.1
	5:39:00	5:39:00		38.7	40	38.1
	5:40:00	5:40:00		39.4	40.8	38
	5:41:00	5:41:00		38.6	39.6	37.7
	5:42:00	5:42:00		39.1	40.5	38.2
	5:43:00	5:43:00		38.3	39.2	37.6
	5:44:00	5:44:00		39	40.5	37.8
	5:45:00	5:45:00		38.9	40.7	37.7
	5:46:00	5:46:00		39.5	42.7	37.5
	5:47:00	5:47:00		38.1	38.8	37.3
	5:48:00	5:48:00		38.3	39.9	37.7
	5:49:00	5:49:00		38.2	39.2	37.7
	5:50:00	5:50:00		38.3	40.1	37.6
	5:51:00	5:51:00		37.9	38.3	37.5
	5:52:00	5:52:00		38.1	38.8	37.4
	5:53:00	5:53:00		38.2	40.3	37.6
	5:54:00	5:54:00		38.5	39.4	37.7
	5:55:00	5:55:00		38.6	39.6	38
	5:56:00	5:56:00		44.2	47	39.4
	5:57:00	5:57:00		41.1	46.3	38.2
	5:58:00	5:58:00		38.1	38.8	37.6
	5:59:00	5:59:00		38	39.3	37.3
	6:00:00	6:00:00		38.3	41.5	37.5
	6:01:00	6:01:00		38.4	40.9	37.5
	6:02:00	6:02:00		37.6	37.9	37.3
	6:03:00	6:03:00		37.9	39.8	37
	6:04:00	6:04:00		38.6	41	37.6
	6:05:00	6:05:00		39.1	41.7	37.4
	6:06:00	6:06:00		39.1	43.1	37.4
	6:07:00	6:07:00		38.4	40.1	37.3
	6:08:00	6:08:00		38.6	41.1	37.5
	6:09:00	6:09:00		39.7	41.2	38.4
	6:10:00	6:10:00		38.4	39.4	37.7
	6:11:00	6:11:00		38.4	39.5	37.7
	6:12:00	6:12:00		38.4	39.1	37.7
	6:13:00	6:13:00		38.1	39.7	37.4
	6:14:00	6:14:00		38.8	42.9	37.1
	6:15:00	6:15:00		40.8	46.5	37.6
	6:16:00	6:16:00		39.4	45.2	37.6
	6:17:00	6:17:00		38	38.8	37.4
	6:18:00	6:18:00		38.3	41	37.3
	6:19:00	6:19:00		37.9	40.2	37.1
	6:20:00	6:20:00		37.5	38.4	37
	6:21:00	6:21:00		37.9	40.9	36.8
	6:22:00	6:22:00		37.8	39.3	37
	6:23:00	6:23:00		38.2	40.9	37.2
	6:24:00	6:24:00		38.5	41.7	37.4
	6:25:00	6:25:00		38.7	40.8	37.1
	6:26:00	6:26:00		38.3	39.4	37.1
	6:27:00	6:27:00		38.8	41.3	37.7
	6:28:00	6:28:00		35.4	38.5	32.8
	6:29:00	6:29:00		34.1	35.7	33.1
	6:30:00	6:30:00		40.2	45.9	34.1
	6:31:00	6:31:00		40.1	47.6	34.5
	6:32:00	6:32:00		36.2	38.5	34.4
	6:33:00	6:33:00		35.9	39.4	32.3
	6:34:00	6:34:00		37.9	40.9	34.4
	6:35:00	6:35:00		39.1	41.5	35.7
	6:36:00	6:36:00		38.2	43.2	34.9
	6:37:00	6:37:00		35.7	38.4	33.9
	6:38:00	6:38:00		35.7	40.6	31.9
	6:39:00	6:39:00		40	52.6	33.2
	6:40:00	6:40:00		34.5	37.9	32.7
	6:41:00	6:41:00		34.6	37.8	32.1
	6:42:00	6:42:00		34.7	36.5	32.7
	6:43:00	6:43:00		34	35.8	32.7
	6:44:00	6:44:00		33.6	35.3	32.7
	6:45:00	6:45:00		34.3	35.9	33.2
	6:46:00	6:46:00		34.4	37.3	32.3
	6:47:00	6:47:00		34	36	32.7
	6:48:00	6:48:00		33.2	35.1	31.9
	6:49:00	6:49:00		32.4	33.6	31.7
	6:50:00	6:50:00		32.6	34	31.6
	6:51:00	6:51:00		32.1	32.9	31.3
	6:52:00	6:52:00		32.5	33.8	31.5
	6:53:00	6:53:00		32.5	33.7	31.5
	6:54:00	6:54:00		32.5	33.9	31.3
	6:55:00	6:55:00		31.8	32.5	31.1
	6:56:00	6:56:00		36.6	47.7	31.4
	6:57:00	6:57:00		32.7	36.8	31.2
	6:58:00	6:58:00		32.1	33	31.4
	6:59:00	6:59:00		32.5	33.9	31.8

	Baseline SPL
6:36:53 PM	6606.93448
6:37:53 PM	6606.93448
6:38:53 PM	7413.102413
6:39:53 PM	7413.102413
6:40:53 PM	8709.6359
6:41:53 PM	7244.359601
6:42:53 PM	8128.305162
6:43:53 PM	6760.829754
6:44:53 PM	7943.282347
6:45:53 PM	7762.471166
6:46:53 PM	8912.509381
6:47:53 PM	6456.54229
6:48:53 PM	6760.829754
6:49:53 PM	6606.93448
6:50:53 PM	6760.829754
6:51:53 PM	6165.950019
6:52:53 PM	6456.54229
6:53:53 PM	6606.93448
6:54:53 PM	7079.457844
6:55:53 PM	7244.359601
6:56:53 PM	26302.67992
6:57:53 PM	12882.49552
6:58:53 PM	6456.54229
6:59:53 PM	6309.573445
7:00:53 PM	6760.829754
7:01:53 PM	6918.309709
7:02:53 PM	5754.399373
7:03:53 PM	6165.950019
7:04:53 PM	7244.359601
7:05:53 PM	8128.305162
7:06:53 PM	8128.305162
7:07:53 PM	6918.309709
7:08:53 PM	7244.359601
7:09:53 PM	9332.543008
7:10:53 PM	6918.309709
7:11:53 PM	6918.309709
7:12:53 PM	6918.309709
7:13:53 PM	6456.54229
7:14:53 PM	7585.77575
7:15:53 PM	12022.64435
7:16:53 PM	8709.6359
7:17:53 PM	6309.573445
7:18:53 PM	6760.829754
7:19:53 PM	6165.950019
7:20:53 PM	5623.413252
7:21:53 PM	6165.950019
7:22:53 PM	6025.595861
7:23:53 PM	6606.93448
7:24:53 PM	7079.457844
7:25:53 PM	7413.102413
7:26:53 PM	6760.829754
7:27:53 PM	7585.77575
7:28:53 PM	3467.368505
7:29:53 PM	2570.395783
7:30:53 PM	10471.28548
7:31:53 PM	10232.92992
7:32:53 PM	4168.693835
7:33:53 PM	3890.45145
7:34:53 PM	6165.950019
7:35:53 PM	8128.305162
7:36:53 PM	6606.93448
7:37:53 PM	3715.352291
7:38:53 PM	3715.352291
7:39:53 PM	10000
7:40:53 PM	2818.382931
7:41:53 PM	2884.031503
7:42:53 PM	2951.209227
7:43:53 PM	2511.886432
7:44:53 PM	2290.867653
7:45:53 PM	2691.534804
7:46:53 PM	2754.228703
7:47:53 PM	2511.886432
7:48:53 PM	2089.296131
7:49:53 PM	1737.800829
7:50:53 PM	1819.700859
7:51:53 PM	1621.810097
7:52:53 PM	1778.27941
7:53:53 PM	1778.27941
7:54:53 PM	1778.27941
7:55:53 PM	1513.561248
7:56:53 PM	4570.881896
7:57:53 PM	1862.087137
7:58:53 PM	1621.810097
7:59:53 PM	1778.27941

Study #1 - Facility
Long-Duration (24-Hours)

Study	Study Time	Session Time	OL Status	L_{avg} Meter1	L_{max} Meter1	L_{min} Meter1
	7:00:00	7:00:00		34.3	38.2	32.3
	7:01:00	7:01:00		34.7	38.2	32.9
	7:02:00	7:02:00		34.8	40.9	31.9
	7:03:00	7:03:00		33.2	34.7	32
	7:04:00	7:04:00		32.7	34.2	31.9
	7:05:00	7:05:00		32.9	34.5	31.7
	7:06:00	7:06:00		33.4	35.3	32.6
	7:07:00	7:07:00		34.8	39.3	32.3
	7:08:00	7:08:00		33.9	35.9	32.5
	7:09:00	7:09:00		37.6	45.1	32.7
	7:10:00	7:10:00		36.6	40.8	32.4
	7:11:00	7:11:00		32.7	33.7	31.4
	7:12:00	7:12:00		32.9	34.3	32
	7:13:00	7:13:00		32.9	34.2	32.2
	7:14:00	7:14:00		33.9	36.9	32.5
	7:15:00	7:15:00		40	43.9	35.2
	7:16:00	7:16:00		36.9	43.4	32.3
	7:17:00	7:17:00		33.2	34.3	32.2
	7:18:00	7:18:00		35.4	36.9	33.3
	7:19:00	7:19:00		39.2	44.7	35.2
	7:20:00	7:20:00		40.9	47.7	34.4
	7:21:00	7:21:00		34.7	36.5	33.2
	7:22:00	7:22:00		33	34.8	32.2
	7:23:00	7:23:00		45.3	51.4	33.3
	7:24:00	7:24:00		33.6	37.7	32.5
	7:25:00	7:25:00		34.6	39.5	32.3
	7:26:00	7:26:00		33.1	33.8	32.6
	7:27:00	7:27:00		32.7	34	31.9
	7:28:00	7:28:00		33.4	35.1	31.9
	7:29:00	7:29:00		33.6	35.4	32.2
	7:30:00	7:30:00		33.1	35.2	32.4
	7:31:00	7:31:00		34.3	40.9	32.1
	7:32:00	7:32:00		33.4	34.7	32.3
	7:33:00	7:33:00		33.5	35.7	32.3
	7:34:00	7:34:00		33.6	39.3	32.3
	7:35:00	7:35:00		33.8	35.1	32.5
	7:36:00	7:36:00		34.6	36.5	33.5
	7:37:00	7:37:00		34.2	35.3	33.2
	7:38:00	7:38:00		37.8	39.6	34.1
	7:39:00	7:39:00		35.8	39.3	34.1
	7:40:00	7:40:00		36.1	40.9	33.3
	7:41:00	7:41:00		34.5	36.1	32.9
	7:42:00	7:42:00		34.1	35.6	32.9
	7:43:00	7:43:00		33.7	35.1	32.7
	7:44:00	7:44:00		33.4	34.4	32.5
	7:45:00	7:45:00		33.4	34.8	32.2
	7:46:00	7:46:00		34.6	38	33
	7:47:00	7:47:00		35.7	38	34.4
	7:48:00	7:48:00		36.5	41.6	34.8
	7:49:00	7:49:00		36.8	41.7	34.6
	7:50:00	7:50:00		36.5	38.1	35.5
	7:51:00	7:51:00		37	38.7	35.2
	7:52:00	7:52:00		36.5	40	34.5
	7:53:00	7:53:00		36.7	38.2	34.3
	7:54:00	7:54:00		37.7	40.2	35.9
	7:55:00	7:55:00		36.9	39.3	34.8
	7:56:00	7:56:00		37.6	45.9	33.4
	7:57:00	7:57:00		35	39.5	32.5
	7:58:00	7:58:00		33.8	35.5	32.3
	7:59:00	7:59:00		34.6	35.8	33.4
	8:00:00	8:00:00		35.2	37.9	33.8
	8:01:00	8:01:00		35.3	37	33.6
	8:02:00	8:02:00		35.2	37.8	34
	8:03:00	8:03:00		35.2	36.5	34.3
	8:04:00	8:04:00		35.9	39.6	33.4
	8:05:00	8:05:00		34.6	36.6	33.3
	8:06:00	8:06:00		33.1	34.5	32
	8:07:00	8:07:00		33.4	35.5	32.1
	8:08:00	8:08:00		34	36.9	32.4
	8:09:00	8:09:00		33.1	36.8	32
	8:10:00	8:10:00		33.7	35.8	32.5
	8:11:00	8:11:00		35.9	37.3	34.4
	8:12:00	8:12:00		35.1	35.9	34.3
	8:13:00	8:13:00		34.8	36.8	33.5
	8:14:00	8:14:00		34.9	36.8	33.4
	8:15:00	8:15:00		35.3	37.8	33.2
	8:16:00	8:16:00		34.8	37.1	32.6
	8:17:00	8:17:00		34.9	38.4	32.6
	8:18:00	8:18:00		32.8	35.5	31.7
	8:19:00	8:19:00		33.5	35.9	31.6
	8:20:00	8:20:00		34.8	38.5	31.6
	8:21:00	8:21:00		34.6	37.1	32.8
	8:22:00	8:22:00		34	37.4	31.9
	8:23:00	8:23:00		33.1	36.1	30.9

	Baseline SPL
8:00:53 PM	2691.534804
8:01:53 PM	2951.209227
8:02:53 PM	3019.95172
8:03:53 PM	2089.296131
8:04:53 PM	1862.087137
8:05:53 PM	1949.8446
8:06:53 PM	2187.761624
8:07:53 PM	3019.95172
8:08:53 PM	2454.708916
8:09:53 PM	5754.399373
8:10:53 PM	4570.881896
8:11:53 PM	1862.087137
8:12:53 PM	1949.8446
8:13:53 PM	1949.8446
8:14:53 PM	2454.708916
8:15:53 PM	10000
8:16:53 PM	4897.788194
8:17:53 PM	2089.296131
8:18:53 PM	3467.368505
8:19:53 PM	8317.637711
8:20:53 PM	12302.68771
8:21:53 PM	2951.209227
8:22:53 PM	1995.262315
8:23:53 PM	33884.41561
8:24:53 PM	2290.867653
8:25:53 PM	2884.031503
8:26:53 PM	2041.737945
8:27:53 PM	1862.087137
8:28:53 PM	2187.761624
8:29:53 PM	2290.867653
8:30:53 PM	2041.737945
8:31:53 PM	2691.534804
8:32:53 PM	2187.761624
8:33:53 PM	2238.721139
8:34:53 PM	2290.867653
8:35:53 PM	2398.832919
8:36:53 PM	2884.031503
8:37:53 PM	2630.267992
8:38:53 PM	6025.595861
8:39:53 PM	3801.893963
8:40:53 PM	4073.802778
8:41:53 PM	2818.382931
8:42:53 PM	2570.395783
8:43:53 PM	2344.228815
8:44:53 PM	2187.761624
8:45:53 PM	2187.761624
8:46:53 PM	2884.031503
8:47:53 PM	3715.352291
8:48:53 PM	4466.835922
8:49:53 PM	4786.300923
8:50:53 PM	4466.835922
8:51:53 PM	5011.872336
8:52:53 PM	4466.835922
8:53:53 PM	4677.351413
8:54:53 PM	5888.436554
8:55:53 PM	4897.788194
8:56:53 PM	5754.399373
8:57:53 PM	3162.27766
8:58:53 PM	2398.832919
8:59:53 PM	2884.031503
9:00:53 PM	3311.311215
9:01:53 PM	3388.441561
9:02:53 PM	3311.311215
9:03:53 PM	3311.311215
9:04:53 PM	3890.45145
9:05:53 PM	2884.031503
9:06:53 PM	2041.737945
9:07:53 PM	2187.761624
9:08:53 PM	2511.886432
9:09:53 PM	2041.737945
9:10:53 PM	2344.228815
9:11:53 PM	3890.45145
9:12:53 PM	3235.936569
9:13:53 PM	3019.95172
9:14:53 PM	3090.295433
9:15:53 PM	3388.441561
9:16:53 PM	3019.95172
9:17:53 PM	3090.295433
9:18:53 PM	1905.460718
9:19:53 PM	2238.721139
9:20:53 PM	3019.95172
9:21:53 PM	2884.031503
9:22:53 PM	2511.886432
9:23:53 PM	2041.737945

Study #1 - Facility
Long-Duration (24-Hours)

Study	Study Time	Session Time	OL Status	L_{avg} Meter1	L_{max} Meter1	L_{min} Meter1
	8:24:00	8:24:00		34.7	37.2	32.8
	8:25:00	8:25:00		37.1	40.3	32.8
	8:26:00	8:26:00		35	38.8	32.3
	8:27:00	8:27:00		36.5	40	33.2
	8:28:00	8:28:00		34.1	36.2	32.1
	8:29:00	8:29:00		34.9	38.8	31.2
	8:30:00	8:30:00		35.2	39.1	31.6
	8:31:00	8:31:00		32	33.2	31.1
	8:32:00	8:32:00		31.7	33	30.9
	8:33:00	8:33:00		31.7	32.8	30.5
	8:34:00	8:34:00		32.9	33.9	31.7
	8:35:00	8:35:00		32.6	36.7	31
	8:36:00	8:36:00		31.5	32.8	30.7
	8:37:00	8:37:00		31.9	32.7	31
	8:38:00	8:38:00		32.5	34.3	31.3
	8:39:00	8:39:00		32.1	33.5	31.5
	8:40:00	8:40:00		32.5	35.1	31.4
	8:41:00	8:41:00		32.5	34.3	31.7
	8:42:00	8:42:00		41.5	46.8	33.2
	8:43:00	8:43:00		40.5	46.5	34.6
	8:44:00	8:44:00		35	36.3	33.6
	8:45:00	8:45:00		33.6	35.9	31.7
	8:46:00	8:46:00		32.2	33.9	31.3
	8:47:00	8:47:00		34.6	38.3	32.2
	8:48:00	8:48:00		36.1	40.5	31.8
	8:49:00	8:49:00		35.2	40.9	32.8
	8:50:00	8:50:00		35.8	41.9	31.3
	8:51:00	8:51:00		34.1	37.7	31.6
	8:52:00	8:52:00		35	38.6	32
	8:53:00	8:53:00		33.8	39.3	31.4
	8:54:00	8:54:00		32.8	36.8	31.5
	8:55:00	8:55:00		33.5	36.5	31.3
	8:56:00	8:56:00		33	35.5	31.3
	8:57:00	8:57:00		34.9	38.5	32.4
	8:58:00	8:58:00		36.9	39.9	33.4
	8:59:00	8:59:00		37.4	41.3	34.4
	9:00:00	9:00:00		37.3	40.8	33.7
	9:01:00	9:01:00		37.6	41.5	33.8
	9:02:00	9:02:00		35.4	37.9	33
	9:03:00	9:03:00		36.3	38.8	34
	9:04:00	9:04:00		37.7	40.6	35.3
	9:05:00	9:05:00		35.1	38.1	32.5
	9:06:00	9:06:00		35	38.1	33.4
	9:07:00	9:07:00		34.8	36.4	33.6
	9:08:00	9:08:00		35.5	42	33
	9:09:00	9:09:00		33.8	35.6	32.4
	9:10:00	9:10:00		36.2	39	33.6
	9:11:00	9:11:00		35.2	38.6	33.1
	9:12:00	9:12:00		34.9	37.7	32.8
	9:13:00	9:13:00		34.9	39.1	32.9
	9:14:00	9:14:00		35.4	37.6	33.3
	9:15:00	9:15:00		33.8	38.2	31.4
	9:16:00	9:16:00		33.9	36.7	31.9
	9:17:00	9:17:00		33.8	35.9	32
	9:18:00	9:18:00		33	35.1	30.6
	9:19:00	9:19:00		34	36.1	32.4
	9:20:00	9:20:00		34.8	37.2	32.8
	9:21:00	9:21:00		35.9	40.5	33.4
	9:22:00	9:22:00		37.3	40.9	32.7
	9:23:00	9:23:00		34.1	37.1	32.5
	9:24:00	9:24:00		33.9	37.2	32.1
	9:25:00	9:25:00		37.7	41	33.3
	9:26:00	9:26:00		36.5	40.2	33.3
	9:27:00	9:27:00		34	38	31.8
	9:28:00	9:28:00		36.2	39	33.9
	9:29:00	9:29:00		35.9	41.3	32.7
	9:30:00	9:30:00		37.5	41.6	33.5
	9:31:00	9:31:00		35.6	39.4	32.8
	9:32:00	9:32:00		36.5	39.4	32.9
	9:33:00	9:33:00		36.4	40	33.8
	9:34:00	9:34:00		40.1	46.7	33.7
	9:35:00	9:35:00		37	39.2	34.1
	9:36:00	9:36:00		34.8	38.6	31.4
	9:37:00	9:37:00		35.4	39.1	33
	9:38:00	9:38:00		33.8	37	31
	9:39:00	9:39:00		35.8	39.9	31.6
	9:40:00	9:40:00		34.2	37.3	32
	9:41:00	9:41:00		34.5	36.4	32.3
	9:42:00	9:42:00		33.8	36.1	31.6
	9:43:00	9:43:00		33.4	36.5	31.3
	9:44:00	9:44:00		32.4	35.1	30.7
	9:45:00	9:45:00		35.5	39.1	33.5
	9:46:00	9:46:00		37.7	41.8	32.7
	9:47:00	9:47:00		34.7	38.5	31.3

	Baseline SPL
9:24:53 PM	2951.209227
9:25:53 PM	5128.61384
9:26:53 PM	3162.27766
9:27:53 PM	4466.835922
9:28:53 PM	2570.395783
9:29:53 PM	3090.295433
9:30:53 PM	3311.311215
9:31:53 PM	1584.893192
9:32:53 PM	1479.108388
9:33:53 PM	1479.108388
9:34:53 PM	1949.8446
9:35:53 PM	1819.700859
9:36:53 PM	1412.537545
9:37:53 PM	1548.816619
9:38:53 PM	1778.27941
9:39:53 PM	1621.810097
9:40:53 PM	1778.27941
9:41:53 PM	1778.27941
9:42:53 PM	14125.37545
9:43:53 PM	11220.18454
9:44:53 PM	3162.27766
9:45:53 PM	2290.867653
9:46:53 PM	1659.586907
9:47:53 PM	2884.031503
9:48:53 PM	4073.802778
9:49:53 PM	3311.311215
9:50:53 PM	3801.893963
9:51:53 PM	2570.395783
9:52:53 PM	3162.27766
9:53:53 PM	2398.832919
9:54:53 PM	1905.460718
9:55:53 PM	2238.721139
9:56:53 PM	1995.262315
9:57:53 PM	3090.295433
9:58:53 PM	4897.788194
9:59:53 PM	5495.408739
10:00:53 PM	5370.317964
10:01:53 PM	5754.399373
10:02:53 PM	3467.368505
10:03:53 PM	4265.795188
10:04:53 PM	5888.436554
10:05:53 PM	3235.936569
10:06:53 PM	3162.27766
10:07:53 PM	3019.95172
10:08:53 PM	3548.133892
10:09:53 PM	2398.832919
10:10:53 PM	4168.693835
10:11:53 PM	3311.311215
10:12:53 PM	3090.295433
10:13:53 PM	3090.295433
10:14:53 PM	3467.368505
10:15:53 PM	2398.832919
10:16:53 PM	2454.708916
10:17:53 PM	2398.832919
10:18:53 PM	1995.262315
10:19:53 PM	2511.886432
10:20:53 PM	3019.95172
10:21:53 PM	3890.45145
10:22:53 PM	5370.317964
10:23:53 PM	2570.395783
10:24:53 PM	2454.708916
10:25:53 PM	5888.436554
10:26:53 PM	4466.835922
10:27:53 PM	2511.886432
10:28:53 PM	4168.693835
10:29:53 PM	3890.45145
10:30:53 PM	5623.413252
10:31:53 PM	3630.780548
10:32:53 PM	4466.835922
10:33:53 PM	4365.158322
10:34:53 PM	10232.92992
10:35:53 PM	5011.872336
10:36:53 PM	3019.95172
10:37:53 PM	3467.368505
10:38:53 PM	2398.832919
10:39:53 PM	3801.893963
10:40:53 PM	2630.267992
10:41:53 PM	2818.382931
10:42:53 PM	2398.832919
10:43:53 PM	2187.761624
10:44:53 PM	1737.800829
10:45:53 PM	3548.133892
10:46:53 PM	5888.436554
10:47:53 PM	2951.209227

Study	Study Time	Session Time	OL Status	L_{avg} Meter1	L_{max} Meter1	L_{min} Meter1		Baseline SPL
	9:48:00	9:48:00		35.5	39.5	32.1	10:48:53 PM	3548.133892
	9:49:00	9:49:00		34.4	37.9	31.7	10:49:53 PM	2754.228703
	9:50:00	9:50:00		34.3	37.9	31.4	10:50:53 PM	2691.534804
	9:51:00	9:51:00		34.8	36.8	31.8	10:51:53 PM	3019.95172
	9:52:00	9:52:00		34.1	36.8	32.2	10:52:53 PM	2570.395783
	9:53:00	9:53:00		35.4	38.4	32.5	10:53:53 PM	3467.368505
	9:54:00	9:54:00		34.8	39.1	30.9	10:54:53 PM	3019.95172
	9:55:00	9:55:00		33.6	37.6	30.4	10:55:53 PM	2290.867653
	9:56:00	9:56:00		34	38.1	31.2	10:56:53 PM	2511.886432
	9:57:00	9:57:00		32.3	34.5	30.5	10:57:53 PM	1698.243652
	9:58:00	9:58:00		31.7	34	30.1	10:58:53 PM	1479.108388
	9:59:00	9:59:00		31.2	33.6	29.8	10:59:53 PM	1318.256739
	10:00:00	10:00:00		33.7	38.6	30.3	11:00:53 PM	2344.228815
	10:01:00	10:01:00		35.3	40.4	31.6	11:01:53 PM	3388.441561
	10:02:00	10:02:00		34.2	37.6	32.1	11:02:53 PM	2630.267992
	10:03:00	10:03:00		34.4	37.5	32.2	11:03:53 PM	2754.228703
	10:04:00	10:04:00		33.6	35.8	31.5	11:04:53 PM	2290.867653
	10:05:00	10:05:00		34.7	37.6	31.9	11:05:53 PM	2951.209227
	10:06:00	10:06:00		33.8	38.9	30.7	11:06:53 PM	2398.832919
	10:07:00	10:07:00		31.1	32.7	30	11:07:53 PM	1288.249552
	10:08:00	10:08:00		33.2	36.8	30.6	11:08:53 PM	2089.296131
	10:09:00	10:09:00		34.4	38.8	30.4	11:09:53 PM	2754.228703
	10:10:00	10:10:00		36.7	39	31.2	11:10:53 PM	4677.351413
	10:11:00	10:11:00		32.8	36.6	29.8	11:11:53 PM	1905.460718
	10:12:00	10:12:00		34	39.2	29.2	11:12:53 PM	2511.886432
	10:13:00	10:13:00		31.8	36	29.3	11:13:53 PM	1513.561248
	10:14:00	10:14:00		33.5	38.7	29.3	11:14:53 PM	2238.721139
	10:15:00	10:15:00		34.1	36.4	32.4	11:15:53 PM	2570.395783
	10:16:00	10:16:00		34.2	37.9	32.4	11:16:53 PM	2630.267992
	10:17:00	10:17:00		37.1	39.7	34.9	11:17:53 PM	5128.61384
	10:18:00	10:18:00		37.2	39.7	34.2	11:18:53 PM	5248.074602
	10:19:00	10:19:00		36.4	43.5	30.7	11:19:53 PM	4365.158322
	10:20:00	10:20:00		31.1	33.2	29.4	11:20:53 PM	1288.249552
	10:21:00	10:21:00		32.5	37.5	29.8	11:21:53 PM	1778.27941
	10:22:00	10:22:00		36.9	39.8	30.1	11:22:53 PM	4897.788194
	10:23:00	10:23:00		32.4	37.3	29.5	11:23:53 PM	1737.800829
	10:24:00	10:24:00		30.7	33.7	29	11:24:53 PM	1174.897555
	10:25:00	10:25:00		31.9	35.9	29.6	11:25:53 PM	1548.816619
	10:26:00	10:26:00		29.7	32.4	28	11:26:53 PM	933.2543008
	10:27:00	10:27:00		28.6	29.4	28	11:27:53 PM	724.4359601
	10:28:00	10:28:00		28.8	30.6	28.1	11:28:53 PM	758.577575
	10:29:00	10:29:00		28.3	29.6	27.8	11:29:53 PM	676.0829754
	10:30:00	10:30:00		29	31.6	27.9	11:30:53 PM	794.3282347
	10:31:00	10:31:00		31.3	37.8	28.9	11:31:53 PM	1348.962883
	10:32:00	10:32:00		30.2	34.4	28.3	11:32:53 PM	1047.128548
	10:33:00	10:33:00		31	34.1	29.2	11:33:53 PM	1258.925412
	10:34:00	10:34:00		32.9	36.7	29.8	11:34:53 PM	1949.8446
	10:35:00	10:35:00		30.1	34.3	29.1	11:35:53 PM	1023.292992
	10:36:00	10:36:00		31.7	34.4	30	11:36:53 PM	1479.108388
	10:37:00	10:37:00		30	33.2	28.7	11:37:53 PM	1000
	10:38:00	10:38:00		29	29.5	28.5	11:38:53 PM	794.3282347
	10:39:00	10:39:00		29.2	30.1	28.8	11:39:53 PM	831.7637711
	10:40:00	10:40:00		29.6	30.7	28.9	11:40:53 PM	912.0108394
	10:41:00	10:41:00		29.6	32.1	28.6	11:41:53 PM	912.0108394
	10:42:00	10:42:00		29.9	35.1	28.4	11:42:53 PM	977.237221
	10:43:00	10:43:00		31.8	37.8	28.8	11:43:53 PM	1513.561248
	10:44:00	10:44:00		35.9	43.3	29.1	11:44:53 PM	3890.45145
	10:45:00	10:45:00		38.5	45.2	29.1	11:45:53 PM	7079.457844
	10:46:00	10:46:00		37.4	44.2	29.2	11:46:53 PM	5495.408739
	10:47:00	10:47:00		29.7	34.5	28.7	11:47:53 PM	933.2543008
	10:48:00	10:48:00		29.4	30.3	28.9	11:48:53 PM	870.96359
	10:49:00	10:49:00		29.4	30	28.8	11:49:53 PM	870.96359
	10:50:00	10:50:00		29.7	30.9	29	11:50:53 PM	933.2543008
	10:51:00	10:51:00		30.9	32.5	29.4	11:51:53 PM	1230.268771
	10:52:00	10:52:00		30.3	32.9	29	11:52:53 PM	1071.519305
	10:53:00	10:53:00		30.4	33.3	28.6	11:53:53 PM	1096.478196
	10:54:00	10:54:00		29.1	29.8	28.4	11:54:53 PM	812.8305162
	10:55:00	10:55:00		30.1	31.9	28.8	11:55:53 PM	1023.292992
	10:56:00	10:56:00		29.6	32.4	28.7	11:56:53 PM	912.0108394
	10:57:00	10:57:00		29	29.7	28.3	11:57:53 PM	794.3282347
	10:58:00	10:58:00		29.2	33	28.3	11:58:53 PM	831.7637711
	10:59:00	10:59:00		29.3	32	28	11:59:53 PM	851.1380382
	11:00:00	11:00:00		29.2	30.5	28.3	12:00:53 AM	831.7637711
	11:01:00	11:01:00		31.3	33.7	29.5	12:01:53 AM	1348.962883
	11:02:00	11:02:00		29.8	32.8	28.3	12:02:53 AM	954.992586
	11:03:00	11:03:00		29.7	32.7	28.4	12:03:53 AM	933.2543008
	11:04:00	11:04:00		30	33.2	28.5	12:04:53 AM	1000
	11:05:00	11:05:00		29.2	30.9	28.3	12:05:53 AM	831.7637711
	11:06:00	11:06:00		29.8	31.7	28.6	12:06:53 AM	954.992586
	11:07:00	11:07:00		30.3	32.4	29	12:07:53 AM	1071.519305
	11:08:00	11:08:00		29.5	31	28.7	12:08:53 AM	891.2509381
	11:09:00	11:09:00		30.9	34.3	28.9	12:09:53 AM	1230.268771
	11:10:00	11:10:00		30.2	33.5	28.7	12:10:53 AM	1047.128548
	11:11:00	11:11:00		30.9	34.9	28.9	12:11:53 AM	1230.268771

Study	Study Time	Session Time	OL Status	L_{avg} Meter1	L_{max} Meter1	L_{min} Meter1
	11:12:00	11:12:00		29.8	32.6	29
	11:13:00	11:13:00		31.1	33.9	29.5
	11:14:00	11:14:00		30.4	34.4	28.7
	11:15:00	11:15:00		30	32.6	28.7
	11:16:00	11:16:00		29.1	30.7	28.2
	11:17:00	11:17:00		29.3	31.1	28.3
	11:18:00	11:18:00		31.3	33	29.7
	11:19:00	11:19:00		30.7	36.8	29
	11:20:00	11:20:00		29.9	31	28.8
	11:21:00	11:21:00		30.1	31.5	29.3
	11:22:00	11:22:00		31.4	33.8	29.8
	11:23:00	11:23:00		32.4	34.8	30.4
	11:24:00	11:24:00		33	36.9	30.2
	11:25:00	11:25:00		31.4	33.4	29.9
	11:26:00	11:26:00		39.3	51	30.5
	11:27:00	11:27:00		31.5	33.7	29.2
	11:28:00	11:28:00		30.3	32	28.9
	11:29:00	11:29:00		30.9	34.5	29.1
	11:30:00	11:30:00		30.9	34.2	28.9
	11:31:00	11:31:00		37.9	47.5	29.8
	11:32:00	11:32:00		31.2	36.8	28.6
	11:33:00	11:33:00		30.3	36.2	28.2
	11:34:00	11:34:00		30.7	34	28.2
	11:35:00	11:35:00		30.3	32.8	28.5
	11:36:00	11:36:00		28.5	29.4	28.1
	11:37:00	11:37:00		28.5	29	28.1
	11:38:00	11:38:00		28.3	29.2	27.8
	11:39:00	11:39:00		29.8	33.3	28.1
	11:40:00	11:40:00		29.8	33.6	28.6
	11:41:00	11:41:00		30.6	34.6	28.4
	11:42:00	11:42:00		29	31.9	28.2
	11:43:00	11:43:00		28.4	29.2	28
	11:44:00	11:44:00		29.5	36.3	27.9
	11:45:00	11:45:00		28.4	31.2	27.5
	11:46:00	11:46:00		28.1	31.5	27.5
	11:47:00	11:47:00		28	30	27.4
	11:48:00	11:48:00		28.4	31.7	27.4
	11:49:00	11:49:00		28.4	32.3	27.3
	11:50:00	11:50:00		27.5	28.6	27.2
	11:51:00	11:51:00		27.5	27.9	27.3
	11:52:00	11:52:00		27.6	28	27.1
	11:53:00	11:53:00		27.8	28.2	27.5
	11:54:00	11:54:00		28.3	29.3	27.5
	11:55:00	11:55:00		29.4	32.1	27.9
	11:56:00	11:56:00		29.9	32	28.8
	11:57:00	11:57:00		33.3	40.6	29.6
	11:58:00	11:58:00		35.7	39.8	31.1
	11:59:00	11:59:00		33.2	37.3	30.8
	12:00:00	12:00:00		33.5	37	30.7
	12:01:00	12:01:00		31.8	34	30.2
	12:02:00	12:02:00		30.4	32.6	28.9
	12:03:00	12:03:00		29	30	28.2
	12:04:00	12:04:00		29.9	33.3	28.2
	12:05:00	12:05:00		29.4	30.7	28.6
	12:06:00	12:06:00		29.3	30.5	28.6
	12:07:00	12:07:00		30.1	32.6	29.1
	12:08:00	12:08:00		29.8	31.1	28.9
	12:09:00	12:09:00		29	30.1	28.4
	12:10:00	12:10:00		28.8	29.4	28.2
	12:11:00	12:11:00		28.7	29.3	28.1
	12:12:00	12:12:00		28.5	29	28
	12:13:00	12:13:00		28.6	29.1	28.1
	12:14:00	12:14:00		28.9	29.4	28.3
	12:15:00	12:15:00		28.7	29.6	28
	12:16:00	12:16:00		28.6	29	28.1
	12:17:00	12:17:00		28.1	28.4	27.8
	12:18:00	12:18:00		29	31.3	28.2
	12:19:00	12:19:00		28.7	30.1	28.1
	12:20:00	12:20:00		28.3	28.9	27.8
	12:21:00	12:21:00		28	28.4	27.7
	12:22:00	12:22:00		28.1	28.6	27.7
	12:23:00	12:23:00		28.4	31.3	27.8
	12:24:00	12:24:00		28.3	29.5	27.7
	12:25:00	12:25:00		29.1	30.5	28.3
	12:26:00	12:26:00		30.4	31.8	29.3
	12:27:00	12:27:00		29	29.9	28.2
	12:28:00	12:28:00		28.6	29.4	28
	12:29:00	12:29:00		28	28.6	27.7
	12:30:00	12:30:00		28.4	29.2	27.9
	12:31:00	12:31:00		28.6	29.5	28
	12:32:00	12:32:00		29.1	29.9	28.4
	12:33:00	12:33:00		30.6	34.7	28
	12:34:00	12:34:00		28.4	29.5	27.9
	12:35:00	12:35:00		29.7	33.2	27.8

	Baseline SPL
12:12:53 AM	954.992586
12:13:53 AM	1288.249552
12:14:53 AM	1096.478196
12:15:53 AM	1000
12:16:53 AM	812.8305162
12:17:53 AM	851.1380382
12:18:53 AM	1348.962883
12:19:53 AM	1174.897555
12:20:53 AM	977.237221
12:21:53 AM	1023.292992
12:22:53 AM	1380.384265
12:23:53 AM	1737.800829
12:24:53 AM	1995.262315
12:25:53 AM	1380.384265
12:26:53 AM	8511.380382
12:27:53 AM	1412.537545
12:28:53 AM	1071.519305
12:29:53 AM	1230.268771
12:30:53 AM	1230.268771
12:31:53 AM	6165.950019
12:32:53 AM	1318.256739
12:33:53 AM	1071.519305
12:34:53 AM	1174.897555
12:35:53 AM	1071.519305
12:36:53 AM	707.9457844
12:37:53 AM	707.9457844
12:38:53 AM	676.0829754
12:39:53 AM	954.992586
12:40:53 AM	954.992586
12:41:53 AM	1148.153621
12:42:53 AM	794.3282347
12:43:53 AM	691.8309709
12:44:53 AM	891.2509381
12:45:53 AM	691.8309709
12:46:53 AM	645.654229
12:47:53 AM	630.9573445
12:48:53 AM	691.8309709
12:49:53 AM	691.8309709
12:50:53 AM	562.3413252
12:51:53 AM	562.3413252
12:52:53 AM	575.4399373
12:53:53 AM	602.5595861
12:54:53 AM	676.0829754
12:55:53 AM	870.96359
12:56:53 AM	977.237221
12:57:53 AM	2137.96209
12:58:53 AM	3715.352291
12:59:53 AM	2089.296131
1:00:53 AM	2238.721139
1:01:53 AM	1513.561248
1:02:53 AM	1096.478196
1:03:53 AM	794.3282347
1:04:53 AM	977.237221
1:05:53 AM	870.96359
1:06:53 AM	851.1380382
1:07:53 AM	1023.292992
1:08:53 AM	954.992586
1:09:53 AM	794.3282347
1:10:53 AM	758.577575
1:11:53 AM	741.3102413
1:12:53 AM	707.9457844
1:13:53 AM	724.4359601
1:14:53 AM	776.2471166
1:15:53 AM	741.3102413
1:16:53 AM	724.4359601
1:17:53 AM	645.654229
1:18:53 AM	794.3282347
1:19:53 AM	741.3102413
1:20:53 AM	676.0829754
1:21:53 AM	630.9573445
1:22:53 AM	645.654229
1:23:53 AM	691.8309709
1:24:53 AM	676.0829754
1:25:53 AM	812.8305162
1:26:53 AM	1096.478196
1:27:53 AM	794.3282347
1:28:53 AM	724.4359601
1:29:53 AM	630.9573445
1:30:53 AM	691.8309709
1:31:53 AM	724.4359601
1:32:53 AM	812.8305162
1:33:53 AM	1148.153621
1:34:53 AM	691.8309709
1:35:53 AM	933.2543008

Study #1 - Facility
Long-Duration (24-Hours)

Study	Study Time	Session Time	OL Status	L_{avg} Meter1	L_{max} Meter1	L_{min} Meter1
	12:36:00	12:36:00		29.3	32.4	28
	12:37:00	12:37:00		28.6	32.9	27.9
	12:38:00	12:38:00		30.6	38.1	28.1
	12:39:00	12:39:00		29.7	31.8	28.6
	12:40:00	12:40:00		29.1	30.7	27.9
	12:41:00	12:41:00		28.3	28.9	27.8
	12:42:00	12:42:00		28.3	30	27.6
	12:43:00	12:43:00		27.6	28	27.3
	12:44:00	12:44:00		27.6	28	27.4
	12:45:00	12:45:00		27.6	28	27.3
	12:46:00	12:46:00		27.3	28	27
	12:47:00	12:47:00		27.3	27.8	27
	12:48:00	12:48:00		27.4	27.9	27.1
	12:49:00	12:49:00		29.7	37.3	27.2
	12:50:00	12:50:00		28.1	34.1	27
	12:51:00	12:51:00		27.6	28.8	27.1
	12:52:00	12:52:00		28.4	31.5	27.5
	12:53:00	12:53:00		28.1	29	27.7
	12:54:00	12:54:00		27.9	28.7	27.2
	12:55:00	12:55:00		27.6	28	27.2
	12:56:00	12:56:00		27.6	28.8	27.3
	12:57:00	12:57:00		28.1	29.1	27.5
	12:58:00	12:58:00		28	28.5	27.6
	12:59:00	12:59:00		28.3	28.8	27.7
	13:00:00	13:00:00		28.1	28.5	27.7
	13:01:00	13:01:00		28	29.5	27.5
	13:02:00	13:02:00		28	28.3	27.7
	13:03:00	13:03:00		28.3	29.7	27.7
	13:04:00	13:04:00		28.3	29.3	27.7
	13:05:00	13:05:00		28.3	28.9	27.8
	13:06:00	13:06:00		28.4	29.3	27.9
	13:07:00	13:07:00		28.2	29.2	27.7
	13:08:00	13:08:00		28	28.9	27.6
	13:09:00	13:09:00		27.9	28.4	27.4
	13:10:00	13:10:00		28.3	30.4	27.8
	13:11:00	13:11:00		27.8	29.3	27.5
	13:12:00	13:12:00		28	28.7	27.7
	13:13:00	13:13:00		28.3	29.7	27.7
	13:14:00	13:14:00		28	28.6	27.6
	13:15:00	13:15:00		27.8	28.2	27.5
	13:16:00	13:16:00		28.1	29	27.6
	13:17:00	13:17:00		28.3	29.6	27.7
	13:18:00	13:18:00		27.9	28.7	27.4
	13:19:00	13:19:00		28.3	32.2	27.5
	13:20:00	13:20:00		32.2	41	27.5
	13:21:00	13:21:00		27.9	28.4	27.4
	13:22:00	13:22:00		28.6	30.3	27.8
	13:23:00	13:23:00		29.8	30.7	29.1
	13:24:00	13:24:00		29.6	31.3	28.7
	13:25:00	13:25:00		28.6	29.7	28
	13:26:00	13:26:00		28.6	29.2	28.1
	13:27:00	13:27:00		28.8	29.6	28.1
	13:28:00	13:28:00		29	30.2	28.4
	13:29:00	13:29:00		29.8	31.9	29.2
	13:30:00	13:30:00		29.4	30	28.8
	13:31:00	13:31:00		28.7	29.8	28.2
	13:32:00	13:32:00		29.1	29.9	28.4
	13:33:00	13:33:00		29.9	31.8	28.9
	13:34:00	13:34:00		29.3	33.1	27.9
	13:35:00	13:35:00		28.1	29.1	27.6
	13:36:00	13:36:00		28.2	30.6	27.6
	13:37:00	13:37:00		28	28.6	27.6
	13:38:00	13:38:00		27.9	28.7	27.5
	13:39:00	13:39:00		27.7	28	27.3
	13:40:00	13:40:00		28.2	29.1	27.5
	13:41:00	13:41:00		30	37.3	28.7
	13:42:00	13:42:00		29.7	36.8	28.5
	13:43:00	13:43:00		29.9	31.2	28.9
	13:44:00	13:44:00		33.9	36.8	30.5
	13:45:00	13:45:00		30.5	34	29
	13:46:00	13:46:00		29.2	30.3	28.4
	13:47:00	13:47:00		28.9	33.7	28.1
	13:48:00	13:48:00		28.5	29.4	28.1
	13:49:00	13:49:00		28.2	29.4	27.9
	13:50:00	13:50:00		28.5	31.9	27.8
	13:51:00	13:51:00		28.6	30.8	27.6
	13:52:00	13:52:00		28.5	30.9	27.6
	13:53:00	13:53:00		28.7	30.4	27.9
	13:54:00	13:54:00		29.9	31.1	29
	13:55:00	13:55:00		30.5	35.6	29.2
	13:56:00	13:56:00		29.8	32.5	28.8
	13:57:00	13:57:00		30.9	42.5	28.7
	13:58:00	13:58:00		29.6	32.8	29
	13:59:00	13:59:00		29.8	30.6	29.2

	Baseline SPL
1:36:53 AM	851.1380382
1:37:53 AM	724.4359601
1:38:53 AM	1148.153621
1:39:53 AM	933.2543008
1:40:53 AM	812.8305162
1:41:53 AM	676.0829754
1:42:53 AM	676.0829754
1:43:53 AM	575.4399373
1:44:53 AM	575.4399373
1:45:53 AM	575.4399373
1:46:53 AM	537.0317964
1:47:53 AM	537.0317964
1:48:53 AM	549.5408739
1:49:53 AM	933.2543008
1:50:53 AM	645.654229
1:51:53 AM	575.4399373
1:52:53 AM	691.8309709
1:53:53 AM	645.654229
1:54:53 AM	616.5950019
1:55:53 AM	575.4399373
1:56:53 AM	575.4399373
1:57:53 AM	645.654229
1:58:53 AM	630.9573445
1:59:53 AM	676.0829754
2:00:53 AM	645.654229
2:01:53 AM	630.9573445
2:02:53 AM	630.9573445
2:03:53 AM	676.0829754
2:04:53 AM	676.0829754
2:05:53 AM	676.0829754
2:06:53 AM	691.8309709
2:07:53 AM	660.693448
2:08:53 AM	630.9573445
2:09:53 AM	616.5950019
2:10:53 AM	676.0829754
2:11:53 AM	602.5595861
2:12:53 AM	630.9573445
2:13:53 AM	676.0829754
2:14:53 AM	630.9573445
2:15:53 AM	602.5595861
2:16:53 AM	645.654229
2:17:53 AM	676.0829754
2:18:53 AM	616.5950019
2:19:53 AM	676.0829754
2:20:53 AM	1659.586907
2:21:53 AM	616.5950019
2:22:53 AM	724.4359601
2:23:53 AM	954.992586
2:24:53 AM	912.0108394
2:25:53 AM	724.4359601
2:26:53 AM	724.4359601
2:27:53 AM	758.577575
2:28:53 AM	794.3282347
2:29:53 AM	954.992586
2:30:53 AM	870.96359
2:31:53 AM	741.3102413
2:32:53 AM	812.8305162
2:33:53 AM	977.237221
2:34:53 AM	851.1380382
2:35:53 AM	645.654229
2:36:53 AM	660.693448
2:37:53 AM	630.9573445
2:38:53 AM	616.5950019
2:39:53 AM	588.8436554
2:40:53 AM	660.693448
2:41:53 AM	1000
2:42:53 AM	933.2543008
2:43:53 AM	977.237221
2:44:53 AM	2454.708916
2:45:53 AM	1122.018454
2:46:53 AM	831.7637711
2:47:53 AM	776.2471166
2:48:53 AM	707.9457844
2:49:53 AM	660.693448
2:50:53 AM	707.9457844
2:51:53 AM	724.4359601
2:52:53 AM	707.9457844
2:53:53 AM	741.3102413
2:54:53 AM	977.237221
2:55:53 AM	1122.018454
2:56:53 AM	954.992586
2:57:53 AM	1230.268771
2:58:53 AM	912.0108394
2:59:53 AM	954.992586

Study #1 - Facility
Long-Duration (24-Hours)

Study	Study Time	Session Time	OL Status	L_{avg} Meter1	L_{max} Meter1	L_{min} Meter1
	14:00:00	14:00:00		29.7	30.1	29.3
	14:01:00	14:01:00		29.6	30.4	29
	14:02:00	14:02:00		29.7	30.1	29.4
	14:03:00	14:03:00		30.3	31.4	29.5
	14:04:00	14:04:00		30.6	31.6	29.9
	14:05:00	14:05:00		31	33.3	29.9
	14:06:00	14:06:00		31.1	32.3	30.2
	14:07:00	14:07:00		31.7	34	30.5
	14:08:00	14:08:00		30.7	31.4	30.2
	14:09:00	14:09:00		30.6	32.2	29.7
	14:10:00	14:10:00		29.7	31.4	29
	14:11:00	14:11:00		29.5	30.7	28.9
	14:12:00	14:12:00		30.4	32.5	29.5
	14:13:00	14:13:00		29.8	31.8	29
	14:14:00	14:14:00		29.7	30.3	29
	14:15:00	14:15:00		30.5	32	29.7
	14:16:00	14:16:00		29.9	31.2	29.3
	14:17:00	14:17:00		29.3	30.4	28.5
	14:18:00	14:18:00		29	29.5	28.3
	14:19:00	14:19:00		29	30.2	28.3
	14:20:00	14:20:00		28.4	29	27.9
	14:21:00	14:21:00		28.2	28.6	27.7
	14:22:00	14:22:00		28.3	29.1	27.7
	14:23:00	14:23:00		28.3	30.2	27.7
	14:24:00	14:24:00		29.1	30.8	27.9
	14:25:00	14:25:00		29.6	31.8	28.4
	14:26:00	14:26:00		29.8	32.6	28.5
	14:27:00	14:27:00		28.6	29.2	28.1
	14:28:00	14:28:00		29	29.9	28.3
	14:29:00	14:29:00		28.8	29.7	28
	14:30:00	14:30:00		28.7	29.6	28.2
	14:31:00	14:31:00		28.8	30	28.3
	14:32:00	14:32:00		28.6	28.9	28.2
	14:33:00	14:33:00		28.7	29.7	28.2
	14:34:00	14:34:00		28.7	29.4	28.2
	14:35:00	14:35:00		28.8	29.7	28.4
	14:36:00	14:36:00		29	29.5	28.3
	14:37:00	14:37:00		28.9	30.2	28.4
	14:38:00	14:38:00		48.2	65.4	29
	14:39:00	14:39:00		31.4	42.7	29.6
	14:40:00	14:40:00		30	31.3	29.3
	14:41:00	14:41:00		29.9	31.4	29.2
	14:42:00	14:42:00		30.1	31	29.3
	14:43:00	14:43:00		30.5	31.1	29.9
	14:44:00	14:44:00		31	31.8	30.3
	14:45:00	14:45:00		31.7	32.6	30.6
	14:46:00	14:46:00		31.6	32.6	30.7
	14:47:00	14:47:00		30.8	31.8	30.2
	14:48:00	14:48:00		31.5	32.2	30.7
	14:49:00	14:49:00		31.1	31.7	30.5
	14:50:00	14:50:00		32	33.5	30.9
	14:51:00	14:51:00		33.1	35.8	31.8
	14:52:00	14:52:00		33.4	34.8	32.3
	14:53:00	14:53:00		33.9	38.6	31.3
	14:54:00	14:54:00		33.3	35.3	32.2
	14:55:00	14:55:00		32.6	33.3	32
	14:56:00	14:56:00		32.3	33.1	31.5
	14:57:00	14:57:00		35.6	42.9	32.1
	14:58:00	14:58:00		32.2	34.1	30.6
	14:59:00	14:59:00		31.4	32.5	30.5
	15:00:00	15:00:00		30.6	31.9	30
	15:01:00	15:01:00		29.9	30.6	29.3
	15:02:00	15:02:00		30.2	31.9	29
	15:03:00	15:03:00		29.6	30.7	28.9
	15:04:00	15:04:00		30.5	32.1	29.3
	15:05:00	15:05:00		30.4	31.1	29.7
	15:06:00	15:06:00		32.3	34.6	30.5
	15:07:00	15:07:00		31.2	33.7	30.3
	15:08:00	15:08:00		30.8	34	29.9
	15:09:00	15:09:00		30	31.3	29.5
	15:10:00	15:10:00		30	31	29.3
	15:11:00	15:11:00		29.7	30.5	29.1
	15:12:00	15:12:00		29.5	32	28.8
	15:13:00	15:13:00		29.7	30.1	29.1
	15:14:00	15:14:00		30.4	31.2	29.6
	15:15:00	15:15:00		31.2	32.5	30.3
	15:16:00	15:16:00		32.4	33.2	31.4
	15:17:00	15:17:00		32.1	33.5	31.2
	15:18:00	15:18:00		32	33.6	31.1
	15:19:00	15:19:00		31.3	32.3	30.5
	15:20:00	15:20:00		31	31.8	30.3
	15:21:00	15:21:00		31.3	32.2	30.2
	15:22:00	15:22:00		30.9	32.2	30
	15:23:00	15:23:00		30.7	31.7	29.8

	Baseline SPL
3:00:53 AM	933.2543008
3:01:53 AM	912.0108394
3:02:53 AM	933.2543008
3:03:53 AM	1071.519305
3:04:53 AM	1148.153621
3:05:53 AM	1258.925412
3:06:53 AM	1288.249552
3:07:53 AM	1479.108388
3:08:53 AM	1174.897555
3:09:53 AM	1148.153621
3:10:53 AM	933.2543008
3:11:53 AM	891.2509381
3:12:53 AM	1096.478196
3:13:53 AM	954.992586
3:14:53 AM	933.2543008
3:15:53 AM	1122.018454
3:16:53 AM	977.237221
3:17:53 AM	851.1380382
3:18:53 AM	794.3282347
3:19:53 AM	794.3282347
3:20:53 AM	691.8309709
3:21:53 AM	660.693448
3:22:53 AM	676.0829754
3:23:53 AM	676.0829754
3:24:53 AM	812.8305162
3:25:53 AM	912.0108394
3:26:53 AM	954.992586
3:27:53 AM	724.4359601
3:28:53 AM	794.3282347
3:29:53 AM	758.577575
3:30:53 AM	741.3102413
3:31:53 AM	758.577575
3:32:53 AM	724.4359601
3:33:53 AM	741.3102413
3:34:53 AM	741.3102413
3:35:53 AM	758.577575
3:36:53 AM	794.3282347
3:37:53 AM	776.2471166
3:38:53 AM	66069.3448
3:39:53 AM	1380.384265
3:40:53 AM	1000
3:41:53 AM	977.237221
3:42:53 AM	1023.292992
3:43:53 AM	1122.018454
3:44:53 AM	1258.925412
3:45:53 AM	1479.108388
3:46:53 AM	1445.439771
3:47:53 AM	1202.264435
3:48:53 AM	1412.537545
3:49:53 AM	1288.249552
3:50:53 AM	1584.893192
3:51:53 AM	2041.737945
3:52:53 AM	2187.761624
3:53:53 AM	2454.708916
3:54:53 AM	2137.96209
3:55:53 AM	1819.700859
3:56:53 AM	1698.243652
3:57:53 AM	3630.780548
3:58:53 AM	1659.586907
3:59:53 AM	1380.384265
4:00:53 AM	1148.153621
4:01:53 AM	977.237221
4:02:53 AM	1047.128548
4:03:53 AM	912.0108394
4:04:53 AM	1122.018454
4:05:53 AM	1096.478196
4:06:53 AM	1698.243652
4:07:53 AM	1318.256739
4:08:53 AM	1202.264435
4:09:53 AM	1000
4:10:53 AM	1000
4:11:53 AM	933.2543008
4:12:53 AM	891.2509381
4:13:53 AM	933.2543008
4:14:53 AM	1096.478196
4:15:53 AM	1318.256739
4:16:53 AM	1737.800829
4:17:53 AM	1621.810097
4:18:53 AM	1584.893192
4:19:53 AM	1348.962883
4:20:53 AM	1258.925412
4:21:53 AM	1348.962883
4:22:53 AM	1230.268771
4:23:53 AM	1174.897555

Study #1 - Facility
Long-Duration (24-Hours)

Study	Study Time	Session Time	OL Status	L_{avg} Meter1	L_{max} Meter1	L_{min} Meter1
	15:24:00	15:24:00		30.5	31.5	29.8
	15:25:00	15:25:00		30.8	32.4	29.8
	15:26:00	15:26:00		30.6	32.2	29.8
	15:27:00	15:27:00		30.8	31.9	30
	15:28:00	15:28:00		30.7	31.5	30
	15:29:00	15:29:00		31.3	32.5	30.6
	15:30:00	15:30:00		31.3	32.1	30.8
	15:31:00	15:31:00		31.5	32.4	30.8
	15:32:00	15:32:00		31.7	32.7	30.9
	15:33:00	15:33:00		31.1	32.3	30.5
	15:34:00	15:34:00		31.2	32.3	30.2
	15:35:00	15:35:00		32.4	33.2	31.6
	15:36:00	15:36:00		32.7	33.8	31.9
	15:37:00	15:37:00		33	34.5	32.2
	15:38:00	15:38:00		33.1	34.2	32.4
	15:39:00	15:39:00		31.8	33.2	31.1
	15:40:00	15:40:00		32.9	35.9	31.7
	15:41:00	15:41:00		32.9	34.5	31.7
	15:42:00	15:42:00		32	33.2	30.8
	15:43:00	15:43:00		31.6	32.8	30.6
	15:44:00	15:44:00		32.7	35.5	31.1
	15:45:00	15:45:00		31.7	33.4	30.7
	15:46:00	15:46:00		31.9	32.7	31.2
	15:47:00	15:47:00		32.4	33.3	31.4
	15:48:00	15:48:00		32.9	34.4	31.9
	15:49:00	15:49:00		32.4	34.2	31.6
	15:50:00	15:50:00		33.9	36.4	32.6
	15:51:00	15:51:00		32.4	33.1	31.7
	15:52:00	15:52:00		31.8	32.5	31.1
	15:53:00	15:53:00		32.8	34.4	31.3
	15:54:00	15:54:00		33	34.1	32.2
	15:55:00	15:55:00		35.7	39.6	32.4
	15:56:00	15:56:00		33.7	35.2	33
	15:57:00	15:57:00		33.2	34.1	31.8
	15:58:00	15:58:00		32.5	34.3	31.3
	15:59:00	15:59:00		32.3	33.5	31.3
	16:00:00	16:00:00		33.2	34.5	32
	16:01:00	16:01:00		32.8	34.3	31.6
	16:02:00	16:02:00		33.3	34.7	32.1
	16:03:00	16:03:00		32.6	33.9	31.5
	16:04:00	16:04:00		32.4	33.3	31.7
	16:05:00	16:05:00		32.5	33.5	31.5
	16:06:00	16:06:00		32.6	34.2	31.2
	16:07:00	16:07:00		33.2	34.5	32.1
	16:08:00	16:08:00		33.6	36.3	32.7
	16:09:00	16:09:00		33.3	35.1	31.9
	16:10:00	16:10:00		32.5	33.2	31.6
	16:11:00	16:11:00		32.5	34.7	31.5
	16:12:00	16:12:00		32.7	36.8	31.4
	16:13:00	16:13:00		32.8	39.1	30.8
	16:14:00	16:14:00		32.3	33.4	31.3
	16:15:00	16:15:00		32.5	33.4	31.6
	16:16:00	16:16:00		33.1	35.9	31.9
	16:17:00	16:17:00		32.5	35	31.2
	16:18:00	16:18:00		32.2	34.3	31.3
	16:19:00	16:19:00		33.4	37.3	32.1
	16:20:00	16:20:00		32.6	34.2	31.7
	16:21:00	16:21:00		34.8	37.4	33
	16:22:00	16:22:00		33.8	36.4	32.3
	16:23:00	16:23:00		33.9	36.2	32.4
	16:24:00	16:24:00		36.3	40.5	34.2
	16:25:00	16:25:00		37.4	40.5	35.1
	16:26:00	16:26:00		34.5	37.4	32.8
	16:27:00	16:27:00		34.8	36.2	33.3
	16:28:00	16:28:00		45	47.3	34.9
	16:29:00	16:29:00		44.6	45.8	43.6
	16:30:00	16:30:00		44.4	45.6	43.3
	16:31:00	16:31:00		44.7	45.8	43.5
	16:32:00	16:32:00		45.6	46.9	44.5
	16:33:00	16:33:00		46.5	50.6	44.5
	16:34:00	16:34:00		46.5	48.4	44.7
	16:35:00	16:35:00		46.2	48.5	44.5
	16:36:00	16:36:00		45.4	47.3	44.2
	16:37:00	16:37:00		44.6	45.8	43.7
	16:38:00	16:38:00		44.2	44.8	43.5
	16:39:00	16:39:00		44	45	42.6
	16:40:00	16:40:00		44.6	45.8	43.5
	16:41:00	16:41:00		44.3	46.4	43.3
	16:42:00	16:42:00		44.8	45.8	44
	16:43:00	16:43:00		44.3	45.2	43.2
	16:44:00	16:44:00		45.3	47.2	43.3
	16:45:00	16:45:00		47	50.9	44.7
	16:46:00	16:46:00		46.6	48.2	45.1
	16:47:00	16:47:00		46.6	50	45

	Baseline SPL
4:24:53 AM	1122.018454
4:25:53 AM	1202.264435
4:26:53 AM	1148.153621
4:27:53 AM	1202.264435
4:28:53 AM	1174.897555
4:29:53 AM	1348.962883
4:30:53 AM	1348.962883
4:31:53 AM	1412.537545
4:32:53 AM	1479.108388
4:33:53 AM	1288.249552
4:34:53 AM	1318.256739
4:35:53 AM	1737.800829
4:36:53 AM	1862.087137
4:37:53 AM	1995.262315
4:38:53 AM	2041.737945
4:39:53 AM	1513.561248
4:40:53 AM	1949.8446
4:41:53 AM	1949.8446
4:42:53 AM	1584.893192
4:43:53 AM	1445.439771
4:44:53 AM	1862.087137
4:45:53 AM	1479.108388
4:46:53 AM	1548.816619
4:47:53 AM	1737.800829
4:48:53 AM	1949.8446
4:49:53 AM	1737.800829
4:50:53 AM	2454.708916
4:51:53 AM	1737.800829
4:52:53 AM	1513.561248
4:53:53 AM	1905.460718
4:54:53 AM	1995.262315
4:55:53 AM	3715.352291
4:56:53 AM	2344.228815
4:57:53 AM	2089.296131
4:58:53 AM	1778.27941
4:59:53 AM	1698.243652
5:00:53 AM	2089.296131
5:01:53 AM	1905.460718
5:02:53 AM	2137.96209
5:03:53 AM	1819.700859
5:04:53 AM	1737.800829
5:05:53 AM	1778.27941
5:06:53 AM	1819.700859
5:07:53 AM	2089.296131
5:08:53 AM	2290.867653
5:09:53 AM	2137.96209
5:10:53 AM	1778.27941
5:11:53 AM	1778.27941
5:12:53 AM	1862.087137
5:13:53 AM	1905.460718
5:14:53 AM	1698.243652
5:15:53 AM	1778.27941
5:16:53 AM	2041.737945
5:17:53 AM	1778.27941
5:18:53 AM	1659.586907
5:19:53 AM	2187.761624
5:20:53 AM	1819.700859
5:21:53 AM	3019.95172
5:22:53 AM	2398.832919
5:23:53 AM	2454.708916
5:24:53 AM	4265.795188
5:25:53 AM	5495.408739
5:26:53 AM	2818.382931
5:27:53 AM	3019.95172
5:28:53 AM	31622.7766
5:29:53 AM	28840.31503
5:30:53 AM	27542.28703
5:31:53 AM	29512.09227
5:32:53 AM	36307.80548
5:33:53 AM	44668.35922
5:34:53 AM	44668.35922
5:35:53 AM	41686.93835
5:36:53 AM	34673.68505
5:37:53 AM	28840.31503
5:38:53 AM	26302.67992
5:39:53 AM	25118.86432
5:40:53 AM	28840.31503
5:41:53 AM	26915.34804
5:42:53 AM	30199.5172
5:43:53 AM	26915.34804
5:44:53 AM	33884.41561
5:45:53 AM	50118.72336
5:46:53 AM	45708.81896
5:47:53 AM	45708.81896

Study #1 - Facility
Long-Duration (24-Hours)

Study	Study Time	Session Time	OL Status	L_{avg} Meter1	L_{max} Meter1	L_{min} Meter1
	16:48:00	16:48:00		45.6	47.4	44.7
	16:49:00	16:49:00		45	46.6	43.6
	16:50:00	16:50:00		45.1	46.6	43
	16:51:00	16:51:00		46.6	51.3	44.5
	16:52:00	16:52:00		46.5	49.4	44.7
	16:53:00	16:53:00		46.7	51.6	44.6
	16:54:00	16:54:00		45.7	47.2	44.8
	16:55:00	16:55:00		44.7	45.7	43.9
	16:56:00	16:56:00		44.3	45.1	43.5
	16:57:00	16:57:00		44.4	45.4	43.6
	16:58:00	16:58:00		44.7	46.6	43.9
	16:59:00	16:59:00		45	48	43.5
	17:00:00	17:00:00		45.1	47.1	43.9
	17:01:00	17:01:00		45.6	48	44.3
	17:02:00	17:02:00		47.2	51	44.7
	17:03:00	17:03:00		48.6	53.2	45.1
	17:04:00	17:04:00		48.7	53.8	45.1
	17:05:00	17:05:00		49.6	54.1	46.5
	17:06:00	17:06:00		51.2	54.8	48
	17:07:00	17:07:00		52.7	57.1	49.5
	17:08:00	17:08:00		52.8	56.9	47.5
	17:09:00	17:09:00		52.6	60.1	48.5
	17:10:00	17:10:00		50.1	55.2	47.6
	17:11:00	17:11:00		54.4	63.1	48.7
	17:12:00	17:12:00		54.4	59.5	48.9
	17:13:00	17:13:00		51.6	55.9	48.3
	17:14:00	17:14:00		54.6	59.9	49
	17:15:00	17:15:00		55.1	59.1	50.5
	17:16:00	17:16:00		53.2	58.9	48.8
	17:17:00	17:17:00		51.6	55.5	48.2
	17:18:00	17:18:00		47.9	52.1	45.6
	17:19:00	17:19:00		46.8	50.8	45.3
	17:20:00	17:20:00		46.8	49.5	45.5
	17:21:00	17:21:00		45.8	47.4	44.4
	17:22:00	17:22:00		46.5	51.1	44.8
	17:23:00	17:23:00		45.9	46.9	44.9
	17:24:00	17:24:00		46.4	50.9	44.6
	17:25:00	17:25:00		46.2	48.4	44.7
	17:26:00	17:26:00		45.6	46.9	44.8
	17:27:00	17:27:00		45.1	45.8	44.4
	17:28:00	17:28:00		44.7	45.4	44
	17:29:00	17:29:00		44.8	47.3	43.5
	17:30:00	17:30:00		45.1	47.3	43.8
	17:31:00	17:31:00		44.7	46.1	43.6
	17:32:00	17:32:00		45.1	45.9	44.3
	17:33:00	17:33:00		44.5	45.5	43.3
	17:34:00	17:34:00		44.4	44.9	43.9
	17:35:00	17:35:00		44.4	44.8	44
	17:36:00	17:36:00		44.4	44.9	43.6
	17:37:00	17:37:00		44.3	44.9	43.6
	17:38:00	17:38:00		44.2	45	43.5
	17:39:00	17:39:00		44.2	44.6	43.8
	17:40:00	17:40:00		44.1	44.6	43.7
	17:41:00	17:41:00		44.4	49	43.7
	17:42:00	17:42:00		44.2	45.8	43.7
	17:43:00	17:43:00		44.4	45.3	43.6
	17:44:00	17:44:00		44.3	44.9	43.7
	17:45:00	17:45:00		44.2	44.8	43.6
	17:46:00	17:46:00		44.1	44.5	43.8
	17:47:00	17:47:00		44.1	44.6	43.7
	17:48:00	17:48:00		44.3	44.7	43.8
	17:49:00	17:49:00		44.1	44.7	43.7
	17:50:00	17:50:00		44	44.5	43.4
	17:51:00	17:51:00		44.7	46.1	43.7
	17:52:00	17:52:00		46.3	48.2	44.5
	17:53:00	17:53:00		44.5	46.1	43.7
	17:54:00	17:54:00		44	44.6	43.1
	17:55:00	17:55:00		44.2	45.3	43.4
	17:56:00	17:56:00		43.9	44.6	43.3
	17:57:00	17:57:00		43.9	44.4	43.2
	17:58:00	17:58:00		44.2	44.8	43.3
	17:59:00	17:59:00		44.3	44.9	43.9
	18:00:00	18:00:00		44.3	44.6	43.9
	18:01:00	18:01:00		44.1	45.3	43.6
	18:02:00	18:02:00		44.2	45.1	43.6
	18:03:00	18:03:00		44.6	47.3	43.8
	18:04:00	18:04:00		44.1	45	43.4
	18:05:00	18:05:00		44.1	44.6	43.6
	18:06:00	18:06:00		44.2	45.4	43.3
	18:07:00	18:07:00		44.4	45.9	43.6
	18:08:00	18:08:00		44.4	45	44
	18:09:00	18:09:00		44.5	45.7	44
	18:10:00	18:10:00		44.4	44.9	43.8
	18:11:00	18:11:00		44.4	44.8	43.9

	Baseline SPL
5:48:53 AM	36307.80548
5:49:53 AM	31622.7766
5:50:53 AM	32359.36569
5:51:53 AM	45708.81896
5:52:53 AM	44668.35922
5:53:53 AM	46773.51413
5:54:53 AM	37153.52291
5:55:53 AM	29512.09227
5:56:53 AM	26915.34804
5:57:53 AM	27542.28703
5:58:53 AM	29512.09227
5:59:53 AM	31622.7766
6:00:53 AM	32359.36569
6:01:53 AM	36307.80548
6:02:53 AM	52480.74602
6:03:53 AM	72443.59601
6:04:53 AM	74131.02413
6:05:53 AM	91201.08394
6:06:53 AM	131825.6739
6:07:53 AM	186208.7137
6:08:53 AM	190546.0718
6:09:53 AM	181970.0859
6:10:53 AM	102329.2992
6:11:53 AM	275422.8703
6:12:53 AM	275422.8703
6:13:53 AM	144543.9771
6:14:53 AM	288403.1503
6:15:53 AM	323593.6569
6:16:53 AM	208929.6131
6:17:53 AM	144543.9771
6:18:53 AM	61659.50019
6:19:53 AM	47863.00923
6:20:53 AM	47863.00923
6:21:53 AM	38018.93963
6:22:53 AM	44668.35922
6:23:53 AM	38904.5145
6:24:53 AM	43651.58322
6:25:53 AM	41686.93835
6:26:53 AM	36307.80548
6:27:53 AM	32359.36569
6:28:53 AM	29512.09227
6:29:53 AM	30199.5172
6:30:53 AM	32359.36569
6:31:53 AM	29512.09227
6:32:53 AM	32359.36569
6:33:53 AM	28183.82931
6:34:53 AM	27542.28703
6:35:53 AM	27542.28703
6:36:53 AM	27542.28703
6:37:53 AM	26915.34804
6:38:53 AM	26302.67992
6:39:53 AM	26302.67992
6:40:53 AM	25703.95783
6:41:53 AM	27542.28703
6:42:53 AM	26302.67992
6:43:53 AM	27542.28703
6:44:53 AM	26915.34804
6:45:53 AM	26302.67992
6:46:53 AM	25703.95783
6:47:53 AM	25703.95783
6:48:53 AM	26915.34804
6:49:53 AM	25703.95783
6:50:53 AM	25118.86432
6:51:53 AM	29512.09227
6:52:53 AM	42657.95188
6:53:53 AM	28183.82931
6:54:53 AM	25118.86432
6:55:53 AM	26302.67992
6:56:53 AM	24547.08916
6:57:53 AM	24547.08916
6:58:53 AM	26302.67992
6:59:53 AM	26915.34804
7:00:53 AM	26915.34804
7:01:53 AM	25703.95783
7:02:53 AM	26302.67992
7:03:53 AM	28840.31503
7:04:53 AM	25703.95783
7:05:53 AM	25703.95783
7:06:53 AM	26302.67992
7:07:53 AM	27542.28703
7:08:53 AM	27542.28703
7:09:53 AM	28183.82931
7:10:53 AM	27542.28703
7:11:53 AM	27542.28703

Study #1 - Facility
Long-Duration (24-Hours)

Study	Study Time	Session Time	OL Status	L_{avg} Meter1	L_{max} Meter1	L_{min} Meter1
	18:12:00	18:12:00		44.3	44.8	43.8
	18:13:00	18:13:00		44.7	45.7	44.1
	18:14:00	18:14:00		45.4	49.8	43.6
	18:15:00	18:15:00		48.6	61.6	44.3
	18:16:00	18:16:00		44.7	45.7	43.9
	18:17:00	18:17:00		44.9	46.5	43.8
	18:18:00	18:18:00		45.3	47.4	44.1
	18:19:00	18:19:00		44.7	45.9	43.8
	18:20:00	18:20:00		44.5	45.7	43.5
	18:21:00	18:21:00		45.1	47.3	44.1
	18:22:00	18:22:00		46	51	44.5
	18:23:00	18:23:00		44.5	45.2	44
	18:24:00	18:24:00		44.9	46.3	43.5
	18:25:00	18:25:00		44.9	46.1	43.9
	18:26:00	18:26:00		44.7	46	43.4
	18:27:00	18:27:00		44.8	45.7	44.1
	18:28:00	18:28:00		45	47.6	43.9
	18:29:00	18:29:00		45.1	46.8	44.3
	18:30:00	18:30:00		45.7	53.9	43.6
	18:31:00	18:31:00		45.1	48.1	43.9
	18:32:00	18:32:00		45.2	47.9	43.8
	18:33:00	18:33:00		44.7	45.6	43.9
	18:34:00	18:34:00		45.4	50	44.1
	18:35:00	18:35:00		45.3	49.3	43.8
	18:36:00	18:36:00		44.2	44.8	43.5
	18:37:00	18:37:00		44.5	45.1	43.9
	18:38:00	18:38:00		44.7	45.8	44
	18:39:00	18:39:00		44.8	46.3	43.6
	18:40:00	18:40:00		44.5	44.9	43.9
	18:41:00	18:41:00		44.7	47.3	43.7
	18:42:00	18:42:00		44.9	46.8	43.9
	18:43:00	18:43:00		45	46.9	44
	18:44:00	18:44:00		44.3	44.8	43.7
	18:45:00	18:45:00		44.6	45.3	43.8
	18:46:00	18:46:00		45.2	46.9	44.2
	18:47:00	18:47:00		45.1	48.7	43.8
	18:48:00	18:48:00		48.7	53.5	45.4
	18:49:00	18:49:00		47.4	53.6	44.4
	18:50:00	18:50:00		46.9	50.3	44
	18:51:00	18:51:00		45	47.7	43.9
	18:52:00	18:52:00		47.9	52	45
	18:53:00	18:53:00		47.5	50.8	44.8
	18:54:00	18:54:00		50.2	59.6	45.3
	18:55:00	18:55:00		47.9	52.2	45.2
	18:56:00	18:56:00		50.6	56.6	44.9
	18:57:00	18:57:00		47.9	53.5	45.4
	18:58:00	18:58:00		45.3	48.2	44.1
	18:59:00	18:59:00		45.3	48	44.5
	19:00:00	19:00:00		44.9	46.5	44
	19:01:00	19:01:00		44.7	45.3	44.2
	19:02:00	19:02:00		45.2	46.2	44.3
	19:03:00	19:03:00		45.7	46.6	44.7
	19:04:00	19:04:00		44.9	46	44.2
	19:05:00	19:05:00		44.6	45.1	44.1
	19:06:00	19:06:00		44.4	44.8	44
	19:07:00	19:07:00		44.7	45.2	44
	19:08:00	19:08:00		44.7	45.4	44.2
	19:09:00	19:09:00		44.7	45.5	44.4
	19:10:00	19:10:00		44.7	45	44.3
	19:11:00	19:11:00		44.8	45.1	44.5
	19:12:00	19:12:00		44.8	45.2	44.5
	19:13:00	19:13:00		45	45.5	44.6
	19:14:00	19:14:00		45.2	50.2	44.4
	19:15:00	19:15:00		44.6	45.8	43.6
	19:16:00	19:16:00		44.6	45.2	44
	19:17:00	19:17:00		44.5	44.8	44.2
	19:18:00	19:18:00		44.6	44.9	44.2
	19:19:00	19:19:00		44.6	44.9	44.2
	19:20:00	19:20:00		44.5	44.9	44.1
	19:21:00	19:21:00		44.6	45.1	44.1
	19:22:00	19:22:00		44.6	45.9	44
	19:23:00	19:23:00		44.6	45	44.1
	19:24:00	19:24:00		44.9	45.4	44.4
	19:25:00	19:25:00		44.9	45.8	44.6
	19:26:00	19:26:00		45	45.4	44.7
	19:27:00	19:27:00		44.9	45.2	44.6
	19:28:00	19:28:00		44.8	45.2	44.6
	19:29:00	19:29:00		44.8	45.2	44.5
	19:30:00	19:30:00		44.7	45	44.5
	19:31:00	19:31:00		44.8	45.2	44.5
	19:32:00	19:32:00		44.9	45.9	44.6
	19:33:00	19:33:00		44.7	45	44.4
	19:34:00	19:34:00		44.8	45.1	44.5
	19:35:00	19:35:00		44.8	45.1	44.5

	Baseline SPL
7:12:53 AM	26915.34804
7:13:53 AM	29512.09227
7:14:53 AM	34673.68505
7:15:53 AM	72443.59601
7:16:53 AM	29512.09227
7:17:53 AM	30902.95433
7:18:53 AM	33884.41561
7:19:53 AM	29512.09227
7:20:53 AM	28183.82931
7:21:53 AM	32359.36569
7:22:53 AM	39810.71706
7:23:53 AM	28183.82931
7:24:53 AM	30902.95433
7:25:53 AM	30902.95433
7:26:53 AM	29512.09227
7:27:53 AM	30199.5172
7:28:53 AM	31622.7766
7:29:53 AM	32359.36569
7:30:53 AM	37153.52291
7:31:53 AM	32359.36569
7:32:53 AM	33113.11215
7:33:53 AM	29512.09227
7:34:53 AM	34673.68505
7:35:53 AM	33884.41561
7:36:53 AM	26302.67992
7:37:53 AM	28183.82931
7:38:53 AM	29512.09227
7:39:53 AM	30199.5172
7:40:53 AM	28183.82931
7:41:53 AM	29512.09227
7:42:53 AM	30902.95433
7:43:53 AM	31622.7766
7:44:53 AM	26915.34804
7:45:53 AM	28840.31503
7:46:53 AM	33113.11215
7:47:53 AM	32359.36569
7:48:53 AM	74131.02413
7:49:53 AM	54954.08739
7:50:53 AM	48977.88194
7:51:53 AM	31622.7766
7:52:53 AM	61659.50019
7:53:53 AM	56234.13252
7:54:53 AM	104712.8548
7:55:53 AM	61659.50019
7:56:53 AM	114815.3621
7:57:53 AM	61659.50019
7:58:53 AM	33884.41561
7:59:53 AM	33884.41561
8:00:53 AM	30902.95433
8:01:53 AM	29512.09227
8:02:53 AM	33113.11215
8:03:53 AM	37153.52291
8:04:53 AM	30902.95433
8:05:53 AM	28840.31503
8:06:53 AM	27542.28703
8:07:53 AM	29512.09227
8:08:53 AM	29512.09227
8:09:53 AM	29512.09227
8:10:53 AM	29512.09227
8:11:53 AM	30199.5172
8:12:53 AM	30199.5172
8:13:53 AM	31622.7766
8:14:53 AM	33113.11215
8:15:53 AM	28840.31503
8:16:53 AM	28840.31503
8:17:53 AM	28183.82931
8:18:53 AM	28840.31503
8:19:53 AM	28840.31503
8:20:53 AM	28183.82931
8:21:53 AM	28840.31503
8:22:53 AM	28840.31503
8:23:53 AM	28840.31503
8:24:53 AM	30902.95433
8:25:53 AM	30902.95433
8:26:53 AM	31622.7766
8:27:53 AM	30902.95433
8:28:53 AM	30199.5172
8:29:53 AM	30199.5172
8:30:53 AM	29512.09227
8:31:53 AM	30199.5172
8:32:53 AM	30902.95433
8:33:53 AM	29512.09227
8:34:53 AM	30199.5172
8:35:53 AM	30199.5172

Study #1 - Facility
Long-Duration (24-Hours)

Study	Study Time	Session Time	OL Status	L_{avg} Meter1	L_{max} Meter1	L_{min} Meter1
	19:36:00	19:36:00		44.7	45	44.4
	19:37:00	19:37:00		44.8	45.3	44.1
	19:38:00	19:38:00		44.8	45.3	44.2
	19:39:00	19:39:00		44.8	45.2	44.5
	19:40:00	19:40:00		44.8	45.3	44.4
	19:41:00	19:41:00		44.6	45	44.3
	19:42:00	19:42:00		44.8	45	44.5
	19:43:00	19:43:00		45	45.6	44.6
	19:44:00	19:44:00		45	45.4	44.7
	19:45:00	19:45:00		45	45.6	44.7
	19:46:00	19:46:00		45.3	45.7	45
	19:47:00	19:47:00		45.2	45.8	44.7
	19:48:00	19:48:00		45.1	45.6	44.6
	19:49:00	19:49:00		45	45.4	44.5
	19:50:00	19:50:00		45.2	45.6	44.7
	19:51:00	19:51:00		45.4	45.7	45
	19:52:00	19:52:00		45.2	45.6	44.8
	19:53:00	19:53:00		45.1	45.6	44.6
	19:54:00	19:54:00		45.2	45.9	44.5
	19:55:00	19:55:00		45.2	45.8	44.6
	19:56:00	19:56:00		45.3	46.3	44.7
	19:57:00	19:57:00		45.4	46.6	44.3
	19:58:00	19:58:00		45.2	45.7	44.6
	19:59:00	19:59:00		45.4	47	44.8
	20:00:00	20:00:00		46.1	48.6	44.8
	20:01:00	20:01:00		49.9	53.7	45.4
	20:02:00	20:02:00		46	47.6	45
	20:03:00	20:03:00		45.5	46.8	44.6
	20:04:00	20:04:00		45.6	46.7	44.8
	20:05:00	20:05:00		45.4	46.5	44.4
	20:06:00	20:06:00		46	48.5	44.6
	20:07:00	20:07:00		45	45.5	44.3
	20:08:00	20:08:00		44.9	45.4	44.5
	20:09:00	20:09:00		45.1	46.5	44.3
	20:10:00	20:10:00		45	45.6	44
	20:11:00	20:11:00		45	45.9	44.4
	20:12:00	20:12:00		44.9	46.2	44.3
	20:13:00	20:13:00		44.8	45.4	44.3
	20:14:00	20:14:00		44.6	45	44.1
	20:15:00	20:15:00		44.7	45.4	43.9
	20:16:00	20:16:00		45.3	45.9	44.7
	20:17:00	20:17:00		45.7	46.3	45.2
	20:18:00	20:18:00		46.3	47.5	45.5
	20:19:00	20:19:00		46.3	47.1	45.1
	20:20:00	20:20:00		46	48.4	44.9
	20:21:00	20:21:00		45.6	46.6	44.6
	20:22:00	20:22:00		46.7	50.3	45
	20:23:00	20:23:00		49.6	54.4	45.3
	20:24:00	20:24:00		46.6	47.9	45.3
	20:25:00	20:25:00		45	47.2	44.2
	20:26:00	20:26:00		45.1	46.3	44.3
	20:27:00	20:27:00		45.2	46	44.2
	20:28:00	20:28:00		45.8	47.3	44.9
	20:29:00	20:29:00		46.8	49.7	44.9
	20:30:00	20:30:00		46.6	48.8	44.9
	20:31:00	20:31:00		46.4	49	45
	20:32:00	20:32:00		46.3	47.5	45.1
	20:33:00	20:33:00		45.7	47.8	44.6
	20:34:00	20:34:00		45	45.9	44.1
	20:35:00	20:35:00		45.4	46.9	44.2
	20:36:00	20:36:00		45.1	46.9	44.5
	20:37:00	20:37:00		45.2	46	44.6
	20:38:00	20:38:00		45.1	45.8	44.5
	20:39:00	20:39:00		45.3	46.4	44.6
	20:40:00	20:40:00		45.8	47	45
	20:41:00	20:41:00		45.7	47.6	44.8
	20:42:00	20:42:00		45.7	46.6	44.9
	20:43:00	20:43:00		46	49.2	45
	20:44:00	20:44:00		50.1	57.1	44.8
	20:45:00	20:45:00		48.3	52.7	45.3
	20:46:00	20:46:00		46.1	48.6	45.2
	20:47:00	20:47:00		45.8	47.1	44.7
	20:48:00	20:48:00		45.4	46.3	44.7
	20:49:00	20:49:00		45.2	46	44.7
	20:50:00	20:50:00		45.2	46.6	44.4
	20:51:00	20:51:00		45.1	47.3	44.3
	20:52:00	20:52:00		45.2	47.1	44.5
	20:53:00	20:53:00		44.9	45.9	44.3
	20:54:00	20:54:00		45.9	47.4	44.7
	20:55:00	20:55:00		44.8	45.2	44.3
	20:56:00	20:56:00		45.1	46.3	44.5
	20:57:00	20:57:00		45	45.9	44.1
	20:58:00	20:58:00		45.4	47.1	44.6
	20:59:00	20:59:00		44.8	45.4	43.8

	Baseline SPL
8:36:53 AM	29512.09227
8:37:53 AM	30199.5172
8:38:53 AM	30199.5172
8:39:53 AM	30199.5172
8:40:53 AM	30199.5172
8:41:53 AM	28840.31503
8:42:53 AM	30199.5172
8:43:53 AM	31622.7766
8:44:53 AM	31622.7766
8:45:53 AM	31622.7766
8:46:53 AM	33884.41561
8:47:53 AM	33113.11215
8:48:53 AM	32359.36569
8:49:53 AM	31622.7766
8:50:53 AM	33113.11215
8:51:53 AM	34673.68505
8:52:53 AM	33113.11215
8:53:53 AM	32359.36569
8:54:53 AM	33113.11215
8:55:53 AM	33113.11215
8:56:53 AM	33884.41561
8:57:53 AM	34673.68505
8:58:53 AM	33113.11215
8:59:53 AM	34673.68505
9:00:53 AM	40738.02778
9:01:53 AM	97723.7221
9:02:53 AM	39810.71706
9:03:53 AM	35481.33892
9:04:53 AM	36307.80548
9:05:53 AM	34673.68505
9:06:53 AM	39810.71706
9:07:53 AM	31622.7766
9:08:53 AM	30902.95433
9:09:53 AM	32359.36569
9:10:53 AM	31622.7766
9:11:53 AM	31622.7766
9:12:53 AM	30902.95433
9:13:53 AM	30199.5172
9:14:53 AM	28840.31503
9:15:53 AM	29512.09227
9:16:53 AM	33884.41561
9:17:53 AM	37153.52291
9:18:53 AM	42657.95188
9:19:53 AM	42657.95188
9:20:53 AM	39810.71706
9:21:53 AM	36307.80548
9:22:53 AM	46773.51413
9:23:53 AM	91201.08394
9:24:53 AM	45708.81896
9:25:53 AM	31622.7766
9:26:53 AM	32359.36569
9:27:53 AM	33113.11215
9:28:53 AM	38018.93963
9:29:53 AM	47863.00923
9:30:53 AM	45708.81896
9:31:53 AM	43651.58322
9:32:53 AM	42657.95188
9:33:53 AM	37153.52291
9:34:53 AM	31622.7766
9:35:53 AM	34673.68505
9:36:53 AM	32359.36569
9:37:53 AM	33113.11215
9:38:53 AM	32359.36569
9:39:53 AM	33884.41561
9:40:53 AM	38018.93963
9:41:53 AM	37153.52291
9:42:53 AM	37153.52291
9:43:53 AM	39810.71706
9:44:53 AM	102329.2992
9:45:53 AM	67608.29754
9:46:53 AM	40738.02778
9:47:53 AM	38018.93963
9:48:53 AM	34673.68505
9:49:53 AM	33113.11215
9:50:53 AM	33113.11215
9:51:53 AM	32359.36569
9:52:53 AM	33113.11215
9:53:53 AM	30902.95433
9:54:53 AM	38904.5145
9:55:53 AM	30199.5172
9:56:53 AM	32359.36569
9:57:53 AM	31622.7766
9:58:53 AM	34673.68505
9:59:53 AM	30199.5172

Study	Study Time	Session Time	OL Status	L_{avg} Meter1	L_{max} Meter1	L_{min} Meter1
	21:00:00	21:00:00		44.7	45.1	43.9
	21:01:00	21:01:00		44.6	45.4	44.1
	21:02:00	21:02:00		44.7	45.1	44.1
	21:03:00	21:03:00		44.7	45.2	44.1
	21:04:00	21:04:00		44.7	45.2	44.3
	21:05:00	21:05:00		44.7	45.5	43.9
	21:06:00	21:06:00		44.6	45.5	43.7
	21:07:00	21:07:00		44.6	45.4	43.9
	21:08:00	21:08:00		44.7	45.3	44
	21:09:00	21:09:00		44.7	45.5	44
	21:10:00	21:10:00		44.8	45.4	44.1
	21:11:00	21:11:00		44.9	45.4	44.5
	21:12:00	21:12:00		45.4	48.5	44.5
	21:13:00	21:13:00		45.2	47.1	44.5
	21:14:00	21:14:00		44.8	45.2	44.4
	21:15:00	21:15:00		44.5	44.9	44.1
	21:16:00	21:16:00		44.6	46.2	44
	21:17:00	21:17:00		45.1	47.3	44.1
	21:18:00	21:18:00		48.5	53.7	44.8
	21:19:00	21:19:00		45	46.2	44
	21:20:00	21:20:00		45	46.1	44.3
	21:21:00	21:21:00		45	45.6	44.5
	21:22:00	21:22:00		45.1	45.7	44.6
	21:23:00	21:23:00		44.9	45.5	44.5
	21:24:00	21:24:00		44.6	45.1	44.2
	21:25:00	21:25:00		44.5	45.3	44.1
	21:26:00	21:26:00		47	49.2	44.5
	21:27:00	21:27:00		45.4	48.1	44.3
	21:28:00	21:28:00		44.4	44.8	44.1
	21:29:00	21:29:00		44.2	44.8	43.5
	21:30:00	21:30:00		44.1	44.7	43.5
	21:31:00	21:31:00		44	44.6	43.3
	21:32:00	21:32:00		44.2	44.5	43.7
	21:33:00	21:33:00		44.9	51	43.8
	21:34:00	21:34:00		44.8	48.5	43.8
	21:35:00	21:35:00		47.2	50.7	44.5
	21:36:00	21:36:00		46.9	54.8	44.2
	21:37:00	21:37:00		45.6	53.9	43.8
	21:38:00	21:38:00		44.3	44.7	44
	21:39:00	21:39:00		44.4	45.1	43.9
	21:40:00	21:40:00		45	46.6	43.8
	21:41:00	21:41:00		47.9	50.7	45.4
	21:42:00	21:42:00		44.8	45.5	44.1
	21:43:00	21:43:00		44.4	44.7	44.1
	21:44:00	21:44:00		44.5	45.6	44.2
	21:45:00	21:45:00		44.6	45.6	43.9
	21:46:00	21:46:00		44.6	46.4	43.4
	21:47:00	21:47:00		45.7	49.1	44.5
	21:48:00	21:48:00		45.1	47.8	44
	21:49:00	21:49:00		54.9	62.1	45.5
	21:50:00	21:50:00		46.1	54.9	44.5
	21:51:00	21:51:00		44.7	45.6	44.1
	21:52:00	21:52:00		44.5	45.4	44.1
	21:53:00	21:53:00		44.5	45.1	44
	21:54:00	21:54:00		45	45.9	44.2
	21:55:00	21:55:00		44.6	45.1	44
	21:56:00	21:56:00		44.5	45.1	43.9
	21:57:00	21:57:00		44.7	46.4	44.2
	21:58:00	21:58:00		45.5	48.7	44.3
	21:59:00	21:59:00		44.7	45.5	44.1
	22:00:00	22:00:00		44.5	45	43.8
	22:01:00	22:01:00		44.5	46.2	44
	22:02:00	22:02:00		44.5	45	43.9
	22:03:00	22:03:00		44.4	44.7	44.1
	22:04:00	22:04:00		44.5	45.1	44
	22:05:00	22:05:00		44.4	44.8	44
	22:06:00	22:06:00		44.7	45.5	44.2
	22:07:00	22:07:00		44.8	45.5	44
	22:08:00	22:08:00		44.4	44.9	43.9
	22:09:00	22:09:00		44.5	44.9	44
	22:10:00	22:10:00		44.4	45	43.8
	22:11:00	22:11:00		44.3	44.9	43.4
	22:12:00	22:12:00		44.4	46	43.8
	22:13:00	22:13:00		44.5	44.9	43.9
	22:14:00	22:14:00		44.3	44.7	43.8
	22:15:00	22:15:00		44.5	45	44.1
	22:16:00	22:16:00		44.8	45.8	44.2
	22:17:00	22:17:00		45.1	46.8	44.3
	22:18:00	22:18:00		44.5	44.9	44.1
	22:19:00	22:19:00		44.6	45	43.9
	22:20:00	22:20:00		44.4	45	44
	22:21:00	22:21:00		44.2	44.7	43.8
	22:22:00	22:22:00		44.3	44.9	43.8
	22:23:00	22:23:00		45	46.2	44.2

	Baseline SPL
10:00:53 AM	29512.09227
10:01:53 AM	28840.31503
10:02:53 AM	29512.09227
10:03:53 AM	29512.09227
10:04:53 AM	29512.09227
10:05:53 AM	29512.09227
10:06:53 AM	28840.31503
10:07:53 AM	28840.31503
10:08:53 AM	29512.09227
10:09:53 AM	29512.09227
10:10:53 AM	30199.5172
10:11:53 AM	30902.95433
10:12:53 AM	34673.68505
10:13:53 AM	33113.11215
10:14:53 AM	30199.5172
10:15:53 AM	28183.82931
10:16:53 AM	28840.31503
10:17:53 AM	32359.36569
10:18:53 AM	70794.57844
10:19:53 AM	31622.7766
10:20:53 AM	31622.7766
10:21:53 AM	31622.7766
10:22:53 AM	32359.36569
10:23:53 AM	30902.95433
10:24:53 AM	28840.31503
10:25:53 AM	28183.82931
10:26:53 AM	50118.72336
10:27:53 AM	34673.68505
10:28:53 AM	27542.28703
10:29:53 AM	26302.67992
10:30:53 AM	25703.95783
10:31:53 AM	25118.86432
10:32:53 AM	26302.67992
10:33:53 AM	30902.95433
10:34:53 AM	30199.5172
10:35:53 AM	52480.74602
10:36:53 AM	48977.88194
10:37:53 AM	36307.80548
10:38:53 AM	26915.34804
10:39:53 AM	27542.28703
10:40:53 AM	31622.7766
10:41:53 AM	61659.50019
10:42:53 AM	30199.5172
10:43:53 AM	27542.28703
10:44:53 AM	28183.82931
10:45:53 AM	28840.31503
10:46:53 AM	28840.31503
10:47:53 AM	37153.52291
10:48:53 AM	32359.36569
10:49:53 AM	309029.5433
10:50:53 AM	40738.02778
10:51:53 AM	29512.09227
10:52:53 AM	28183.82931
10:53:53 AM	28183.82931
10:54:53 AM	31622.7766
10:55:53 AM	28840.31503
10:56:53 AM	28183.82931
10:57:53 AM	29512.09227
10:58:53 AM	35481.33892
10:59:53 AM	29512.09227
11:00:53 AM	28183.82931
11:01:53 AM	28183.82931
11:02:53 AM	28183.82931
11:03:53 AM	27542.28703
11:04:53 AM	28183.82931
11:05:53 AM	27542.28703
11:06:53 AM	29512.09227
11:07:53 AM	30199.5172
11:08:53 AM	27542.28703
11:09:53 AM	28183.82931
11:10:53 AM	27542.28703
11:11:53 AM	26915.34804
11:12:53 AM	27542.28703
11:13:53 AM	28183.82931
11:14:53 AM	26915.34804
11:15:53 AM	28183.82931
11:16:53 AM	30199.5172
11:17:53 AM	32359.36569
11:18:53 AM	28183.82931
11:19:53 AM	28840.31503
11:20:53 AM	27542.28703
11:21:53 AM	26302.67992
11:22:53 AM	26915.34804
11:23:53 AM	31622.7766

Study #1 - Facility
Long-Duration (24-Hours)

Study	Study Time	Session Time	OL Status	L_{avg} Meter1	L_{max} Meter1	L_{min} Meter1
	22:24:00	22:24:00		47.7	50.8	44.8
	22:25:00	22:25:00		44.5	45.6	43.9
	22:26:00	22:26:00		44.3	44.8	43.6
	22:27:00	22:27:00		54.6	62.6	44.1
	22:28:00	22:28:00		50	59.9	44.2
	22:29:00	22:29:00		44.8	46.1	44.1
	22:30:00	22:30:00		44.4	45.5	43.9
	22:31:00	22:31:00		44.1	44.7	43.6
	22:32:00	22:32:00		45.8	48.3	43.9
	22:33:00	22:33:00		46.7	53.4	44.2
	22:34:00	22:34:00		50	55.8	44
	22:35:00	22:35:00		44.3	44.9	43.5
	22:36:00	22:36:00		44.3	45	43.3
	22:37:00	22:37:00		44.3	44.8	43.6
	22:38:00	22:38:00		44.5	45	43.9
	22:39:00	22:39:00		44.5	45	44.1
	22:40:00	22:40:00		44.9	46.4	44.2
	22:41:00	22:41:00		44	44.6	43.7
	22:42:00	22:42:00		44.4	44.8	43.7
	22:43:00	22:43:00		44.3	45.1	43.7
	22:44:00	22:44:00		44.3	44.8	43.6
	22:45:00	22:45:00		45.1	52.5	43.6
	22:46:00	22:46:00		45	47.3	43.8
	22:47:00	22:47:00		44.6	45.4	43.7
	22:48:00	22:48:00		44.6	45.4	43.9
	22:49:00	22:49:00		44.4	44.8	43.7
	22:50:00	22:50:00		44.4	44.9	43.7
	22:51:00	22:51:00		44.8	46.1	44.1
	22:52:00	22:52:00		44.9	47.3	43.8
	22:53:00	22:53:00		44.4	45	43.8
	22:54:00	22:54:00		44.6	47.1	43.9
	22:55:00	22:55:00		44.6	45.4	43.9
	22:56:00	22:56:00		44.5	45.1	44
	22:57:00	22:57:00		45.9	49.1	43.8
	22:58:00	22:58:00		44.3	44.7	43.7
	22:59:00	22:59:00		44.7	45.9	43.8
	23:00:00	23:00:00		44.5	45.5	43.8
	23:01:00	23:01:00		44.4	47.2	43.2
	23:02:00	23:02:00		44.4	45.1	43.6
	23:03:00	23:03:00		44.7	46.2	43.6
	23:04:00	23:04:00		45.3	47.8	44
	23:05:00	23:05:00		45.4	48.2	43.6
	23:06:00	23:06:00		44.3	45.1	43.6
	23:07:00	23:07:00		44.5	45.5	43.9
	23:08:00	23:08:00		44.5	45.6	43.5
	23:09:00	23:09:00		44.5	45.3	43.6
	23:10:00	23:10:00		44.3	45.1	43.4
	23:11:00	23:11:00		44.2	45.4	43.5
	23:12:00	23:12:00		44.2	44.7	43.5
	23:13:00	23:13:00		44.4	45.1	43.7
	23:14:00	23:14:00		58.6	67.3	44.3
	23:15:00	23:15:00		47.2	54.5	43.9
	23:16:00	23:16:00		44.3	45	43.5
	23:17:00	23:17:00		44.6	46	43.7
	23:18:00	23:18:00		45.3	46.6	44.1
	23:19:00	23:19:00		44.4	44.9	43.5
	23:20:00	23:20:00		46.2	49.8	44.3
	23:21:00	23:21:00		44.4	46.1	43.9
	23:22:00	23:22:00		44.5	47.1	43.8
	23:23:00	23:23:00		45.6	56.2	43.6
	23:24:00	23:24:00		47.7	50	45.3
	23:25:00	23:25:00		45.8	48.1	44.5
	23:26:00	23:26:00		45.1	47.3	44.1
	23:27:00	23:27:00		44.6	45.2	44
	23:28:00	23:28:00		38.6	44.7	32.8
	23:29:00	23:29:00		34.7	39.4	33
	23:30:00	23:30:00		36.1	39.6	33.6
	23:31:00	23:31:00		37.1	40.4	34.1
	23:32:00	23:32:00		40.3	47.7	33.7
	23:33:00	23:33:00		39.9	44.9	34.1
	23:34:00	23:34:00		34.5	36.6	32.5
	23:35:00	23:35:00		33.3	34.6	32.5
	23:36:00	23:36:00		33.5	34.9	31.9
	23:37:00	23:37:00		35.2	41.5	31.9
	23:38:00	23:38:00		35.7	41.4	33.4
	23:39:00	23:39:00		33.4	34.9	32.3
	23:40:00	23:40:00		40.2	46.2	31.9
	23:41:00	23:41:00		38.2	41.2	35.2
	23:42:00	23:42:00		40.2	44.5	36.9
	23:43:00	23:43:00		41.3	45.9	36.7
	23:44:00	23:44:00		36.4	40.4	33.4
	23:45:00	23:45:00		37.4	40.4	34
	23:46:00	23:46:00		38	42.4	33.2
	23:47:00	23:47:00		39.1	41.9	36.1

	Baseline SPL
11:24:53 AM	58884.36554
11:25:53 AM	28183.82931
11:26:53 AM	26915.34804
11:27:53 AM	288403.1503
11:28:53 AM	100000
11:29:53 AM	30199.5172
11:30:53 AM	27542.28703
11:31:53 AM	25703.95783
11:32:53 AM	38018.93963
11:33:53 AM	46773.51413
11:34:53 AM	100000
11:35:53 AM	26915.34804
11:36:53 AM	26915.34804
11:37:53 AM	26915.34804
11:38:53 AM	28183.82931
11:39:53 AM	28183.82931
11:40:53 AM	30902.95433
11:41:53 AM	25118.86432
11:42:53 AM	27542.28703
11:43:53 AM	26915.34804
11:44:53 AM	26915.34804
11:45:53 AM	32359.36569
11:46:53 AM	31622.7766
11:47:53 AM	28840.31503
11:48:53 AM	28840.31503
11:49:53 AM	27542.28703
11:50:53 AM	27542.28703
11:51:53 AM	30199.5172
11:52:53 AM	30902.95433
11:53:53 AM	27542.28703
11:54:53 AM	28840.31503
11:55:53 AM	28840.31503
11:56:53 AM	28183.82931
11:57:53 AM	38904.5145
11:58:53 AM	26915.34804
11:59:53 AM	29512.09227
12:00:53 PM	28183.82931
12:01:53 PM	27542.28703
12:02:53 PM	27542.28703
12:03:53 PM	29512.09227
12:04:53 PM	33884.41561
12:05:53 PM	34673.68505
12:06:53 PM	26915.34804
12:07:53 PM	28183.82931
12:08:53 PM	28183.82931
12:09:53 PM	28183.82931
12:10:53 PM	26915.34804
12:11:53 PM	26302.67992
12:12:53 PM	26302.67992
12:13:53 PM	27542.28703
12:14:53 PM	724435.9601
12:15:53 PM	52480.74602
12:16:53 PM	26915.34804
12:17:53 PM	28840.31503
12:18:53 PM	33884.41561
12:19:53 PM	27542.28703
12:20:53 PM	41686.93835
12:21:53 PM	27542.28703
12:22:53 PM	28183.82931
12:23:53 PM	36307.80548
12:24:53 PM	58884.36554
12:25:53 PM	38018.93963
12:26:53 PM	32359.36569
12:27:53 PM	28840.31503
12:28:53 PM	7244.359601
12:29:53 PM	2951.209227
12:30:53 PM	4073.802778
12:31:53 PM	5128.61384
12:32:53 PM	10715.19305
12:33:53 PM	9772.37221
12:34:53 PM	2818.382931
12:35:53 PM	2137.96209
12:36:53 PM	2238.721139
12:37:53 PM	3311.311215
12:38:53 PM	3715.352291
12:39:53 PM	2187.761624
12:40:53 PM	10471.28548
12:41:53 PM	6606.93448
12:42:53 PM	10471.28548
12:43:53 PM	13489.62883
12:44:53 PM	4365.158322
12:45:53 PM	5495.408739
12:46:53 PM	6309.573445
12:47:53 PM	8128.305162

Study #1 - Facility
Long-Duration (24-Hours)

Study	Study Time	Session Time	OL Status	L_{avg} Meter1	L_{max} Meter1	L_{min} Meter1
	23:48:00	23:48:00		38.1	41.3	35.4
	23:49:00	23:49:00		36.2	39.7	34.1
	23:50:00	23:50:00		37.5	40.8	34.7
	23:51:00	23:51:00		38.7	41.4	35.5
	23:52:00	23:52:00		45.8	55.5	35
	23:53:00	23:53:00		45.6	53.8	34.7
	23:54:00	23:54:00		37.5	41.4	34
	23:55:00	23:55:00		38.7	42	36.1
	23:56:00	23:56:00		38.9	43.8	35.1
	23:57:00	23:57:00		40.9	44.8	36
	23:58:00	23:58:00		37.9	42.5	34.2
	23:59:00	23:59:00		38.5	41.1	34.9
	24:00:00	24:00:00		39.7	42.2	36.9

	Baseline SPL
12:48:53 PM	6456.54229
12:49:53 PM	4168.693835
12:50:53 PM	5623.413252
12:51:53 PM	7413.102413
12:52:53 PM	38018.93963
12:53:53 PM	36307.80548
12:54:53 PM	5623.413252
12:55:53 PM	7413.102413
12:56:53 PM	7762.471166
12:57:53 PM	12302.68771
12:58:53 PM	6165.950019
12:59:53 PM	7079.457844
1:00:53 PM	9332.543008

Study #2 - Facility
Short-Duration (15-Minute)

Study	Study Time	Session Time	OL Status	L_{avg} Meter1	L_{max} Meter1	L_{min} Meter1	Time	Baseline SPL $(10^{(Leq/10)})$
Study #2	0:00:10	1:00:10		46.9	49.5	45.7	3:37:31 PM	48977.8819
Receptor 1	0:00:20	1:00:20		48.6	57.4	43.9	3:37:41 PM	72443.596
	0:00:30	1:00:30		46	53.6	42.2	3:37:51 PM	39810.7171
	0:00:40	1:00:40		44	45.6	43	3:38:01 PM	25118.8643
	0:00:50	1:00:50		44.3	45.1	43.3	3:38:11 PM	26915.348
	0:01:00	1:01:00		43.8	44.8	42.9	3:38:21 PM	23988.3292
	0:01:10	1:01:10		44.4	46.2	42.9	3:38:31 PM	27542.287
	0:01:20	1:01:20		44.4	45.8	42.5	3:38:41 PM	27542.287
	0:01:30	1:01:30		43.7	44.9	42.6	3:38:51 PM	23442.2882
	0:01:40	1:01:40		44.4	45.1	43.6	3:39:01 PM	27542.287
	0:01:50	1:01:50		44.5	45.4	43.6	3:39:11 PM	28183.8293
	0:02:00	1:02:00		44.1	45.4	42.9	3:39:21 PM	25703.9578
	0:02:10	1:02:10		44.6	45.2	43.4	3:39:31 PM	28840.315
	0:02:20	1:02:20		45.3	46.2	44.6	3:39:41 PM	33884.4156
	0:02:30	1:02:30		44	45.2	43.3	3:39:51 PM	25118.8643
	0:02:40	1:02:40		43.2	44.8	42.2	3:40:01 PM	20892.9613
	0:02:50	1:02:50		44	45	43.1	3:40:11 PM	25118.8643
	0:03:00	1:03:00		44.4	46.4	42.9	3:40:21 PM	27542.287
	0:03:10	1:03:10		45.1	45.9	43.8	3:40:31 PM	32359.3657
	0:03:20	1:03:20		45.6	47	43.9	3:40:41 PM	36307.8055
	0:03:30	1:03:30		45.7	47.9	44.3	3:40:51 PM	37153.5229
	0:03:40	1:03:40		48.8	51.6	46.4	3:41:01 PM	75857.7575
	0:03:50	1:03:50		50.2	51.1	48.5	3:41:11 PM	104712.855
	0:04:00	1:04:00		46.9	48.5	45.1	3:41:21 PM	48977.8819
	0:04:10	1:04:10		46.2	47.4	45.1	3:41:31 PM	41686.9383
	0:04:20	1:04:20		46.6	47.7	45.4	3:41:41 PM	45708.819
	0:04:30	1:04:30		46.6	47.8	45.4	3:41:51 PM	45708.819
	0:04:40	1:04:40		49.2	51	45.3	3:42:01 PM	83176.3771
	0:04:50	1:04:50		48	49.6	46.4	3:42:11 PM	63095.7344
	0:05:00	1:05:00		47.2	47.9	46.1	3:42:21 PM	52480.746
	0:05:10	1:05:10		48	48.8	47.1	3:42:31 PM	63095.7344
	0:05:20	1:05:20		48	49.1	46.8	3:42:41 PM	63095.7344
	0:05:30	1:05:30		47.5	48.2	46	3:42:51 PM	56234.1325
	0:05:40	1:05:40		47.1	48.5	45.8	3:43:01 PM	51286.1384
	0:05:50	1:05:50		48.2	48.6	47.7	3:43:11 PM	66069.3448
	0:06:00	1:06:00		47.1	48	46.1	3:43:21 PM	51286.1384
	0:06:10	1:06:10		48.8	49.7	47.8	3:43:31 PM	75857.7575
	0:06:20	1:06:20		50.4	51.8	49.6	3:43:41 PM	109647.82
	0:06:30	1:06:30		51	52.3	49.9	3:43:51 PM	125892.541
	0:06:40	1:06:40		50.5	51.8	49.4	3:44:01 PM	112201.845
	0:06:50	1:06:50		50.3	52	48.9	3:44:11 PM	107151.931
	0:07:00	1:07:00		52.3	53.9	50.4	3:44:21 PM	169824.365
	0:07:10	1:07:10		52.3	53.6	49.4	3:44:31 PM	169824.365
	0:07:20	1:07:20		49.1	50.1	48.5	3:44:41 PM	81283.0516
	0:07:30	1:07:30		48.2	49.4	46.9	3:44:51 PM	66069.3448
	0:07:40	1:07:40		47.4	48.6	46.4	3:45:01 PM	54954.0874
	0:07:50	1:07:50		47	48.8	45.3	3:45:11 PM	50118.7234
	0:08:00	1:08:00		45.1	46.2	43.4	3:45:21 PM	32359.3657
	0:08:10	1:08:10		44.3	45.4	43.1	3:45:31 PM	26915.348
	0:08:20	1:08:20		44.4	45.8	43.3	3:45:41 PM	27542.287
	0:08:30	1:08:30		43.9	45.4	42.3	3:45:51 PM	24547.0892
	0:08:40	1:08:40		42.9	43.5	41.9	3:46:01 PM	19498.446
	0:08:50	1:08:50		43.4	44.5	42.4	3:46:11 PM	21877.6162
	0:09:00	1:09:00		43.7	45.2	42.5	3:46:21 PM	23442.2882
	0:09:10	1:09:10		42.9	44.4	41.8	3:46:31 PM	19498.446
	0:09:20	1:09:20		42.4	43.6	41.1	3:46:41 PM	17378.0083
	0:09:30	1:09:30		42.3	43.4	41.4	3:46:51 PM	16982.4365
	0:09:40	1:09:40		41.6	42.7	40.8	3:47:01 PM	14454.3977
	0:09:50	1:09:50		41.8	43.2	41.1	3:47:11 PM	15135.6125
	0:10:00	1:10:00		41.8	43	41.1	3:47:21 PM	15135.6125
	0:10:10	1:10:10		40.9	42.2	39.9	3:47:31 PM	12302.6877
	0:10:20	1:10:20		41.9	42.8	40.8	3:47:41 PM	15488.1662
	0:10:30	1:10:30		41.9	42.6	41.3	3:47:51 PM	15488.1662
	0:10:40	1:10:40		42.4	43.3	41.2	3:48:01 PM	17378.0083
	0:10:50	1:10:50		43.3	45.8	40.4	3:48:11 PM	21379.6209
	0:11:00	1:11:00		42.1	43.6	40	3:48:21 PM	16218.101

Start:	3:37:21 PM
End:	3:52:21 PM
Measured:	12/20/2018

Baseline Noise Level (15-Min.)

L_{eq}:	46.9

0:11:10	1:11:10	42.8	44	41.9	3:48:31 PM	19054.6072
0:11:20	1:11:20	42.8	43.8	41.3	3:48:41 PM	19054.6072
0:11:30	1:11:30	43	44.9	41.3	3:48:51 PM	19952.6231
0:11:40	1:11:40	42.4	43.5	41.6	3:49:01 PM	17378.0083
0:11:50	1:11:50	42.9	44.2	42.3	3:49:11 PM	19498.446
0:12:00	1:12:00	45	46.1	43.8	3:49:21 PM	31622.7766
0:12:10	1:12:10	44	45.4	42.9	3:49:31 PM	25118.8643
0:12:20	1:12:20	44.9	46	43	3:49:41 PM	30902.9543
0:12:30	1:12:30	44.1	45.7	42.9	3:49:51 PM	25703.9578
0:12:40	1:12:40	43.7	45	42.4	3:50:01 PM	23442.2882
0:12:50	1:12:50	44.7	46.6	42.4	3:50:11 PM	29512.0923
0:13:00	1:13:00	45.4	48	43.6	3:50:21 PM	34673.685
0:13:10	1:13:10	49.8	51	47.9	3:50:31 PM	95499.2586
0:13:20	1:13:20	47.4	49.1	44.7	3:50:41 PM	54954.0874
0:13:30	1:13:30	46.7	48.2	44.7	3:50:51 PM	46773.5141
0:13:40	1:13:40	46.3	47.4	45.3	3:51:01 PM	42657.9519
0:13:50	1:13:50	47.5	50.3	45.7	3:51:11 PM	56234.1325
0:14:00	1:14:00	46.7	48.4	45.3	3:51:21 PM	46773.5141
0:14:10	1:14:10	50.4	51.6	47.4	3:51:31 PM	109647.82
0:14:20	1:14:20	51.4	52.4	50.2	3:51:41 PM	138038.426
0:14:30	1:14:30	50.4	51.7	49.2	3:51:51 PM	109647.82
0:14:40	1:14:40	50.6	51.7	49.2	3:52:01 PM	114815.362
0:14:50	1:14:50	49.9	50.7	49.3	3:52:11 PM	97723.7221
0:15:00	1:15:00	50	50.8	49.4	3:52:21 PM	100000

Study #3 - Haul Route
Long-Duration (24-Hours)

Study	Study Time	Session Time	OL Status	L_{avg} Meter1	L_{max} Meter1	L_{min} Meter1
Study #3	0:01:00	0:01:00		54.8	61.6	40.4
Receptor 4	0:02:00	0:02:00		52.1	59.5	45.5
	0:03:00	0:03:00		61.5	73.9	46
	0:04:00	0:04:00		54.9	67.4	41.2
	0:05:00	0:05:00		41.7	46.5	40.4
	0:06:00	0:06:00		44	51.4	41.3
	0:07:00	0:07:00		45.4	49.7	42
	0:08:00	0:08:00		44.5	52.6	40.8
	0:09:00	0:09:00		47	58.1	41
	0:10:00	0:10:00		44.1	53.7	39.2
	0:11:00	0:11:00		53.9	61.5	42.8
	0:12:00	0:12:00		52.5	57.9	44.2
	0:13:00	0:13:00		56.6	59.1	53.7
	0:14:00	0:14:00		51.1	57.2	44.5
	0:15:00	0:15:00		59.5	72.5	45.4
	0:16:00	0:16:00		58.6	69.8	43.6
	0:17:00	0:17:00		53.5	63.8	41.1
	0:18:00	0:18:00		44.3	47.6	41.6
	0:19:00	0:19:00		50.6	54.5	44.8
	0:20:00	0:20:00		50.7	56.8	43.6
	0:21:00	0:21:00		50.7	54.4	45.3
	0:22:00	0:22:00		45.9	50.1	43.5
	0:23:00	0:23:00		54.1	57.1	48.8
	0:24:00	0:24:00		51.2	56.4	43
	0:25:00	0:25:00		50.9	61.7	43
	0:26:00	0:26:00		50.3	56.9	44
	0:27:00	0:27:00		59.2	70.6	43.3
	0:28:00	0:28:00		55.7	59.8	44.5
	0:29:00	0:29:00		52.3	58.8	44
	0:30:00	0:30:00		59.4	66.5	52.1
	0:31:00	0:31:00		55.6	60	51.7
	0:32:00	0:32:00		59.2	66.4	43.6
	0:33:00	0:33:00		57.3	66.9	40.5
	0:34:00	0:34:00		40	43.3	38
	0:35:00	0:35:00		39	40.8	37.9
	0:36:00	0:36:00		50.1	60.9	40.3
	0:37:00	0:37:00		55.7	65.6	40.7
	0:38:00	0:38:00		39.9	42	37.8
	0:39:00	0:39:00		39.6	40.5	38.2
	0:40:00	0:40:00		42	44.2	39.6
	0:41:00	0:41:00		49.8	59.5	39.7
	0:42:00	0:42:00		52.9	62.7	40.8
	0:43:00	0:43:00		55.6	62.5	44.7
	0:44:00	0:44:00		40.9	45.6	37.9
	0:45:00	0:45:00		39.3	41.4	38.1
	0:46:00	0:46:00		39.9	41.7	38.7
	0:47:00	0:47:00		39.7	40.8	38.7
	0:48:00	0:48:00		39.2	40.2	38.5
	0:49:00	0:49:00		39.2	41.2	38.1
	0:50:00	0:50:00		39.1	41.5	38
	0:51:00	0:51:00		39.7	41.9	38
	0:52:00	0:52:00		39	40.2	38.3
	0:53:00	0:53:00		38.7	40.2	38
	0:54:00	0:54:00		42.1	46.1	38
	0:55:00	0:55:00		42.5	52.3	38.5
	0:56:00	0:56:00		40.5	44.7	38.2
	0:57:00	0:57:00		42.4	47.8	38
	0:58:00	0:58:00		57.1	67.6	41.8
	0:59:00	0:59:00		40.6	43.5	39
	1:00:00	1:00:00		40.8	43.6	39.6
	1:01:00	1:01:00		45.4	60.9	37.9
	1:02:00	1:02:00		40.2	48.1	37.7
	1:03:00	1:03:00		40.1	42.4	38.3
	1:04:00	1:04:00		39.9	45.5	37.8
	1:05:00	1:05:00		41.3	43.6	38.6
	1:06:00	1:06:00		41.1	43.8	39.3
	1:07:00	1:07:00		41	43.3	39.2
	1:08:00	1:08:00		41.8	48.8	38.4
	1:09:00	1:09:00		41.3	43	39.2
	1:10:00	1:10:00		40.4	42.9	38.6
	1:11:00	1:11:00		43	54	38.6
	1:12:00	1:12:00		40.6	43.4	38.9
	1:13:00	1:13:00		51.6	56.2	42
	1:14:00	1:14:00		54.3	60.7	43.1
	1:15:00	1:15:00		61.7	74.7	46.1
	1:16:00	1:16:00		51.7	57.6	41
	1:17:00	1:17:00		54.1	62.6	45.5
	1:18:00	1:18:00		45.4	46.4	44.7
	1:19:00	1:19:00		48.3	59.5	45
	1:20:00	1:20:00		56.8	63	42.1
	1:21:00	1:21:00		40.5	43.5	37.7
	1:22:00	1:22:00		38.8	40	37.7
	1:23:00	1:23:00		38.3	39.5	37.4
	1:24:00	1:24:00		38.5	41.7	37
	1:25:00	1:25:00		42.6	46.5	39.6
	1:26:00	1:26:00		40.9	43	38.9
	1:27:00	1:27:00		39.4	41.5	37.5
	1:28:00	1:28:00		38.4	39.7	37.5
	1:29:00	1:29:00		39.5	41.1	37.8
	1:30:00	1:30:00		38.6	40.6	37.5
	1:31:00	1:31:00		44	52.1	37.9

	Time	Date
Start:	7:43:29 PM	1/23/2019
End:	7:43:29 PM	1/24/2019

Baseline Noise Level (24-Hour)

24-Hour L_{eq}:	57.5

Baseline Noise Level - CNEL

R4:	58.9
R5:	62.2

Baseline Noise Level (L_{eq}1H) @ R4

Daytime:	59.8
Evening:	50.7
Nighttime:	47.9

	15-Min L_{eq}	24-Hour L_{eq}	Difference
Study #4A	56.3	55.1	1.3
Study #5	66.3	46.4	19.8
Study #4B	62.4	52.7	9.7
Study #4C	67.7	50.8	16.9
Study #6	69.9	52.3	17.5

Composite Correction Factor @ R4:	13.0

	Daytime L_{eq}	Evening L_{eq}	Nighttime L_{eq}
Study #4A	61.1	52.0	49.2
Study #5	79.7	70.6	67.7
Study #4B	69.5	60.4	57.6
Study #4C	76.7	67.6	64.8
Study #6	77.4	68.3	65.4

	Daytime L_{eq}	Evening L_{eq}	Nighttime L_{eq}
Study #4	77.6	69.0	65.6
Study #5	79.7	66.3	67.7
Study #6	77.4	69.9	65.4

		Time	Baseline SPL ($10^{(Leq/10)}$)
		7:44:29 PM	301995.172
		7:45:29 PM	162181.0097
		7:46:29 PM	1412537.545
		7:47:29 PM	309029.5433
		7:48:29 PM	14791.08388
		7:49:29 PM	25118.86432
		7:50:29 PM	34673.68505
		7:51:29 PM	28183.82931
		7:52:29 PM	50118.72336
		7:53:29 PM	25703.95783
		7:54:29 PM	245470.8916
		7:55:29 PM	177827.941
		7:56:29 PM	457088.1896
		7:57:29 PM	128824.9552
R5-A	Study #4A	7:58:29 PM	891250.9381
R5-A	Study #4A	7:59:29 PM	724435.9601
R5-A	Study #4A	8:00:29 PM	223872.1139
R5-A	Study #4A	8:01:29 PM	26915.34804
R5-A	Study #4A	8:02:29 PM	114815.3621
R5-A	Study #4A	8:03:29 PM	117489.7555
R5-A	Study #4A	8:04:29 PM	117489.7555
R5-A	Study #4A	8:05:29 PM	38904.5145
R5-A	Study #4A	8:06:29 PM	257039.5783
R5-A	Study #4A	8:07:29 PM	131825.6739
R5-A	Study #4A	8:08:29 PM	123026.8771
R5-A	Study #4A	8:09:29 PM	107151.9305
R5-A	Study #4A	8:10:29 PM	831763.7711
R5-A	Study #4A	8:11:29 PM	371535.2291
R5-A	Study #4A	8:12:29 PM	169824.3652
R5-A	Study #4A	8:13:29 PM	870963.59
		8:14:29 PM	363078.0548
		8:15:29 PM	831763.7711
		8:16:29 PM	537031.7964
		8:17:29 PM	10000
		8:18:29 PM	7943.282347
		8:19:29 PM	102329.2992
		8:20:29 PM	371535.2291
		8:21:29 PM	9772.37221
		8:22:29 PM	9120.108394
		8:23:29 PM	15848.93192
		8:24:29 PM	95499.2586
		8:25:29 PM	194984.46
		8:26:29 PM	363078.0548
		8:27:29 PM	12302.68771
		8:28:29 PM	8511.380382
		8:29:29 PM	9772.37221
		8:30:29 PM	9332.543008
		8:31:29 PM	8317.637711
R5-B	Study #5	8:32:29 PM	8317.637711
R5-B	Study #5	8:33:29 PM	8128.305162
R5-B	Study #5	8:34:29 PM	9332.543008
R5-B	Study #5	8:35:29 PM	7943.282347
R5-B	Study #5	8:36:29 PM	7413.102413
R5-B	Study #5	8:37:29 PM	16218.10097
R5-B	Study #5	8:38:29 PM	17782.7941
R5-B	Study #5	8:39:29 PM	11220.18454
R5-B	Study #5	8:40:29 PM	17378.00829
R5-B	Study #5	8:41:29 PM	512861.384
R5-B	Study #5	8:42:29 PM	11481.53621
R5-B	Study #5	8:43:29 PM	12022.64435
R5-B	Study #5	8:44:29 PM	34673.68505
R5-B	Study #5	8:45:29 PM	10471.28548
R5-B	Study #5	8:46:29 PM	10232.92992
R5-B	Study #5	8:47:29 PM	9772.37221
R5-A	Study #4B	8:48:29 PM	13489.62883
R5-A	Study #4B	8:49:29 PM	12882.49552
R5-A	Study #4B	8:50:29 PM	12589.25412
R5-A	Study #4B	8:51:29 PM	15135.61248
R5-A	Study #4B	8:52:29 PM	13489.62883
R5-A	Study #4B	8:53:29 PM	10964.78196
R5-A	Study #4B	8:54:29 PM	19952.62315
R5-A	Study #4B	8:55:29 PM	11481.53621
R5-A	Study #4B	8:56:29 PM	144543.9771
R5-A	Study #4B	8:57:29 PM	269153.4804
R5-A	Study #4B	8:58:29 PM	1479108.388
R5-A	Study #4B	8:59:29 PM	147910.8388
R5-A	Study #4B	9:00:29 PM	257039.5783
R5-A	Study #4B	9:01:29 PM	34673.68505
R5-A	Study #4B	9:02:29 PM	67608.29754
R5-A	Study #4B	9:03:29 PM	478630.0923
		9:04:29 PM	11220.18454
		9:05:29 PM	7585.77575
		9:06:29 PM	6760.829754
		9:07:29 PM	7079.457844
		9:08:29 PM	18197.00859
		9:09:29 PM	12302.68771
		9:10:29 PM	8709.6359
		9:11:29 PM	6918.309709
		9:12:29 PM	8912.509381
		9:13:29 PM	7244.359601
		9:14:29 PM	25118.86432

1:32:00	1:32:00	52.6	57.8	42.2	9:15:29 PM	181970.0859
1:33:00	1:33:00	39.7	43	37.8	9:16:29 PM	9332.543008
1:34:00	1:34:00	39	41.9	37.4	9:17:29 PM	7943.282347
1:35:00	1:35:00	38.2	39.9	37.1	9:18:29 PM	6606.93448
1:36:00	1:36:00	39.1	40.5	38.3	9:19:29 PM	8128.305162
1:37:00	1:37:00	41.8	45.1	38.8	9:20:29 PM	15135.61248
1:38:00	1:38:00	39.1	41.1	37.8	9:21:29 PM	8128.305162
1:39:00	1:39:00	40.3	41.6	38.5	9:22:29 PM	10715.19305
1:40:00	1:40:00	40.6	44.7	38.6	9:23:29 PM	11481.53621
1:41:00	1:41:00	42.1	46	39.3	9:24:29 PM	16218.10097
1:42:00	1:42:00	39.8	42.1	38.7	9:25:29 PM	9549.92586
1:43:00	1:43:00	40.4	41.7	39.2	9:26:29 PM	10964.78196
1:44:00	1:44:00	39.7	41.1	38.4	9:27:29 PM	9332.543008
1:45:00	1:45:00	39.3	41.9	38	9:28:29 PM	8511.380382
1:46:00	1:46:00	42	47.9	38.9	9:29:29 PM	15848.93192
1:47:00	1:47:00	41.9	46.6	39.4	9:30:29 PM	15488.16619
1:48:00	1:48:00	40.2	43.2	38.8	9:31:29 PM	10471.28548
1:49:00	1:49:00	39.4	41.3	38.4	9:32:29 PM	8709.6359
1:50:00	1:50:00	39.5	41.3	38.2	9:33:29 PM	8912.509381
1:51:00	1:51:00	39.1	41.4	37.4	9:34:29 PM	8128.305162
1:52:00	1:52:00	38	39.2	37.1	9:35:29 PM	6309.573445
1:53:00	1:53:00	41.1	43.5	37.8	9:36:29 PM	12882.49552
1:54:00	1:54:00	38.9	40.4	37.3	9:37:29 PM	7762.471166
1:55:00	1:55:00	38.2	40.6	37	9:38:29 PM	6606.93448
1:56:00	1:56:00	39.3	40.4	37.8	9:39:29 PM	8511.380382
1:57:00	1:57:00	39.1	40	37.6	9:40:29 PM	8128.305162
1:58:00	1:58:00	38.3	40.5	37.4	9:41:29 PM	6760.829754
1:59:00	1:59:00	40.8	50.1	37.3	9:42:29 PM	12022.64435
2:00:00	2:00:00	40.7	43.1	39	9:43:29 PM	11748.97555
2:01:00	2:01:00	40.6	42.5	38.6	9:44:29 PM	11481.53621
2:02:00	2:02:00	41.2	43.3	39	9:45:29 PM	13182.56739
2:03:00	2:03:00	39.6	41.9	38.5	9:46:29 PM	9120.108394
2:04:00	2:04:00	38.4	39.8	37	9:47:29 PM	6918.309709
2:05:00	2:05:00	40.8	42.5	37.7	9:48:29 PM	12022.64435
2:06:00	2:06:00	38.8	40.4	37.3	9:49:29 PM	7585.77575
2:07:00	2:07:00	39	40.9	37	9:50:29 PM	7943.282347
2:08:00	2:08:00	38	39	37	9:51:29 PM	6309.573445
2:09:00	2:09:00	37.9	40.6	36.7	9:52:29 PM	6165.950019
2:10:00	2:10:00	37.1	38.4	36.2	9:53:29 PM	5128.61384
2:11:00	2:11:00	37.4	38.9	36.6	9:54:29 PM	5495.408739
2:12:00	2:12:00	37.8	39.4	36.5	9:55:29 PM	6025.595861
2:13:00	2:13:00	38.7	40.1	37.6	9:56:29 PM	7413.102413
2:14:00	2:14:00	39.4	42.4	37.3	9:57:29 PM	8709.6359
2:15:00	2:15:00	52.4	58.2	41.6	9:58:29 PM	173780.0829
2:16:00	2:16:00	50.5	55.9	42.1	9:59:29 PM	112201.8454
2:17:00	2:17:00	41.2	43.3	39.5	10:00:29 PM	13182.56739
2:18:00	2:18:00	40.1	41.8	39	10:01:29 PM	10232.92992
2:19:00	2:19:00	40.8	42.2	39	10:02:29 PM	12022.64435
2:20:00	2:20:00	39.6	41.1	38.1	10:03:29 PM	9120.108394
2:21:00	2:21:00	39.9	41.1	38.9	10:04:29 PM	9772.37221
2:22:00	2:22:00	39.8	41.3	38.6	10:05:29 PM	9549.92586
2:23:00	2:23:00	39.4	40.9	38.4	10:06:29 PM	8709.6359
2:24:00	2:24:00	38.7	41.7	37.3	10:07:29 PM	7413.102413
2:25:00	2:25:00	38.1	38.9	37.1	10:08:29 PM	6456.54229
2:26:00	2:26:00	38.5	39.6	37.5	10:09:29 PM	7079.457844
2:27:00	2:27:00	38.9	39.7	37.8	10:10:29 PM	7762.471166
2:28:00	2:28:00	38.9	40.4	37.7	10:11:29 PM	7762.471166
2:29:00	2:29:00	40.3	43	38.6	10:12:29 PM	10715.19305
2:30:00	2:30:00	52.8	59.2	40.3	10:13:29 PM	190546.0718
2:31:00	2:31:00	51.2	55.3	44.8	10:14:29 PM	131825.6739
2:32:00	2:32:00	43.8	45.9	42.3	10:15:29 PM	23988.32919
2:33:00	2:33:00	42.8	46	40.4	10:16:29 PM	19054.60718
2:34:00	2:34:00	46.7	53.7	39.8	10:17:29 PM	46773.51413
2:35:00	2:35:00	54.3	60.3	40.6	10:18:29 PM	269153.4804
2:36:00	2:36:00	41.6	44.9	39.1	10:19:29 PM	14454.39771
2:37:00	2:37:00	42.2	44.3	40.5	10:20:29 PM	16595.86907
2:38:00	2:38:00	41.6	44.6	40.1	10:21:29 PM	14454.39771
2:39:00	2:39:00	41.7	43.7	40.5	10:22:29 PM	14791.08388
2:40:00	2:40:00	42.5	45.5	40.6	10:23:29 PM	17782.7941
2:41:00	2:41:00	43.6	45.7	41.4	10:24:29 PM	22908.67653
2:42:00	2:42:00	43.5	51.5	39.9	10:25:29 PM	22387.21139
2:43:00	2:43:00	42.1	49.6	40.4	10:26:29 PM	16218.10097
2:44:00	2:44:00	41.6	43.7	40	10:27:29 PM	14454.39771
2:45:00	2:45:00	43.3	46.1	40.3	10:28:29 PM	21379.6209
2:46:00	2:46:00	59.3	68.5	45.7	10:29:29 PM	851138.0382
2:47:00	2:47:00	54.9	64.6	48.4	10:30:29 PM	309029.5433
2:48:00	2:48:00	43.7	48.5	40.1	10:31:29 PM	23442.28815
2:49:00	2:49:00	40.3	42.5	38.9	10:32:29 PM	10715.19305
2:50:00	2:50:00	42.4	45.6	40.4	10:33:29 PM	17378.00829
2:51:00	2:51:00	42.7	46	41.1	10:34:29 PM	18620.87137
2:52:00	2:52:00	42.2	44.1	40.6	10:35:29 PM	16595.86907
2:53:00	2:53:00	43.5	45.3	41.4	10:36:29 PM	22387.21139
2:54:00	2:54:00	44	45.5	41.8	10:37:29 PM	25118.86432
2:55:00	2:55:00	44.5	46.2	42.6	10:38:29 PM	28183.82931
2:56:00	2:56:00	44.3	51.1	41.2	10:39:29 PM	26915.34804
2:57:00	2:57:00	41.8	43.1	40.7	10:40:29 PM	15135.61248
2:58:00	2:58:00	42.4	44.5	41.2	10:41:29 PM	17378.00829
2:59:00	2:59:00	42	43.4	41.3	10:42:29 PM	15848.93192
3:00:00	3:00:00	41.7	44.3	40.4	10:43:29 PM	14791.08388
3:01:00	3:01:00	41.1	41.8	40.1	10:44:29 PM	12882.49552
3:02:00	3:02:00	42.1	43	41.5	10:45:29 PM	16218.10097
3:03:00	3:03:00	42.3	44.1	41.1	10:46:29 PM	16982.43652
3:04:00	3:04:00	42.4	44.3	40.8	10:47:29 PM	17378.00829
3:05:00	3:05:00	43.4	46.7	42.2	10:48:29 PM	21877.61624
3:06:00	3:06:00	45.3	50.3	42.8	10:49:29 PM	33884.41561

3:07:00	3:07:00	42.5	43.8	41.3	10:50:29 PM	17782.7941
3:08:00	3:08:00	41.8	45.1	39.9	10:51:29 PM	15135.61248
3:09:00	3:09:00	42.2	46.6	39.7	10:52:29 PM	16595.86907
3:10:00	3:10:00	56.6	67.4	41.4	10:53:29 PM	457088.1896
3:11:00	3:11:00	39.7	41.6	38.7	10:54:29 PM	9332.543008
3:12:00	3:12:00	39.9	41.8	38.4	10:55:29 PM	9772.37221
3:13:00	3:13:00	43	46.9	40.3	10:56:29 PM	19952.62315
3:14:00	3:14:00	42.6	44.2	41.2	10:57:29 PM	18197.00859
3:15:00	3:15:00	42.2	42.9	41.5	10:58:29 PM	16595.86907
3:16:00	3:16:00	41.2	44.1	39	10:59:29 PM	13182.56739
3:17:00	3:17:00	42.7	45.8	40.3	11:00:29 PM	18620.87137
3:18:00	3:18:00	40.7	42	39.3	11:01:29 PM	11748.97555
3:19:00	3:19:00	41.1	43.7	40.1	11:02:29 PM	12882.49552
3:20:00	3:20:00	42.7	47.8	38.5	11:03:29 PM	18620.87137
3:21:00	3:21:00	41.9	45.6	39.7	11:04:29 PM	15488.16619
3:22:00	3:22:00	41	42.9	39	11:05:29 PM	12589.25412
3:23:00	3:23:00	43.2	50.9	39	11:06:29 PM	20892.96131
3:24:00	3:24:00	39.7	41.3	38.7	11:07:29 PM	9332.543008
3:25:00	3:25:00	40.5	43.3	38.7	11:08:29 PM	11220.18454
3:26:00	3:26:00	40.3	42.2	39	11:09:29 PM	10715.19305
3:27:00	3:27:00	42.4	46.6	38.9	11:10:29 PM	17378.00829
3:28:00	3:28:00	57.9	72.4	41.9	11:11:29 PM	616595.0019
3:29:00	3:29:00	43.3	47	40.1	11:12:29 PM	21379.6209
3:30:00	3:30:00	42.8	46	40.4	11:13:29 PM	19054.60718
3:31:00	3:31:00	41.7	43.9	40.3	11:14:29 PM	14791.08388
3:32:00	3:32:00	42.6	47.3	40.4	11:15:29 PM	18197.00859
3:33:00	3:33:00	42.1	43.9	40.6	11:16:29 PM	16218.10097
3:34:00	3:34:00	40.4	41.2	39.4	11:17:29 PM	10964.78196
3:35:00	3:35:00	42.8	45.1	40.7	11:18:29 PM	19054.60718
3:36:00	3:36:00	41.8	43.4	41	11:19:29 PM	15135.61248
3:37:00	3:37:00	41.2	42.6	39.7	11:20:29 PM	13182.56739
3:38:00	3:38:00	40.8	42.1	39.8	11:21:29 PM	12022.64435
3:39:00	3:39:00	42.2	48.7	40	11:22:29 PM	16595.86907
3:40:00	3:40:00	41.6	44.3	40.1	11:23:29 PM	14454.39771
3:41:00	3:41:00	41.9	44.5	40.4	11:24:29 PM	15488.16619
3:42:00	3:42:00	42.6	48	39.8	11:25:29 PM	18197.00859
3:43:00	3:43:00	44.7	51.9	42.7	11:26:29 PM	29512.09227
3:44:00	3:44:00	44.6	48.6	41.4	11:27:29 PM	28840.31503
3:45:00	3:45:00	44.9	48.8	42.4	11:28:29 PM	30902.95433
3:46:00	3:46:00	42.8	44.2	41.5	11:29:29 PM	19054.60718
3:47:00	3:47:00	42.5	44.7	40.7	11:30:29 PM	17782.7941
3:48:00	3:48:00	44.8	48.4	42.5	11:31:29 PM	30199.5172
3:49:00	3:49:00	42.5	44.7	41	11:32:29 PM	17782.7941
3:50:00	3:50:00	41.2	42.6	39.7	11:33:29 PM	13182.56739
3:51:00	3:51:00	40.5	43.3	38.8	11:34:29 PM	11220.18454
3:52:00	3:52:00	41.3	44.1	39.9	11:35:29 PM	13489.62883
3:53:00	3:53:00	41.5	44.2	39.7	11:36:29 PM	14125.37545
3:54:00	3:54:00	41.2	44.3	39.6	11:37:29 PM	13182.56739
3:55:00	3:55:00	42.3	44.1	40.7	11:38:29 PM	16982.43652
3:56:00	3:56:00	42.1	44.6	40.1	11:39:29 PM	16218.10097
3:57:00	3:57:00	41.9	43.4	39.6	11:40:29 PM	15488.16619
3:58:00	3:58:00	40.5	41.7	39.2	11:41:29 PM	11220.18454
3:59:00	3:59:00	42	44.8	40.6	11:42:29 PM	15848.93192
4:00:00	4:00:00	40.4	41.5	39.3	11:43:29 PM	10964.78196
4:01:00	4:01:00	43.7	45.7	41.4	11:44:29 PM	23442.28815
4:02:00	4:02:00	48.2	52.6	45.4	11:45:29 PM	66069.3448
4:03:00	4:03:00	49.3	57.6	40.2	11:46:29 PM	85113.80382
4:04:00	4:04:00	41.5	45	39.7	11:47:29 PM	14125.37545
4:05:00	4:05:00	42	44.7	40.7	11:48:29 PM	15848.93192
4:06:00	4:06:00	42.3	43.6	41.1	11:49:29 PM	16982.43652
4:07:00	4:07:00	43.6	44.8	42.3	11:50:29 PM	22908.67653
4:08:00	4:08:00	42.6	44.9	41.3	11:51:29 PM	18197.00859
4:09:00	4:09:00	41.7	43	40.4	11:52:29 PM	14791.08388
4:10:00	4:10:00	41.5	42.9	39.7	11:53:29 PM	14125.37545
4:11:00	4:11:00	49.4	60.4	40.8	11:54:29 PM	87096.359
4:12:00	4:12:00	43.5	44.6	42.4	11:55:29 PM	22387.21139
4:13:00	4:13:00	43.9	45	42.6	11:56:29 PM	24547.08916
4:14:00	4:14:00	43.4	49.5	41.6	11:57:29 PM	21877.61624
4:15:00	4:15:00	42.5	45.1	41	11:58:29 PM	17782.7941
4:16:00	4:16:00	42	44	40.3	11:59:29 PM	15848.93192
4:17:00	4:17:00	41.4	43.3	39.9	12:00:29 AM	13803.84265
4:18:00	4:18:00	41.2	42.6	40	12:01:29 AM	13182.56739
4:19:00	4:19:00	40.7	43.4	39.5	12:02:29 AM	11748.97555
4:20:00	4:20:00	40.6	41.8	39.7	12:03:29 AM	11481.53621
4:21:00	4:21:00	40.7	42.5	39.3	12:04:29 AM	11748.97555
4:22:00	4:22:00	39.7	43.5	37.5	12:05:29 AM	9332.543008
4:23:00	4:23:00	37.7	39.8	36.8	12:06:29 AM	5888.436554
4:24:00	4:24:00	38.9	41.3	37.6	12:07:29 AM	7762.471166
4:25:00	4:25:00	40.4	42.7	38.9	12:08:29 AM	10964.78196
4:26:00	4:26:00	40.3	42.1	38.1	12:09:29 AM	10715.19305
4:27:00	4:27:00	39.5	41.2	38	12:10:29 AM	8912.509381
4:28:00	4:28:00	40	41.4	39.1	12:11:29 AM	10000
4:29:00	4:29:00	42.5	45.1	40.6	12:12:29 AM	17782.7941
4:30:00	4:30:00	41.4	46.8	39.8	12:13:29 AM	13803.84265
4:31:00	4:31:00	39.6	40.9	38.7	12:14:29 AM	9120.108394
4:32:00	4:32:00	40	41.8	38.9	12:15:29 AM	10000
4:33:00	4:33:00	40.8	41.8	39.4	12:16:29 AM	12022.64435
4:34:00	4:34:00	40.4	42	39.2	12:17:29 AM	10964.78196
4:35:00	4:35:00	40.4	41.2	39.5	12:18:29 AM	10964.78196
4:36:00	4:36:00	51.2	59	39.7	12:19:29 AM	131825.6739
4:37:00	4:37:00	56.3	68.5	44.3	12:20:29 AM	426579.5188
4:38:00	4:38:00	42.1	46.8	40.5	12:21:29 AM	16218.10097
4:39:00	4:39:00	42.5	46.2	40.6	12:22:29 AM	17782.7941
4:40:00	4:40:00	41.5	43.5	40.5	12:23:29 AM	14125.37545
4:41:00	4:41:00	41.8	43.4	40.3	12:24:29 AM	15135.61248

Study #3 - Haul Route
Long-Duration (24-Hours)

4:42:00	4:42:00	40.9	43.2	39.3	12:25:29 AM	12302.68771
4:43:00	4:43:00	41.3	42.6	40.5	12:26:29 AM	13489.62883
4:44:00	4:44:00	41.3	42.7	40.1	12:27:29 AM	13489.62883
4:45:00	4:45:00	42.8	46.4	40.3	12:28:29 AM	19054.60718
4:46:00	4:46:00	43.4	45	42.3	12:29:29 AM	21877.61624
4:47:00	4:47:00	41.9	43.4	40.4	12:30:29 AM	15488.16619
4:48:00	4:48:00	40.1	41.2	38.9	12:31:29 AM	10232.92992
4:49:00	4:49:00	40.7	42.7	39.7	12:32:29 AM	11748.97555
4:50:00	4:50:00	40.2	41.5	39.6	12:33:29 AM	10471.28548
4:51:00	4:51:00	41.5	42.6	39.8	12:34:29 AM	14125.37545
4:52:00	4:52:00	42.2	43.5	40.8	12:35:29 AM	16595.86907
4:53:00	4:53:00	43.2	44.8	41.6	12:36:29 AM	20892.96131
4:54:00	4:54:00	42.4	44.9	40.8	12:37:29 AM	17378.00829
4:55:00	4:55:00	42.2	44.4	41	12:38:29 AM	16595.86907
4:56:00	4:56:00	41.9	44.7	39.6	12:39:29 AM	15488.16619
4:57:00	4:57:00	41.7	45.4	40	12:40:29 AM	14791.08388
4:58:00	4:58:00	42	45.7	40.2	12:41:29 AM	15848.93192
4:59:00	4:59:00	41.4	42.6	40.5	12:42:29 AM	13803.84265
5:00:00	5:00:00	41	42.3	39.9	12:43:29 AM	12589.25412
5:01:00	5:01:00	42	46	40.1	12:44:29 AM	15848.93192
5:02:00	5:02:00	40.7	42.7	38.7	12:45:29 AM	11748.97555
5:03:00	5:03:00	40.4	42.4	39.2	12:46:29 AM	10964.78196
5:04:00	5:04:00	43.3	48.7	38.5	12:47:29 AM	21379.6209
5:05:00	5:05:00	43.2	48.3	38.2	12:48:29 AM	20892.96131
5:06:00	5:06:00	40.8	42.2	38.9	12:49:29 AM	12022.64435
5:07:00	5:07:00	39.7	41.9	38.5	12:50:29 AM	9332.543008
5:08:00	5:08:00	40.6	46.8	38.2	12:51:29 AM	11481.53621
5:09:00	5:09:00	42.2	46.2	38.9	12:52:29 AM	16595.86907
5:10:00	5:10:00	40.8	42.5	39.4	12:53:29 AM	12022.64435
5:11:00	5:11:00	42.4	45.6	40.1	12:54:29 AM	17378.00829
5:12:00	5:12:00	43.1	45	40.5	12:55:29 AM	20417.37945
5:13:00	5:13:00	40.6	42.8	38.5	12:56:29 AM	11481.53621
5:14:00	5:14:00	39.5	40.4	38.4	12:57:29 AM	8912.509381
5:15:00	5:15:00	40.9	44.3	39.2	12:58:29 AM	12302.68771
5:16:00	5:16:00	39.7	40.5	38.9	12:59:29 AM	9332.543008
5:17:00	5:17:00	40.7	41.8	40.1	1:00:29 AM	11748.97555
5:18:00	5:18:00	41.9	42.9	41	1:01:29 AM	15488.16619
5:19:00	5:19:00	41.2	42.7	40.3	1:02:29 AM	13182.56739
5:20:00	5:20:00	59.5	69.9	40.7	1:03:29 AM	891250.9381
5:21:00	5:21:00	54.3	65.1	40.4	1:04:29 AM	269153.4804
5:22:00	5:22:00	51.9	57.5	42	1:05:29 AM	154881.6619
5:23:00	5:23:00	45.4	53.6	41.2	1:06:29 AM	34673.68505
5:24:00	5:24:00	40.3	45.1	37.9	1:07:29 AM	10715.19305
5:25:00	5:25:00	37.7	40	36.1	1:08:29 AM	5888.436554
5:26:00	5:26:00	38.9	41.1	37.3	1:09:29 AM	7762.471166
5:27:00	5:27:00	39.1	42.7	36.9	1:10:29 AM	8128.305162
5:28:00	5:28:00	38.7	42.1	37.2	1:11:29 AM	7413.102413
5:29:00	5:29:00	37.8	38.8	36.9	1:12:29 AM	6025.595861
5:30:00	5:30:00	36.7	37.8	35.7	1:13:29 AM	4677.351413
5:31:00	5:31:00	36.4	38.5	35.1	1:14:29 AM	4365.158322
5:32:00	5:32:00	36.7	38.4	35.8	1:15:29 AM	4677.351413
5:33:00	5:33:00	37.9	39.6	36.2	1:16:29 AM	6165.950019
5:34:00	5:34:00	38	38.7	37.4	1:17:29 AM	6309.573445
5:35:00	5:35:00	40	41.3	37.5	1:18:29 AM	10000
5:36:00	5:36:00	40.5	45.8	38.6	1:19:29 AM	11220.18454
5:37:00	5:37:00	41	47.8	38.8	1:20:29 AM	12589.25412
5:38:00	5:38:00	41.6	45.5	38.9	1:21:29 AM	14454.39771
5:39:00	5:39:00	42.9	44.7	41.7	1:22:29 AM	19498.446
5:40:00	5:40:00	41.6	44.6	38.8	1:23:29 AM	14454.39771
5:41:00	5:41:00	41.3	43.3	39.2	1:24:29 AM	13489.62883
5:42:00	5:42:00	41.2	43.6	40.1	1:25:29 AM	13182.56739
5:43:00	5:43:00	43.4	46.6	40.3	1:26:29 AM	21877.61624
5:44:00	5:44:00	42.2	46	41	1:27:29 AM	16595.86907
5:45:00	5:45:00	41.6	45	40	1:28:29 AM	14454.39771
5:46:00	5:46:00	38.4	41.9	36.1	1:29:29 AM	6918.309709
5:47:00	5:47:00	37.5	40	35.8	1:30:29 AM	5623.413252
5:48:00	5:48:00	41.6	46.6	38.4	1:31:29 AM	14454.39771
5:49:00	5:49:00	39.4	44.4	37.5	1:32:29 AM	8709.6359
5:50:00	5:50:00	38.2	39.6	37	1:33:29 AM	6606.93448
5:51:00	5:51:00	38.7	40.1	37.4	1:34:29 AM	7413.102413
5:52:00	5:52:00	39.9	40.7	38.9	1:35:29 AM	9772.37221
5:53:00	5:53:00	40	40.7	39.1	1:36:29 AM	10000
5:54:00	5:54:00	40.2	41.3	39.3	1:37:29 AM	10471.28548
5:55:00	5:55:00	40.2	45.7	38.5	1:38:29 AM	10471.28548
5:56:00	5:56:00	46.9	50.7	38.8	1:39:29 AM	48977.88194
5:57:00	5:57:00	39.2	40.8	37.9	1:40:29 AM	8317.637711
5:58:00	5:58:00	38.8	41	37.1	1:41:29 AM	7585.77575
5:59:00	5:59:00	39.6	40.7	38.8	1:42:29 AM	9120.108394
6:00:00	6:00:00	40.3	42.6	38.6	1:43:29 AM	10715.19305
6:01:00	6:01:00	40.5	43	39.2	1:44:29 AM	11220.18454
6:02:00	6:02:00	42.9	45.3	39.3	1:45:29 AM	19498.446
6:03:00	6:03:00	39.9	41.3	38.5	1:46:29 AM	9772.37221
6:04:00	6:04:00	50.6	54.2	39.1	1:47:29 AM	114815.3621
6:05:00	6:05:00	49.6	54.6	43.1	1:48:29 AM	91201.08394
6:06:00	6:06:00	52	61.8	44	1:49:29 AM	158489.3192
6:07:00	6:07:00	43.8	45.9	42	1:50:29 AM	23988.32919
6:08:00	6:08:00	39.7	42.8	38.4	1:51:29 AM	9332.543008
6:09:00	6:09:00	53.8	64.7	38.9	1:52:29 AM	239883.2919
6:10:00	6:10:00	43.8	56.6	38.7	1:53:29 AM	23988.32919
6:11:00	6:11:00	40.6	43	37.7	1:54:29 AM	11481.53621
6:12:00	6:12:00	39.3	40.6	38	1:55:29 AM	8511.380382
6:13:00	6:13:00	39.5	40.8	38.2	1:56:29 AM	8912.509381
6:14:00	6:14:00	38.7	40	37.8	1:57:29 AM	7413.102413
6:15:00	6:15:00	39.7	41.7	38.6	1:58:29 AM	9332.543008
6:16:00	6:16:00	38.9	39.9	38.2	1:59:29 AM	7762.471166

6:17:00	6:17:00	39.7	43.1	37.7
6:18:00	6:18:00	39.2	42	38.3
6:19:00	6:19:00	42.9	48.5	38.2
6:20:00	6:20:00	38.4	39.2	37.7
6:21:00	6:21:00	39.2	41.1	37.8
6:22:00	6:22:00	40.1	41.7	38.7
6:23:00	6:23:00	40.3	42.6	38.9
6:24:00	6:24:00	40	41.3	38.8
6:25:00	6:25:00	40	41.6	38.6
6:26:00	6:26:00	41.5	44.1	39
6:27:00	6:27:00	41.8	46.9	40.3
6:28:00	6:28:00	44.7	49.8	39.7
6:29:00	6:29:00	45.5	48.9	39.8
6:30:00	6:30:00	43	48.1	40
6:31:00	6:31:00	44.2	49.5	38.2
6:32:00	6:32:00	42.6	47.9	38.6
6:33:00	6:33:00	39.4	40.5	38.4
6:34:00	6:34:00	38.4	39.2	37.6
6:35:00	6:35:00	38.9	39.8	38
6:36:00	6:36:00	39.7	41.2	38.4
6:37:00	6:37:00	41.3	43.3	40
6:38:00	6:38:00	43.3	45.9	41.6
6:39:00	6:39:00	45.1	48.3	43.5
6:40:00	6:40:00	42.6	44.6	40.8
6:41:00	6:41:00	46	50.8	40.1
6:42:00	6:42:00	39.5	43.1	38.6
6:43:00	6:43:00	41.4	42.9	39.6
6:44:00	6:44:00	41.5	42.6	40.8
6:45:00	6:45:00	40.9	41.9	39.6
6:46:00	6:46:00	42.2	43.7	40.9
6:47:00	6:47:00	43	44.7	41.1
6:48:00	6:48:00	41.8	43.3	40.7
6:49:00	6:49:00	41.5	44.2	40.4
6:50:00	6:50:00	41.2	43.6	40.2
6:51:00	6:51:00	43.3	45	41.2
6:52:00	6:52:00	44.4	46.6	42.6
6:53:00	6:53:00	45	46.4	43.9
6:54:00	6:54:00	44.7	45.9	42.9
6:55:00	6:55:00	41.9	43.5	40.4
6:56:00	6:56:00	43.1	45	41.4
6:57:00	6:57:00	43.5	45.1	41.6
6:58:00	6:58:00	45.3	48.3	43.2
6:59:00	6:59:00	54.3	64.9	42.1
7:00:00	7:00:00	40.6	42.8	39.1
7:01:00	7:01:00	41.8	43.1	40.5
7:02:00	7:02:00	41.9	44	40.4
7:03:00	7:03:00	41.7	43.2	40.2
7:04:00	7:04:00	40.6	42.3	39.5
7:05:00	7:05:00	51.2	57.9	42
7:06:00	7:06:00	44.3	48.3	40.8
7:07:00	7:07:00	41	43.6	39.3
7:08:00	7:08:00	42	43.8	40.5
7:09:00	7:09:00	40.1	41.4	39.2
7:10:00	7:10:00	39.3	39.9	38.8
7:11:00	7:11:00	40.3	42	38.9
7:12:00	7:12:00	40.1	41.6	38.8
7:13:00	7:13:00	40.3	42.7	38.7
7:14:00	7:14:00	40.1	41.6	39
7:15:00	7:15:00	41.2	43	40.3
7:16:00	7:16:00	41.9	43.1	41
7:17:00	7:17:00	40.7	42.7	39.4
7:18:00	7:18:00	41.8	44.1	40.3
7:19:00	7:19:00	41.8	43.9	40.4
7:20:00	7:20:00	42	43.2	40.7
7:21:00	7:21:00	42.1	44.1	40
7:22:00	7:22:00	40.8	43.2	39.3
7:23:00	7:23:00	40.1	41.1	39.1
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7:25:00	7:25:00	41.1	42.2	39.6
7:26:00	7:26:00	42.2	45.1	40.5
7:27:00	7:27:00	43.8	48.3	40
7:28:00	7:28:00	39.2	41.6	37.9
7:29:00	7:29:00	41.7	43.2	39.4
7:30:00	7:30:00	41.8	45.8	40.7
7:31:00	7:31:00	41.4	43.6	39.4
7:32:00	7:32:00	41.1	42.7	39.4
7:33:00	7:33:00	40.4	41.6	38.9
7:34:00	7:34:00	40.9	41.9	39.8
7:35:00	7:35:00	42.1	44	41
7:36:00	7:36:00	42.6	45	41.6
7:37:00	7:37:00	43.6	45.5	41.7
7:38:00	7:38:00	42.5	46.6	40.1
7:39:00	7:39:00	40.8	42	39.6
7:40:00	7:40:00	42.9	44.9	41.7
7:41:00	7:41:00	43.5	45.5	41.6
7:42:00	7:42:00	44.2	46	42.9
7:43:00	7:43:00	43.5	45.5	41.1
7:44:00	7:44:00	42.2	44.1	40.4
7:45:00	7:45:00	42.8	44.9	41.2
7:46:00	7:46:00	41.6	43.1	40
7:47:00	7:47:00	42.3	43.5	41.3
7:48:00	7:48:00	42.7	44.4	41.2
7:49:00	7:49:00	43.2	44.7	42
7:50:00	7:50:00	43.8	46.4	42.1
7:51:00	7:51:00	43.8	47	40.8

2:00:29 AM	9332.543008
2:01:29 AM	8317.637711
2:02:29 AM	19498.446
2:03:29 AM	6918.309709
2:04:29 AM	8317.637711
2:05:29 AM	10232.92992
2:06:29 AM	10715.19305
2:07:29 AM	10000
2:08:29 AM	10000
2:09:29 AM	14125.37545
2:10:29 AM	15135.61248
2:11:29 AM	29512.09227
2:12:29 AM	35481.33892
2:13:29 AM	19952.62315
2:14:29 AM	26302.67992
2:15:29 AM	18197.00859
2:16:29 AM	8709.6359
2:17:29 AM	6918.309709
2:18:29 AM	7762.471166
2:19:29 AM	9332.543008
2:20:29 AM	13489.62883
2:21:29 AM	21379.6209
2:22:29 AM	32359.36569
2:23:29 AM	18197.00859
2:24:29 AM	39810.71706
2:25:29 AM	8912.509381
2:26:29 AM	13803.84265
2:27:29 AM	14125.37545
2:28:29 AM	12302.68771
2:29:29 AM	16595.86907
2:30:29 AM	19952.62315
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2:32:29 AM	14125.37545
2:33:29 AM	13182.56739
2:34:29 AM	21379.6209
2:35:29 AM	27542.28703
2:36:29 AM	31622.7766
2:37:29 AM	29512.09227
2:38:29 AM	15488.16619
2:39:29 AM	20417.37945
2:40:29 AM	22387.21139
2:41:29 AM	33884.41561
2:42:29 AM	269153.4804
2:43:29 AM	11481.53621
2:44:29 AM	15135.61248
2:45:29 AM	15488.16619
2:46:29 AM	14791.08388
2:47:29 AM	11481.53621
2:48:29 AM	131825.6739
2:49:29 AM	26915.34804
2:50:29 AM	12589.25412
2:51:29 AM	15848.93192
2:52:29 AM	10232.92992
2:53:29 AM	8511.380382
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2:58:29 AM	13182.56739
2:59:29 AM	15488.16619
3:00:29 AM	11748.97555
3:01:29 AM	15135.61248
3:02:29 AM	15135.61248
3:03:29 AM	15848.93192
3:04:29 AM	16218.10097
3:05:29 AM	12022.64435
3:06:29 AM	10232.92992
3:07:29 AM	10232.92992
3:08:29 AM	12882.49552
3:09:29 AM	16595.86907
3:10:29 AM	23988.32919
3:11:29 AM	8317.637711
3:12:29 AM	14791.08388
3:13:29 AM	15135.61248
3:14:29 AM	13803.84265
3:15:29 AM	12882.49552
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3:21:29 AM	17782.7941
3:22:29 AM	12022.64435
3:23:29 AM	19498.446
3:24:29 AM	22387.21139
3:25:29 AM	26302.67992
3:26:29 AM	22387.21139
3:27:29 AM	16595.86907
3:28:29 AM	19054.60718
3:29:29 AM	14454.39771
3:30:29 AM	16982.43652
3:31:29 AM	18620.87137
3:32:29 AM	20892.96131
3:33:29 AM	23988.32919
3:34:29 AM	23988.32919

7:52:00	7:52:00	44.1	46.4	41.9	3:35:29 AM	25703.95783
7:53:00	7:53:00	44.9	47.4	42.8	3:36:29 AM	30902.95433
7:54:00	7:54:00	44.4	46.7	42.3	3:37:29 AM	27542.28703
7:55:00	7:55:00	45.9	50.9	42.9	3:38:29 AM	38904.5145
7:56:00	7:56:00	46.9	49.9	45.1	3:39:29 AM	48977.88194
7:57:00	7:57:00	48.2	50.4	46.5	3:40:29 AM	66069.3448
7:58:00	7:58:00	47.5	50.5	46.1	3:41:29 AM	56234.13252
7:59:00	7:59:00	48.5	50.9	46.9	3:42:29 AM	70794.57844
8:00:00	8:00:00	46	49.4	44	3:43:29 AM	39810.71706
8:01:00	8:01:00	46.8	48.5	44.7	3:44:29 AM	47863.00923
8:02:00	8:02:00	48.2	50.3	46.3	3:45:29 AM	66069.3448
8:03:00	8:03:00	47.4	50.3	44.9	3:46:29 AM	54954.08739
8:04:00	8:04:00	44.1	45.9	42.5	3:47:29 AM	25703.95783
8:05:00	8:05:00	44.5	47.1	43.2	3:48:29 AM	28183.82931
8:06:00	8:06:00	45.3	49	42.1	3:49:29 AM	33884.41561
8:07:00	8:07:00	43.3	44.8	41.8	3:50:29 AM	21379.6209
8:08:00	8:08:00	46.5	48.5	43.7	3:51:29 AM	44668.35922
8:09:00	8:09:00	44.7	46.8	43.1	3:52:29 AM	29512.09227
8:10:00	8:10:00	44.5	46.6	42.6	3:53:29 AM	28183.82931
8:11:00	8:11:00	45.3	48.4	42.8	3:54:29 AM	33884.41561
8:12:00	8:12:00	46.4	51.2	42.2	3:55:29 AM	43651.58322
8:13:00	8:13:00	42.7	44.6	40.8	3:56:29 AM	18620.87137
8:14:00	8:14:00	42.9	45	41.1	3:57:29 AM	19498.446
8:15:00	8:15:00	47.5	50.3	44.3	3:58:29 AM	56234.13252
8:16:00	8:16:00	45.3	47.6	43.7	3:59:29 AM	33884.41561
8:17:00	8:17:00	45.9	48	43.9	4:00:29 AM	38904.5145
8:18:00	8:18:00	47.4	49.2	44.5	4:01:29 AM	54954.08739
8:19:00	8:19:00	47.7	50.3	44.3	4:02:29 AM	58884.36554
8:20:00	8:20:00	45.7	47.7	44.4	4:03:29 AM	37153.52291
8:21:00	8:21:00	46.6	48.7	44.4	4:04:29 AM	45708.81896
8:22:00	8:22:00	47.1	49.1	45.1	4:05:29 AM	51286.1384
8:23:00	8:23:00	46.7	49	45.2	4:06:29 AM	46773.51413
8:24:00	8:24:00	45.1	47.2	43.4	4:07:29 AM	32359.36569
8:25:00	8:25:00	45	46.9	44	4:08:29 AM	31622.7766
8:26:00	8:26:00	45.2	46.4	43.8	4:09:29 AM	33113.11215
8:27:00	8:27:00	46.5	49.8	44.6	4:10:29 AM	44668.35922
8:28:00	8:28:00	66.4	78.1	49.7	4:11:29 AM	4365158.322
8:29:00	8:29:00	50.7	56.5	45	4:12:29 AM	117489.7555
8:30:00	8:30:00	45.3	47.9	44.1	4:13:29 AM	33884.41561
8:31:00	8:31:00	46.3	48.8	44.9	4:14:29 AM	42657.95188
8:32:00	8:32:00	46.7	49.2	45.1	4:15:29 AM	46773.51413
8:33:00	8:33:00	46.7	51.1	44.7	4:16:29 AM	46773.51413
8:34:00	8:34:00	46.8	48.8	45.4	4:17:29 AM	47863.00923
8:35:00	8:35:00	47.6	49.4	45.9	4:18:29 AM	57543.99373
8:36:00	8:36:00	46.2	47.2	45.3	4:19:29 AM	41686.93835
8:37:00	8:37:00	46.6	48.1	45.2	4:20:29 AM	45708.81896
8:38:00	8:38:00	47.8	51.4	46.2	4:21:29 AM	60255.95861
8:39:00	8:39:00	48.5	50.8	46.7	4:22:29 AM	70794.57844
8:40:00	8:40:00	46.6	47.8	45	4:23:29 AM	45708.81896
8:41:00	8:41:00	46.3	47.7	44.5	4:24:29 AM	42657.95188
8:42:00	8:42:00	47	48.3	45.9	4:25:29 AM	50118.72336
8:43:00	8:43:00	47.7	49.2	46.4	4:26:29 AM	58884.36554
8:44:00	8:44:00	47.6	49.6	46	4:27:29 AM	57543.99373
8:45:00	8:45:00	47	48.1	45.7	4:28:29 AM	50118.72336
8:46:00	8:46:00	47.6	49.4	45.9	4:29:29 AM	57543.99373
8:47:00	8:47:00	47.5	48.6	46.6	4:30:29 AM	56234.13252
8:48:00	8:48:00	47	47.9	46.2	4:31:29 AM	50118.72336
8:49:00	8:49:00	46.7	48.4	45.2	4:32:29 AM	46773.51413
8:50:00	8:50:00	50.4	55.7	45.4	4:33:29 AM	109647.8196
8:51:00	8:51:00	48.4	49.7	47.4	4:34:29 AM	69183.09709
8:52:00	8:52:00	46.4	49.9	45.2	4:35:29 AM	43651.58322
8:53:00	8:53:00	45.4	46.7	44.4	4:36:29 AM	34673.68505
8:54:00	8:54:00	46	48.7	42.6	4:37:29 AM	39810.71706
8:55:00	8:55:00	44	45	43.2	4:38:29 AM	25118.86432
8:56:00	8:56:00	46.2	47.8	44.3	4:39:29 AM	41686.93835
8:57:00	8:57:00	46.2	47.3	45	4:40:29 AM	41686.93835
8:58:00	8:58:00	45.5	48.2	43.6	4:41:29 AM	35481.33892
8:59:00	8:59:00	46.6	48.9	44.2	4:42:29 AM	45708.81896
9:00:00	9:00:00	44.7	46.2	43.3	4:43:29 AM	29512.09227
9:01:00	9:01:00	45.6	47.1	43.7	4:44:29 AM	36307.80548
9:02:00	9:02:00	46.3	51.3	43.6	4:45:29 AM	42657.95188
9:03:00	9:03:00	43.4	44.7	42.3	4:46:29 AM	21877.61624
9:04:00	9:04:00	42.5	44.7	41	4:47:29 AM	17782.7941
9:05:00	9:05:00	42.6	43.9	41.1	4:48:29 AM	18197.00859
9:06:00	9:06:00	43.4	45.2	42	4:49:29 AM	21877.61624
9:07:00	9:07:00	44	45.6	42.7	4:50:29 AM	25118.86432
9:08:00	9:08:00	43.8	45	42.9	4:51:29 AM	23988.32919
9:09:00	9:09:00	43.6	45.5	42.2	4:52:29 AM	22908.67653
9:10:00	9:10:00	46.1	48.6	44.1	4:53:29 AM	40738.02778
9:11:00	9:11:00	44.2	48	42	4:54:29 AM	26302.67992
9:12:00	9:12:00	44.9	48.2	42.6	4:55:29 AM	30902.95433
9:13:00	9:13:00	44.6	46.8	42.9	4:56:29 AM	28840.31503
9:14:00	9:14:00	45.1	48.2	43.7	4:57:29 AM	32359.36569
9:15:00	9:15:00	45.7	48.7	44	4:58:29 AM	37153.52291
9:16:00	9:16:00	55.6	65.3	46.6	4:59:29 AM	363078.0548
9:17:00	9:17:00	57.5	63.9	47.6	5:00:29 AM	562341.3252
9:18:00	9:18:00	48.1	51.9	44.4	5:01:29 AM	64565.4229
9:19:00	9:19:00	44.7	45.9	43.3	5:02:29 AM	29512.09227
9:20:00	9:20:00	46.7	56.1	44.2	5:03:29 AM	46773.51413
9:21:00	9:21:00	53.4	63.2	46.4	5:04:29 AM	218776.1624
9:22:00	9:22:00	48.1	51.1	45.6	5:05:29 AM	64565.4229
9:23:00	9:23:00	46.8	48.7	44.3	5:06:29 AM	47863.00923
9:24:00	9:24:00	46.5	48	45	5:07:29 AM	44668.35922
9:25:00	9:25:00	46.4	49.6	45	5:08:29 AM	43651.58322
9:26:00	9:26:00	45.4	47.4	44.1	5:09:29 AM	34673.68505

9:27:00	9:27:00	45.8	48	43.6	5:10:29 AM	38018.93963
9:28:00	9:28:00	48.3	54.6	44.2	5:11:29 AM	67608.29754
9:29:00	9:29:00	46.3	48.7	44.2	5:12:29 AM	42657.95188
9:30:00	9:30:00	47.3	50.2	44.7	5:13:29 AM	53703.17964
9:31:00	9:31:00	45.4	47.6	43.4	5:14:29 AM	34673.68505
9:32:00	9:32:00	44.6	46.1	43.3	5:15:29 AM	28840.31503
9:33:00	9:33:00	44	46.5	41.6	5:16:29 AM	25118.86432
9:34:00	9:34:00	44	46.8	42.2	5:17:29 AM	25118.86432
9:35:00	9:35:00	44.1	46.4	42.1	5:18:29 AM	25703.95783
9:36:00	9:36:00	44.8	47.7	43	5:19:29 AM	30199.5172
9:37:00	9:37:00	45	49	43.3	5:20:29 AM	31622.7766
9:38:00	9:38:00	44.6	46.5	43.5	5:21:29 AM	28840.31503
9:39:00	9:39:00	52.5	62.3	44.7	5:22:29 AM	177827.941
9:40:00	9:40:00	46.6	50.1	44.5	5:23:29 AM	45708.81896
9:41:00	9:41:00	44	45.3	43	5:24:29 AM	25118.86432
9:42:00	9:42:00	45.8	49.9	43.3	5:25:29 AM	38018.93963
9:43:00	9:43:00	44.7	47.2	42.8	5:26:29 AM	29512.09227
9:44:00	9:44:00	44.1	45.8	42.8	5:27:29 AM	25703.95783
9:45:00	9:45:00	47.2	50.6	43.4	5:28:29 AM	52480.74602
9:46:00	9:46:00	57.2	64.1	44	5:29:29 AM	524807.4602
9:47:00	9:47:00	45.7	48.7	43	5:30:29 AM	37153.52291
9:48:00	9:48:00	44.4	47	42.4	5:31:29 AM	27542.28703
9:49:00	9:49:00	43.4	45.4	42.2	5:32:29 AM	21877.61624
9:50:00	9:50:00	44.1	45.3	42.5	5:33:29 AM	25703.95783
9:51:00	9:51:00	44.7	46	43.8	5:34:29 AM	29512.09227
9:52:00	9:52:00	44.1	47.3	42.4	5:35:29 AM	25703.95783
9:53:00	9:53:00	57.5	68.2	42.8	5:36:29 AM	562341.3252
9:54:00	9:54:00	47	55.3	43.9	5:37:29 AM	50118.72336
9:55:00	9:55:00	43.6	45.5	42.5	5:38:29 AM	22908.67653
9:56:00	9:56:00	44.2	46	42.9	5:39:29 AM	26302.67992
9:57:00	9:57:00	43.9	44.8	42.3	5:40:29 AM	24547.08916
9:58:00	9:58:00	44.1	45.2	43	5:41:29 AM	25703.95783
9:59:00	9:59:00	52.7	61.4	43.7	5:42:29 AM	186208.7137
10:00:00	10:00:00	44.7	45.9	43.8	5:43:29 AM	29512.09227
10:01:00	10:01:00	45.3	47.5	43.5	5:44:29 AM	33884.41561
10:02:00	10:02:00	55.9	64.3	45	5:45:29 AM	389045.145
10:03:00	10:03:00	60	68.8	48.7	5:46:29 AM	1000000
10:04:00	10:04:00	53.6	59.8	45.2	5:47:29 AM	229086.7653
10:05:00	10:05:00	50.4	57.9	44.7	5:48:29 AM	109647.8196
10:06:00	10:06:00	47.1	53.3	43	5:49:29 AM	51286.1384
10:07:00	10:07:00	49.4	57.3	43.5	5:50:29 AM	87096.359
10:08:00	10:08:00	55.7	63.4	44.3	5:51:29 AM	371535.2291
10:09:00	10:09:00	45.7	50	42.6	5:52:29 AM	37153.52291
10:10:00	10:10:00	55.7	63	43.6	5:53:29 AM	371535.2291
10:11:00	10:11:00	56.4	65.8	43.7	5:54:29 AM	436515.8322
10:12:00	10:12:00	55.6	61.6	47.9	5:55:29 AM	363078.0548
10:13:00	10:13:00	60.1	69.2	50	5:56:29 AM	1023292.992
10:14:00	10:14:00	61.3	68.5	57.8	5:57:29 AM	1348962.883
10:15:00	10:15:00	59.2	63.3	52	5:58:29 AM	831763.7711
10:16:00	10:16:00	56.1	63	46.3	5:59:29 AM	407380.2778
10:17:00	10:17:00	57.7	64.5	46.7	6:00:29 AM	588843.6554
10:18:00	10:18:00	49.3	58	43.5	6:01:29 AM	85113.80382
10:19:00	10:19:00	56.8	63.5	49.8	6:02:29 AM	478630.0923
10:20:00	10:20:00	52	59.9	44.7	6:03:29 AM	158489.3192
10:21:00	10:21:00	53.3	59.7	44.6	6:04:29 AM	213796.209
10:22:00	10:22:00	56.6	63	49.1	6:05:29 AM	457088.1896
10:23:00	10:23:00	53.2	57.8	46.9	6:06:29 AM	208929.6131
10:24:00	10:24:00	54.1	59.9	46.7	6:07:29 AM	257039.5783
10:25:00	10:25:00	59.9	68.9	48.8	6:08:29 AM	977237.221
10:26:00	10:26:00	53	62.3	48.4	6:09:29 AM	199526.2315
10:27:00	10:27:00	49.1	54.7	45.2	6:10:29 AM	81283.05162
10:28:00	10:28:00	58.3	65	49.8	6:11:29 AM	676082.9754
10:29:00	10:29:00	60.7	67.8	48.4	6:12:29 AM	1174897.555
10:30:00	10:30:00	58.7	64.4	50.9	6:13:29 AM	741310.2413
10:31:00	10:31:00	56.3	62.3	51.3	6:14:29 AM	426579.5188
10:32:00	10:32:00	57.1	64	52.6	6:15:29 AM	512861.384
10:33:00	10:33:00	54.2	59.7	45.2	6:16:29 AM	263026.7992
10:34:00	10:34:00	54.2	59.3	45.2	6:17:29 AM	263026.7992
10:35:00	10:35:00	57.9	62.5	49.5	6:18:29 AM	616595.0019
10:36:00	10:36:00	57.3	63.1	48.3	6:19:29 AM	537031.7964
10:37:00	10:37:00	58.6	65.7	50.6	6:20:29 AM	724435.9601
10:38:00	10:38:00	52.1	58.2	46.7	6:21:29 AM	162181.0097
10:39:00	10:39:00	54.7	61.5	47.9	6:22:29 AM	295120.9227
10:40:00	10:40:00	60.7	69.3	51	6:23:29 AM	1174897.555
10:41:00	10:41:00	59.1	66	51.1	6:24:29 AM	812830.5162
10:42:00	10:42:00	67.1	76.4	53.6	6:25:29 AM	5128613.84
10:43:00	10:43:00	58.4	65	51.5	6:26:29 AM	691830.9709
10:44:00	10:44:00	57.2	60.7	52.2	6:27:29 AM	524807.4602
10:45:00	10:45:00	58.2	63.7	49.6	6:28:29 AM	660693.448
10:46:00	10:46:00	57.1	62.1	48.4	6:29:29 AM	512861.384
10:47:00	10:47:00	60.6	64.6	56.3	6:30:29 AM	1148153.621
10:48:00	10:48:00	62.4	70.7	46.4	6:31:29 AM	1737800.829
10:49:00	10:49:00	55.3	59.5	45.1	6:32:29 AM	338844.1561
10:50:00	10:50:00	60	66.6	52.4	6:33:29 AM	1000000
10:51:00	10:51:00	59.7	71	53	6:34:29 AM	933254.3008
10:52:00	10:52:00	61.2	68.4	53.2	6:35:29 AM	1318256.739
10:53:00	10:53:00	58	63.4	49.5	6:36:29 AM	630957.3445
10:54:00	10:54:00	56.7	67.3	51.2	6:37:29 AM	467735.1413
10:55:00	10:55:00	52.8	59.9	45.9	6:38:29 AM	190546.0718
10:56:00	10:56:00	62.5	73.4	51.6	6:39:29 AM	1778279.41
10:57:00	10:57:00	57.3	67.7	48.4	6:40:29 AM	537031.7964
10:58:00	10:58:00	54.9	62.3	47.8	6:41:29 AM	309029.5433
10:59:00	10:59:00	53.5	62.2	45.6	6:42:29 AM	223872.1139
11:00:00	11:00:00	55.8	64.7	48.3	6:43:29 AM	380189.3963
11:01:00	11:01:00	54.7	62.6	49	6:44:29 AM	295120.9227

11:02:00	11:02:00	57	64.6	49.3	6:45:29 AM	501187.2336
11:03:00	11:03:00	54.5	60.9	46.8	6:46:29 AM	281838.2931
11:04:00	11:04:00	49.5	59.2	44.5	6:47:29 AM	89125.09381
11:05:00	11:05:00	48.1	50.5	45.7	6:48:29 AM	64565.4229
11:06:00	11:06:00	56.8	65.7	48.2	6:49:29 AM	478630.0923
11:07:00	11:07:00	67.1	77.8	47.5	6:50:29 AM	5128613.84
11:08:00	11:08:00	63.3	72.2	52.2	6:51:29 AM	2137962.09
11:09:00	11:09:00	54.9	60.8	49.8	6:52:29 AM	309029.5433
11:10:00	11:10:00	58.8	66.7	49.6	6:53:29 AM	758577.575
11:11:00	11:11:00	57.7	65	51.9	6:54:29 AM	588843.6554
11:12:00	11:12:00	52.8	63.6	47.6	6:55:29 AM	190546.0718
11:13:00	11:13:00	52	57.1	48.5	6:56:29 AM	158489.3192
11:14:00	11:14:00	49.7	52.7	48.1	6:57:29 AM	93325.43008
11:15:00	11:15:00	48.2	49.6	46.7	6:58:29 AM	66069.3448
11:16:00	11:16:00	55.3	63.7	48.3	6:59:29 AM	338844.1561
11:17:00	11:17:00	53.3	61.4	49.8	7:00:29 AM	213796.209
11:18:00	11:18:00	56.7	64.4	51.4	7:01:29 AM	467735.1413
11:19:00	11:19:00	61.3	71.2	50.3	7:02:29 AM	1348962.883
11:20:00	11:20:00	51	57.2	48.5	7:03:29 AM	125892.5412
11:21:00	11:21:00	56.6	65.1	49.8	7:04:29 AM	457088.1896
11:22:00	11:22:00	62.7	71.9	51.4	7:05:29 AM	1862087.137
11:23:00	11:23:00	58.5	66.9	47.7	7:06:29 AM	707945.7844
11:24:00	11:24:00	58.6	64.6	48.5	7:07:29 AM	724435.9601
11:25:00	11:25:00	51.1	55.2	47.5	7:08:29 AM	128824.9552
11:26:00	11:26:00	53.7	58.2	49.5	7:09:29 AM	234422.8815
11:27:00	11:27:00	50.4	53	48.4	7:10:29 AM	109647.8196
11:28:00	11:28:00	54.3	61.4	48	7:11:29 AM	269153.4804
11:29:00	11:29:00	57.8	65.9	48.1	7:12:29 AM	602559.5861
11:30:00	11:30:00	54.5	59	48.8	7:13:29 AM	281838.2931
11:31:00	11:31:00	51.8	55.6	48.3	7:14:29 AM	151356.1248
11:32:00	11:32:00	51.1	55.1	47.2	7:15:29 AM	128824.9552
11:33:00	11:33:00	58.5	70	48.7	7:16:29 AM	707945.7844
11:34:00	11:34:00	57.3	65.2	48.9	7:17:29 AM	537031.7964
11:35:00	11:35:00	57	61.3	50.5	7:18:29 AM	501187.2336
11:36:00	11:36:00	60.2	67.9	54.4	7:19:29 AM	1047128.548
11:37:00	11:37:00	57.7	62.1	54.5	7:20:29 AM	588843.6554
11:38:00	11:38:00	62	69.5	54	7:21:29 AM	1584893.192
11:39:00	11:39:00	60.7	65.5	50.7	7:22:29 AM	1174897.555
11:40:00	11:40:00	52.8	58.4	48.9	7:23:29 AM	190546.0718
11:41:00	11:41:00	50.9	54.4	47.9	7:24:29 AM	123026.8771
11:42:00	11:42:00	55	60.5	50.7	7:25:29 AM	316227.766
11:43:00	11:43:00	56.3	62.7	49.2	7:26:29 AM	426579.5188
11:44:00	11:44:00	52.5	56.2	48.6	7:27:29 AM	177827.941
11:45:00	11:45:00	56.3	62.7	51.6	7:28:29 AM	426579.5188
11:46:00	11:46:00	55.3	60.4	51.6	7:29:29 AM	338844.1561
11:47:00	11:47:00	57	63.1	50.9	7:30:29 AM	501187.2336
11:48:00	11:48:00	64.8	74.3	50.3	7:31:29 AM	3019951.72
11:49:00	11:49:00	59	63.3	53.9	7:32:29 AM	794328.2347
11:50:00	11:50:00	53.6	58.4	50.5	7:33:29 AM	229086.7653
11:51:00	11:51:00	64.6	74	54.1	7:34:29 AM	2884031.503
11:52:00	11:52:00	62.3	68.8	53.8	7:35:29 AM	1698243.652
11:53:00	11:53:00	58.3	65.6	52.2	7:36:29 AM	676082.9754
11:54:00	11:54:00	61.7	67.5	53.9	7:37:29 AM	1479108.388
11:55:00	11:55:00	60.5	71.6	51.4	7:38:29 AM	1122018.454
11:56:00	11:56:00	63.5	71.9	54.6	7:39:29 AM	2238721.139
11:57:00	11:57:00	61.1	66	55	7:40:29 AM	1288249.552
11:58:00	11:58:00	65.4	71.5	58.2	7:41:29 AM	3467368.505
11:59:00	11:59:00	74.4	84.1	51.2	7:42:29 AM	27542287.03
12:00:00	12:00:00	60.8	65.3	53.4	7:43:29 AM	1202264.435
12:01:00	12:01:00	55	60.2	49.6	7:44:29 AM	316227.766
12:02:00	12:02:00	59.1	63.2	52.3	7:45:29 AM	812830.5162
12:03:00	12:03:00	55.6	62.5	50.1	7:46:29 AM	363078.0548
12:04:00	12:04:00	59.5	64.5	53.5	7:47:29 AM	891250.9381
12:05:00	12:05:00	59.2	63.7	55.2	7:48:29 AM	831763.7711
12:06:00	12:06:00	55.7	60.5	51.5	7:49:29 AM	371535.2291
12:07:00	12:07:00	56.1	61.6	49.9	7:50:29 AM	407380.2778
12:08:00	12:08:00	52.4	55	49	7:51:29 AM	173780.0829
12:09:00	12:09:00	49.1	52.2	45.8	7:52:29 AM	81283.05162
12:10:00	12:10:00	54.3	61.5	48.8	7:53:29 AM	269153.4804
12:11:00	12:11:00	56.3	63.5	51	7:54:29 AM	426579.5188
12:12:00	12:12:00	56.4	63.8	51.1	7:55:29 AM	436515.8322
12:13:00	12:13:00	53	62.4	49.5	7:56:29 AM	199526.2315
12:14:00	12:14:00	55.2	62.4	50	7:57:29 AM	331131.1215
12:15:00	12:15:00	56.9	64.4	49.7	7:58:29 AM	489778.8194
12:16:00	12:16:00	55.4	64.9	48.7	7:59:29 AM	346736.8505
12:17:00	12:17:00	59.1	65.4	51	8:00:29 AM	812830.5162
12:18:00	12:18:00	64.4	74.3	53	8:01:29 AM	2754228.703
12:19:00	12:19:00	55.7	64.6	48.5	8:02:29 AM	371535.2291
12:20:00	12:20:00	52.1	59	48.8	8:03:29 AM	162181.0097
12:21:00	12:21:00	53.1	59.3	50	8:04:29 AM	204173.7945
12:22:00	12:22:00	64	73.4	51	8:05:29 AM	2511886.432
12:23:00	12:23:00	51.6	57.1	48.3	8:06:29 AM	144543.9771
12:24:00	12:24:00	50.9	55	47.7	8:07:29 AM	123026.8771
12:25:00	12:25:00	59.5	69.2	49.9	8:08:29 AM	891250.9381
12:26:00	12:26:00	53.1	57.7	48.6	8:09:29 AM	204173.7945
12:27:00	12:27:00	62.2	71	53.2	8:10:29 AM	1659586.907
12:28:00	12:28:00	53.5	57.4	48.3	8:11:29 AM	223872.1139
12:29:00	12:29:00	48.3	51.5	45.9	8:12:29 AM	67608.29754
12:30:00	12:30:00	62	71.5	48.9	8:13:29 AM	1584893.192
12:31:00	12:31:00	54.2	58.9	50.7	8:14:29 AM	263026.7992
12:32:00	12:32:00	49.9	54.9	46.4	8:15:29 AM	97723.7221
12:33:00	12:33:00	50	55.3	47	8:16:29 AM	100000
12:34:00	12:34:00	50.8	55.5	46.9	8:17:29 AM	120226.4435
12:35:00	12:35:00	49.5	54	46.4	8:18:29 AM	89125.09381
12:36:00	12:36:00	50.1	57.3	45.9	8:19:29 AM	102329.2992

Study #3 - Haul Route
Long-Duration (24-Hours)

12:37:00	12:37:00	51.3	56.7	47.3	8:20:29 AM	134896.2883
12:38:00	12:38:00	52	57.9	49	8:21:29 AM	158489.3192
12:39:00	12:39:00	65.5	72.9	56.2	8:22:29 AM	3548133.892
12:40:00	12:40:00	57.7	66.3	50.4	8:23:29 AM	588843.6554
12:41:00	12:41:00	50.5	55.1	47.1	8:24:29 AM	112201.8454
12:42:00	12:42:00	61.7	70.5	49.2	8:25:29 AM	1479108.388
12:43:00	12:43:00	58.5	66.4	48.8	8:26:29 AM	707945.7844
12:44:00	12:44:00	48	50.3	45.8	8:27:29 AM	63095.73445
12:45:00	12:45:00	51.5	57.3	48.6	8:28:29 AM	141253.7545
12:46:00	12:46:00	49	53.5	45.7	8:29:29 AM	79432.82347
12:47:00	12:47:00	55.6	62.5	47.2	8:30:29 AM	363078.0548
12:48:00	12:48:00	49.2	52.7	46.3	8:31:29 AM	83176.37711
12:49:00	12:49:00	60.7	69.8	49.4	8:32:29 AM	1174897.555
12:50:00	12:50:00	55.3	68.3	45.5	8:33:29 AM	338844.1561
12:51:00	12:51:00	61.9	73.8	46.8	8:34:29 AM	1548816.619
12:52:00	12:52:00	59.9	68.5	49	8:35:29 AM	977237.221
12:53:00	12:53:00	58.2	63.5	52.9	8:36:29 AM	660693.448
12:54:00	12:54:00	64.4	72.8	55.2	8:37:29 AM	2754228.703
12:55:00	12:55:00	61.4	67.6	54.4	8:38:29 AM	1380384.265
12:56:00	12:56:00	55.8	61.4	48.4	8:39:29 AM	380189.3963
12:57:00	12:57:00	58.7	66.6	49.3	8:40:29 AM	741310.2413
12:58:00	12:58:00	49.8	56.7	46.3	8:41:29 AM	95499.2586
12:59:00	12:59:00	62.6	71.2	50.3	8:42:29 AM	1819700.859
13:00:00	13:00:00	61	69.6	49.7	8:43:29 AM	1258925.412
13:01:00	13:01:00	51.9	58.1	46.2	8:44:29 AM	154881.6619
13:02:00	13:02:00	58	66.3	46.3	8:45:29 AM	630957.3445
13:03:00	13:03:00	48.1	55.3	44.9	8:46:29 AM	64565.4229
13:04:00	13:04:00	48.7	51.2	45.9	8:47:29 AM	74131.02413
13:05:00	13:05:00	58.2	68.3	46	8:48:29 AM	660693.448
13:06:00	13:06:00	46.8	50.2	44.9	8:49:29 AM	47863.00923
13:07:00	13:07:00	49.2	53.1	45.7	8:50:29 AM	83176.37711
13:08:00	13:08:00	62.7	69.4	49.9	8:51:29 AM	1862087.137
13:09:00	13:09:00	70.9	81.9	53.7	8:52:29 AM	12302687.71
13:10:00	13:10:00	53.5	59	49.8	8:53:29 AM	223872.1139
13:11:00	13:11:00	48.1	51.3	46	8:54:29 AM	64565.4229
13:12:00	13:12:00	47.8	53.5	45.4	8:55:29 AM	60255.95861
13:13:00	13:13:00	47.1	51.7	44.2	8:56:29 AM	51286.1384
13:14:00	13:14:00	61.3	72.6	43.9	8:57:29 AM	1348962.883
13:15:00	13:15:00	59.3	71.2	44.6	8:58:29 AM	851138.0382
13:16:00	13:16:00	51.9	56.1	47.4	8:59:29 AM	154881.6619
13:17:00	13:17:00	53	59.1	47.4	9:00:29 AM	199526.2315
13:18:00	13:18:00	53.5	58.1	47.8	9:01:29 AM	223872.1139
13:19:00	13:19:00	48.3	53.8	45.1	9:02:29 AM	67608.29754
13:20:00	13:20:00	53.1	59.7	45.6	9:03:29 AM	204173.7945
13:21:00	13:21:00	57.9	65.2	48.7	9:04:29 AM	616595.0019
13:22:00	13:22:00	64.8	76.3	48.5	9:05:29 AM	3019951.72
13:23:00	13:23:00	59.1	70.3	48.7	9:06:29 AM	812830.5162
13:24:00	13:24:00	56.1	63.1	47.4	9:07:29 AM	407380.2778
13:25:00	13:25:00	48.4	52.6	44.8	9:08:29 AM	69183.09709
13:26:00	13:26:00	45.5	48.9	43.3	9:09:29 AM	35481.33892
13:27:00	13:27:00	44.9	47.7	43.4	9:10:29 AM	30902.95433
13:28:00	13:28:00	46.7	49.5	43.4	9:11:29 AM	46773.51413
13:29:00	13:29:00	49.3	56.1	44.7	9:12:29 AM	85113.80382
13:30:00	13:30:00	59.9	67.7	50.8	9:13:29 AM	977237.221
13:31:00	13:31:00	62.6	72.9	45.9	9:14:29 AM	1819700.859
13:32:00	13:32:00	55.2	66	45.4	9:15:29 AM	331131.1215
13:33:00	13:33:00	57.6	66.1	45.9	9:16:29 AM	575439.9373
13:34:00	13:34:00	54.9	63.4	50.2	9:17:29 AM	309029.5433
13:35:00	13:35:00	52.3	59	47.6	9:18:29 AM	169824.3652
13:36:00	13:36:00	55.6	62	44.5	9:19:29 AM	363078.0548
13:37:00	13:37:00	55.1	60.1	46.3	9:20:29 AM	323593.6569
13:38:00	13:38:00	53.7	59.9	45.1	9:21:29 AM	234422.8815
13:39:00	13:39:00	54.8	63.8	47.9	9:22:29 AM	301995.172
13:40:00	13:40:00	57.9	64.4	50.3	9:23:29 AM	616595.0019
13:41:00	13:41:00	50.1	55.9	45.4	9:24:29 AM	102329.2992
13:42:00	13:42:00	51.9	57.1	44.3	9:25:29 AM	154881.6619
13:43:00	13:43:00	52.2	56.6	48.8	9:26:29 AM	165958.6907
13:44:00	13:44:00	58.1	65	49.2	9:27:29 AM	645654.229
13:45:00	13:45:00	58.8	63.6	51.9	9:28:29 AM	758577.575
13:46:00	13:46:00	56.9	64	47.7	9:29:29 AM	489778.8194
13:47:00	13:47:00	56.4	62.9	49.8	9:30:29 AM	436515.8322
13:48:00	13:48:00	50.9	56.2	47.1	9:31:29 AM	123026.8771
13:49:00	13:49:00	52.2	57.3	48.2	9:32:29 AM	165958.6907
13:50:00	13:50:00	51.4	57.4	48.3	9:33:29 AM	138038.4265
13:51:00	13:51:00	60.5	71.1	47.8	9:34:29 AM	1122018.454
13:52:00	13:52:00	52.7	55.9	50.3	9:35:29 AM	186208.7137
13:53:00	13:53:00	56.2	61	49.4	9:36:29 AM	416869.3835
13:54:00	13:54:00	54.5	61.7	50.3	9:37:29 AM	281838.2931
13:55:00	13:55:00	50.6	60.6	43.7	9:38:29 AM	114815.3621
13:56:00	13:56:00	53.7	59.9	44.5	9:39:29 AM	234422.8815
13:57:00	13:57:00	64.5	75.8	52.4	9:40:29 AM	2818382.931
13:58:00	13:58:00	59	68.3	50.6	9:41:29 AM	794328.2347
13:59:00	13:59:00	54.1	61.1	47.6	9:42:29 AM	257039.5783
14:00:00	14:00:00	57.5	64.4	49	9:43:29 AM	562341.3252
14:01:00	14:01:00	55	64	48.6	9:44:29 AM	316227.766
14:02:00	14:02:00	59.2	64.3	50.4	9:45:29 AM	831763.7711
14:03:00	14:03:00	56.3	66.7	48.6	9:46:29 AM	426579.5188
14:04:00	14:04:00	54.3	63.3	48.5	9:47:29 AM	269153.4804
14:05:00	14:05:00	55.3	60.1	48.6	9:48:29 AM	338844.1561
14:06:00	14:06:00	61.3	69.2	52	9:49:29 AM	1348962.883
14:07:00	14:07:00	55.9	61	51	9:50:29 AM	389045.145
14:08:00	14:08:00	57	63.5	48.3	9:51:29 AM	501187.2336
14:09:00	14:09:00	55.8	61.2	50.8	9:52:29 AM	380189.3963
14:10:00	14:10:00	55.8	61.9	51.2	9:53:29 AM	380189.3963
14:11:00	14:11:00	52	58.2	47.8	9:54:29 AM	158489.3192

14:12:00	14:12:00	47.3	51.2	45.1
14:13:00	14:13:00	51.3	57.4	47.2
14:14:00	14:14:00	58.8	67.9	49.5
14:15:00	14:15:00	59.3	65.1	50.2
14:16:00	14:16:00	56.3	63.8	49.1
14:17:00	14:17:00	50.8	57.9	48
14:18:00	14:18:00	53.5	58.7	47.2
14:19:00	14:19:00	58.5	64.4	50.6
14:20:00	14:20:00	55.7	64.7	47.3
14:21:00	14:21:00	54.6	60.4	47.9
14:22:00	14:22:00	61.3	73.6	48.3
14:23:00	14:23:00	54	57.8	48.2
14:24:00	14:24:00	58.2	65.7	50.7
14:25:00	14:25:00	57.8	62.6	51.9
14:26:00	14:26:00	54.1	62.1	47.7
14:27:00	14:27:00	59.9	67.8	48.6
14:28:00	14:28:00	53.5	58.9	47.1
14:29:00	14:29:00	57.7	64.5	51.6
14:30:00	14:30:00	51.7	58.5	47.8
14:31:00	14:31:00	54.6	62.9	48.7
14:32:00	14:32:00	53	61.3	45.6
14:33:00	14:33:00	59.4	66.7	46.6
14:34:00	14:34:00	59.3	66.4	51.8
14:35:00	14:35:00	60.9	70.7	51
14:36:00	14:36:00	51.8	60.1	47.5
14:37:00	14:37:00	58.8	67.5	47.9
14:38:00	14:38:00	57.6	64.5	52.7
14:39:00	14:39:00	57.6	63.9	48.6
14:40:00	14:40:00	50.3	54.7	47
14:41:00	14:41:00	57.8	67.8	46.3
14:42:00	14:42:00	59	63.6	52.8
14:43:00	14:43:00	56.7	67.4	49
14:44:00	14:44:00	50.1	55.3	47.3
14:45:00	14:45:00	56.1	60.8	49.9
14:46:00	14:46:00	57.2	62.7	51.2
14:47:00	14:47:00	56.3	63.3	51.1
14:48:00	14:48:00	61	70.9	49.5
14:49:00	14:49:00	58.6	64.9	51.1
14:50:00	14:50:00	62.9	68.9	58.7
14:51:00	14:51:00	56.9	64.7	50.9
14:52:00	14:52:00	58	63.9	50
14:53:00	14:53:00	58.5	66.4	53.2
14:54:00	14:54:00	55.4	57.8	52.8
14:55:00	14:55:00	57.4	62.2	51.4
14:56:00	14:56:00	57.4	66.2	48.8
14:57:00	14:57:00	57.4	64.2	52.3
14:58:00	14:58:00	55.1	60.3	50.3
14:59:00	14:59:00	60.9	68.5	53.4
15:00:00	15:00:00	55.2	62.7	50.9
15:01:00	15:01:00	51.8	54.8	48.1
15:02:00	15:02:00	58.7	65.9	51
15:03:00	15:03:00	58.4	63.4	51.9
15:04:00	15:04:00	55	60.6	50.7
15:05:00	15:05:00	52.5	61	47.9
15:06:00	15:06:00	57.9	67.7	45.9
15:07:00	15:07:00	55	61.1	49.1
15:08:00	15:08:00	53.6	61.2	48
15:09:00	15:09:00	54.1	63.3	48.4
15:10:00	15:10:00	56.9	64.8	51.1
15:11:00	15:11:00	55.7	61	49.9
15:12:00	15:12:00	59.2	63.9	52.7
15:13:00	15:13:00	59.3	68.4	49.8
15:14:00	15:14:00	58.5	66.5	53.1
15:15:00	15:15:00	55.5	60.5	50.8
15:16:00	15:16:00	62.9	70.5	57.1
15:17:00	15:17:00	62	69.7	55.7
15:18:00	15:18:00	63.8	72.9	55.6
15:19:00	15:19:00	59.2	63.7	51.3
15:20:00	15:20:00	60.7	64.3	53.8
15:21:00	15:21:00	59.8	70.5	48
15:22:00	15:22:00	55.2	61.1	49.4
15:23:00	15:23:00	57.1	65.2	51.7
15:24:00	15:24:00	55.6	64.4	49.8
15:25:00	15:25:00	56	62.1	50.1
15:26:00	15:26:00	57.1	62.4	52.4
15:27:00	15:27:00	57.9	63.8	51.3
15:28:00	15:28:00	54.8	59	50.4
15:29:00	15:29:00	57.4	60.8	52.4
15:30:00	15:30:00	58.1	66	51
15:31:00	15:31:00	56.3	65.4	49.7
15:32:00	15:32:00	60.3	67.6	48.4
15:33:00	15:33:00	59.7	66.4	50.2
15:34:00	15:34:00	60.1	65.2	54.8
15:35:00	15:35:00	59.4	65.4	50.2
15:36:00	15:36:00	59.2	63.8	53.7
15:37:00	15:37:00	58.2	64.9	53.2
15:38:00	15:38:00	61.7	68.1	55.1
15:39:00	15:39:00	61.2	66.2	55
15:40:00	15:40:00	62.4	69.4	54.6
15:41:00	15:41:00	62.4	71.9	50.7
15:42:00	15:42:00	57.6	62.6	51.1
15:43:00	15:43:00	53.7	62	48.1
15:44:00	15:44:00	64.3	72.1	52.6
15:45:00	15:45:00	57.2	64.6	48
15:46:00	15:46:00	56.6	62.7	50.1

9:55:29 AM	53703.17964
9:56:29 AM	134896.2883
9:57:29 AM	758577.575
9:58:29 AM	851138.0382
9:59:29 AM	426579.5188
10:00:29 AM	120226.4435
10:01:29 AM	223872.1139
10:02:29 AM	707945.7844
10:03:29 AM	371535.2291
10:04:29 AM	288403.1503
10:05:29 AM	1348962.883
10:06:29 AM	251188.6432
10:07:29 AM	660693.448
10:08:29 AM	602559.5861
10:09:29 AM	257039.5783
10:10:29 AM	977237.221
10:11:29 AM	223872.1139
10:12:29 AM	588843.6554
10:13:29 AM	147910.8388
10:14:29 AM	288403.1503
10:15:29 AM	199526.2315
10:16:29 AM	870963.59
10:17:29 AM	851138.0382
10:18:29 AM	1230268.771
10:19:29 AM	151356.1248
10:20:29 AM	758577.575
10:21:29 AM	575439.9373
10:22:29 AM	575439.9373
10:23:29 AM	107151.9305
10:24:29 AM	602559.5861
10:25:29 AM	794328.2347
10:26:29 AM	467735.1413
10:27:29 AM	102329.2992
10:28:29 AM	407380.2778
10:29:29 AM	524807.4602
10:30:29 AM	426579.5188
10:31:29 AM	1258925.412
10:32:29 AM	724435.9601
10:33:29 AM	1949844.6
10:34:29 AM	489778.8194
10:35:29 AM	630957.3445
10:36:29 AM	707945.7844
10:37:29 AM	346736.8505
10:38:29 AM	549540.8739
10:39:29 AM	549540.8739
10:40:29 AM	549540.8739
10:41:29 AM	323593.6569
10:42:29 AM	1230268.771
10:43:29 AM	331131.1215
10:44:29 AM	151356.1248
10:45:29 AM	741310.2413
10:46:29 AM	691830.9709
10:47:29 AM	316227.766
10:48:29 AM	177827.941
10:49:29 AM	616595.0019
10:50:29 AM	316227.766
10:51:29 AM	229086.7653
10:52:29 AM	257039.5783
10:53:29 AM	489778.8194
10:54:29 AM	371535.2291
10:55:29 AM	831763.7711
10:56:29 AM	851138.0382
10:57:29 AM	707945.7844
10:58:29 AM	354813.3892
10:59:29 AM	1949844.6
11:00:29 AM	1584893.192
11:01:29 AM	2398832.919
11:02:29 AM	831763.7711
11:03:29 AM	1174897.555
11:04:29 AM	954992.586
11:05:29 AM	331131.1215
11:06:29 AM	512861.384
11:07:29 AM	363078.0548
11:08:29 AM	398107.1706
11:09:29 AM	512861.384
11:10:29 AM	616595.0019
11:11:29 AM	301995.172
11:12:29 AM	549540.8739
11:13:29 AM	645654.229
11:14:29 AM	426579.5188
11:15:29 AM	1071519.305
11:16:29 AM	933254.3008
11:17:29 AM	1023292.992
11:18:29 AM	870963.59
11:19:29 AM	831763.7711
11:20:29 AM	660693.448
11:21:29 AM	1479108.388
11:22:29 AM	1318256.739
11:23:29 AM	1737800.829
11:24:29 AM	1737800.829
11:25:29 AM	575439.9373
11:26:29 AM	234422.8815
11:27:29 AM	2691534.804
11:28:29 AM	524807.4602
11:29:29 AM	457088.1896

Study #3 - Haul Route
Long-Duration (24-Hours)

15:47:00	15:47:00	52.7	59.1	47	11:30:29 AM	186208.7137
15:48:00	15:48:00	50.6	56.5	46.6	11:31:29 AM	114815.3621
15:49:00	15:49:00	55.4	59.5	48.7	11:32:29 AM	346736.8505
15:50:00	15:50:00	56.8	62.8	49.2	11:33:29 AM	478630.0923
15:51:00	15:51:00	55	63.8	46.1	11:34:29 AM	316227.766
15:52:00	15:52:00	57.3	63	49.5	11:35:29 AM	537031.7964
15:53:00	15:53:00	56.7	65.2	50.1	11:36:29 AM	467735.1413
15:54:00	15:54:00	57.9	63.7	54.4	11:37:29 AM	616595.0019
15:55:00	15:55:00	58.4	66.7	54.9	11:38:29 AM	691830.9709
15:56:00	15:56:00	64.7	75.4	54.3	11:39:29 AM	2951209.227
15:57:00	15:57:00	62	71.5	53.8	11:40:29 AM	1584893.192
15:58:00	15:58:00	53.7	56.8	51.6	11:41:29 AM	234422.8815
15:59:00	15:59:00	58.5	64.8	51.5	11:42:29 AM	707945.7844
16:00:00	16:00:00	64.1	72.5	57.1	11:43:29 AM	2570395.783
16:01:00	16:01:00	62.1	69.3	52.6	11:44:29 AM	1621810.097
16:02:00	16:02:00	56.4	62.2	50.6	11:45:29 AM	436515.8322
16:03:00	16:03:00	65.2	73.8	54.1	11:46:29 AM	3311311.215
16:04:00	16:04:00	65.2	70.3	61.1	11:47:29 AM	3311311.215
16:05:00	16:05:00	72.1	81.6	64.1	11:48:29 AM	16218100.97
16:06:00	16:06:00	72.8	78.6	71.7	11:49:29 AM	19054607.18
16:07:00	16:07:00	72.7	78.2	71.7	11:50:29 AM	18620871.37
16:08:00	16:08:00	72.7	77.9	71.6	11:51:29 AM	18620871.37
16:09:00	16:09:00	72.6	78.4	71.5	11:52:29 AM	18197008.59
16:10:00	16:10:00	72.8	78.1	71.5	11:53:29 AM	19054607.18
16:11:00	16:11:00	75.5	82.5	59.5	11:54:29 AM	35481338.92
16:12:00	16:12:00	59.4	65.6	53.5	11:55:29 AM	870963.59
16:13:00	16:13:00	56.2	61.1	52.6	11:56:29 AM	416869.3835
16:14:00	16:14:00	56.2	62.5	50.8	11:57:29 AM	416869.3835
16:15:00	16:15:00	60	65.9	53.4	11:58:29 AM	1000000
16:16:00	16:16:00	57.1	61.5	52.8	11:59:29 AM	512861.384
16:17:00	16:17:00	53.2	58.5	46.9	12:00:29 PM	208929.6131
16:18:00	16:18:00	54.5	60.2	47.9	12:01:29 PM	281838.2931
16:19:00	16:19:00	53.8	60.5	47	12:02:29 PM	239883.2919
16:20:00	16:20:00	52.1	56.6	48.4	12:03:29 PM	162181.0097
16:21:00	16:21:00	57	62.3	49.3	12:04:29 PM	501187.2336
16:22:00	16:22:00	49.6	54.1	46.6	12:05:29 PM	91201.08394
16:23:00	16:23:00	55.3	61.8	47.5	12:06:29 PM	338844.1561
16:24:00	16:24:00	54.7	58.5	47.3	12:07:29 PM	295120.9227
16:25:00	16:25:00	58.9	71.5	47.2	12:08:29 PM	776247.1166
16:26:00	16:26:00	58.3	64.9	52.6	12:09:29 PM	676082.9754
16:27:00	16:27:00	57.8	64.4	51.8	12:10:29 PM	602559.5861
16:28:00	16:28:00	62.2	69.8	49.9	12:11:29 PM	1659586.907
16:29:00	16:29:00	60.7	69.3	55.5	12:12:29 PM	1174897.555
16:30:00	16:30:00	58.5	63.7	50.3	12:13:29 PM	707945.7844
16:31:00	16:31:00	61.4	70.4	54	12:14:29 PM	1380384.265
16:32:00	16:32:00	59.1	68.6	50.1	12:15:29 PM	812830.5162
16:33:00	16:33:00	55.5	60.2	51.1	12:16:29 PM	354813.3892
16:34:00	16:34:00	63	74.1	52.4	12:17:29 PM	1995262.315
16:35:00	16:35:00	66	73	51.4	12:18:29 PM	3981071.706
16:36:00	16:36:00	59.7	68.2	50.2	12:19:29 PM	933254.3008
16:37:00	16:37:00	57.1	64.5	49.2	12:20:29 PM	512861.384
16:38:00	16:38:00	61.9	70.3	52.5	12:21:29 PM	1548816.619
16:39:00	16:39:00	55.1	60.4	49.3	12:22:29 PM	323593.6569
16:40:00	16:40:00	52.4	57.8	48.6	12:23:29 PM	173780.0829
16:41:00	16:41:00	58.2	68.1	49.3	12:24:29 PM	660693.448
16:42:00	16:42:00	59.2	71.7	47.3	12:25:29 PM	831763.7711
16:43:00	16:43:00	66.4	77.5	50.4	12:26:29 PM	4365158.322
16:44:00	16:44:00	64.8	71.5	54.6	12:27:29 PM	3019951.72
16:45:00	16:45:00	62.1	70.1	54.5	12:28:29 PM	1621810.097
16:46:00	16:46:00	59.7	65.8	52.9	12:29:29 PM	933254.3008
16:47:00	16:47:00	59.4	64.8	54.3	12:30:29 PM	870963.59
16:48:00	16:48:00	61.1	67.2	55.1	12:31:29 PM	1288249.552
16:49:00	16:49:00	57	66	49.1	12:32:29 PM	501187.2336
16:50:00	16:50:00	58.8	65.1	53.5	12:33:29 PM	758577.575
16:51:00	16:51:00	61.2	67.3	53.2	12:34:29 PM	1318256.739
16:52:00	16:52:00	60.1	66	50.1	12:35:29 PM	1023292.992
16:53:00	16:53:00	60.8	66.3	51.6	12:36:29 PM	1202264.435
16:54:00	16:54:00	55.1	62.1	49.9	12:37:29 PM	323593.6569
16:55:00	16:55:00	62.2	69	55	12:38:29 PM	1659586.907
16:56:00	16:56:00	59.1	65.2	53	12:39:29 PM	812830.5162
16:57:00	16:57:00	55.6	61.6	52.4	12:40:29 PM	363078.0548
16:58:00	16:58:00	58	62.9	52.8	12:41:29 PM	630957.3445
16:59:00	16:59:00	59.5	65.8	51.2	12:42:29 PM	891250.9381
17:00:00	17:00:00	57.9	65.9	50.8	12:43:29 PM	616595.0019
17:01:00	17:01:00	58.6	64.4	51	12:44:29 PM	724435.9601
17:02:00	17:02:00	60.9	68.3	54	12:45:29 PM	1230268.771
17:03:00	17:03:00	59.8	70	51.9	12:46:29 PM	954992.586
17:04:00	17:04:00	54.2	60.9	50.3	12:47:29 PM	263026.7992
17:05:00	17:05:00	56.2	63.3	48.8	12:48:29 PM	416869.3835
17:06:00	17:06:00	54.9	59.9	48.2	12:49:29 PM	309029.5433
17:07:00	17:07:00	70.3	82.3	52.8	12:50:29 PM	10715193.05
17:08:00	17:08:00	60.1	66.9	50.4	12:51:29 PM	1023292.992
17:09:00	17:09:00	61.8	66.3	57.2	12:52:29 PM	1513561.248
17:10:00	17:10:00	62.3	71.5	49.4	12:53:29 PM	1698243.652
17:11:00	17:11:00	54.6	62.8	49.1	12:54:29 PM	288403.1503
17:12:00	17:12:00	59	65.3	53.4	12:55:29 PM	794328.2347
17:13:00	17:13:00	52.9	58.3	47.8	12:56:29 PM	194984.46
17:14:00	17:14:00	58.9	67.3	49.9	12:57:29 PM	776247.1166
17:15:00	17:15:00	56.5	63	48.2	12:58:29 PM	446683.5922
17:16:00	17:16:00	62	67.3	56.4	12:59:29 PM	1584893.192
17:17:00	17:17:00	61.1	68.6	52.8	1:00:29 PM	1288249.552
17:18:00	17:18:00	61.5	71.8	50.5	1:01:29 PM	1412537.545
17:19:00	17:19:00	58.9	63.6	51.8	1:02:29 PM	776247.1166
17:20:00	17:20:00	56.9	62.5	52.7	1:03:29 PM	489778.8194
17:21:00	17:21:00	60.4	67.2	52.5	1:04:29 PM	1096478.196

Study #3 - Haul Route
Long-Duration (24-Hours)

17:22:00	17:22:00	57.4	67.9	49.8	1:05:29 PM	549540.8739
17:23:00	17:23:00	52.9	61.7	44.7	1:06:29 PM	194984.46
17:24:00	17:24:00	52.1	54.9	49.1	1:07:29 PM	162181.0097
17:25:00	17:25:00	50	53.8	46.7	1:08:29 PM	100000
17:26:00	17:26:00	53.6	60.3	46.9	1:09:29 PM	229086.7653
17:27:00	17:27:00	55.9	62.2	46.3	1:10:29 PM	389045.145
17:28:00	17:28:00	60.9	69.3	51.3	1:11:29 PM	1230268.771
17:29:00	17:29:00	59.8	67.4	51.5	1:12:29 PM	954992.586
17:30:00	17:30:00	58.5	62	52.3	1:13:29 PM	707945.7844
17:31:00	17:31:00	60.1	68.1	53.3	1:14:29 PM	1023292.992
17:32:00	17:32:00	62.1	72.2	50.5	1:15:29 PM	1621810.097
17:33:00	17:33:00	54.7	58.6	49.2	1:16:29 PM	295120.9227
17:34:00	17:34:00	56.3	63.8	51.1	1:17:29 PM	426579.5188
17:35:00	17:35:00	58.5	63.6	52.7	1:18:29 PM	707945.7844
17:36:00	17:36:00	65	75.8	53.4	1:19:29 PM	3162277.66
17:37:00	17:37:00	54.4	59.2	49.1	1:20:29 PM	275422.8703
17:38:00	17:38:00	55.2	59.5	51.5	1:21:29 PM	331131.1215
17:39:00	17:39:00	57.7	65.7	52.3	1:22:29 PM	588843.6554
17:40:00	17:40:00	60.7	68	51.3	1:23:29 PM	1174897.555
17:41:00	17:41:00	62.3	72.1	55.6	1:24:29 PM	1698243.652
17:42:00	17:42:00	62.6	70.9	52.2	1:25:29 PM	1819700.859
17:43:00	17:43:00	59.3	65.3	50.8	1:26:29 PM	851138.0382
17:44:00	17:44:00	52.9	59.2	46.9	1:27:29 PM	194984.46
17:45:00	17:45:00	55.4	63.1	47.3	1:28:29 PM	346736.8505
17:46:00	17:46:00	59.6	65.2	51.8	1:29:29 PM	912010.8394
17:47:00	17:47:00	56.1	59.4	52	1:30:29 PM	407380.2778
17:48:00	17:48:00	62.2	70.6	52.7	1:31:29 PM	1659586.907
17:49:00	17:49:00	56.4	60.6	49.3	1:32:29 PM	436515.8322
17:50:00	17:50:00	61.1	67.3	51.3	1:33:29 PM	1288249.552
17:51:00	17:51:00	62.1	69	55.6	1:34:29 PM	1621810.097
17:52:00	17:52:00	60.2	66.1	53.4	1:35:29 PM	1047128.548
17:53:00	17:53:00	60.6	67.3	53.8	1:36:29 PM	1148153.621
17:54:00	17:54:00	53.6	60.8	46.7	1:37:29 PM	229086.7653
17:55:00	17:55:00	54.9	62.2	45.7	1:38:29 PM	309029.5433
17:56:00	17:56:00	62.1	67.4	54.6	1:39:29 PM	1621810.097
17:57:00	17:57:00	59.7	65.2	53.2	1:40:29 PM	933254.3008
17:58:00	17:58:00	55.1	59.5	51.6	1:41:29 PM	323593.6569
17:59:00	17:59:00	53.4	59.6	47.6	1:42:29 PM	218776.1624
18:00:00	18:00:00	52.9	59.1	47.7	1:43:29 PM	194984.46
18:01:00	18:01:00	60.6	65.1	53.8	1:44:29 PM	1148153.621
18:02:00	18:02:00	56.9	62.6	49.5	1:45:29 PM	489778.8194
18:03:00	18:03:00	58.2	61.9	48.3	1:46:29 PM	660693.448
18:04:00	18:04:00	61.3	67.9	54.7	1:47:29 PM	1348962.883
18:05:00	18:05:00	56.2	60.2	52.6	1:48:29 PM	416869.3835
18:06:00	18:06:00	60.2	66	54.5	1:49:29 PM	1047128.548
18:07:00	18:07:00	59	69.1	53.6	1:50:29 PM	794328.2347
18:08:00	18:08:00	61.5	67.8	57.1	1:51:29 PM	1412537.545
18:09:00	18:09:00	61.4	67.6	54.5	1:52:29 PM	1380384.265
18:10:00	18:10:00	64.8	74.9	57.7	1:53:29 PM	3019951.72
18:11:00	18:11:00	63.9	73.4	55	1:54:29 PM	2454708.916
18:12:00	18:12:00	65.4	74.2	58.7	1:55:29 PM	3467368.505
18:13:00	18:13:00	62.4	68.1	57.1	1:56:29 PM	1737800.829
18:14:00	18:14:00	60.7	68.8	52.2	1:57:29 PM	1174897.555
18:15:00	18:15:00	59.9	66.5	52	1:58:29 PM	977237.221
18:16:00	18:16:00	75.1	85.9	53.3	1:59:29 PM	32359365.69
18:17:00	18:17:00	57.5	62	52.4	2:00:29 PM	562341.3252
18:18:00	18:18:00	59.7	67.7	53.4	2:01:29 PM	933254.3008
18:19:00	18:19:00	64.1	71.8	55.8	2:02:29 PM	2570395.783
18:20:00	18:20:00	63.8	74.3	54.5	2:03:29 PM	2398832.919
18:21:00	18:21:00	62.7	70	54.6	2:04:29 PM	1862087.137
18:22:00	18:22:00	58.3	63.2	55.2	2:05:29 PM	676082.9754
18:23:00	18:23:00	61.8	67.5	55.6	2:06:29 PM	1513561.248
18:24:00	18:24:00	55	60.5	51.6	2:07:29 PM	316227.766
18:25:00	18:25:00	66	73	54.9	2:08:29 PM	3981071.706
18:26:00	18:26:00	55.8	59.8	52.9	2:09:29 PM	380189.3963
18:27:00	18:27:00	59.7	64.8	53.1	2:10:29 PM	933254.3008
18:28:00	18:28:00	59.1	63.2	54.4	2:11:29 PM	812830.5162
18:29:00	18:29:00	59.5	68.6	53.5	2:12:29 PM	891250.9381
18:30:00	18:30:00	65.6	75.6	56.1	2:13:29 PM	3630780.548
18:31:00	18:31:00	61.1	74.5	51.4	2:14:29 PM	1288249.552
18:32:00	18:32:00	58.3	64.3	55.1	2:15:29 PM	676082.9754
18:33:00	18:33:00	60.6	68.5	49.7	2:16:29 PM	1148153.621
18:34:00	18:34:00	59.8	64.6	50.5	2:17:29 PM	954992.586
18:35:00	18:35:00	59	64.9	51.2	2:18:29 PM	794328.2347
18:36:00	18:36:00	61.4	66.6	53.5	2:19:29 PM	1380384.265
18:37:00	18:37:00	60.9	71.7	54.4	2:20:29 PM	1230268.771
18:38:00	18:38:00	63.2	75.1	56.7	2:21:29 PM	2089296.131
18:39:00	18:39:00	63.7	76.8	49.4	2:22:29 PM	2344228.815
18:40:00	18:40:00	55.3	64.2	48	2:23:29 PM	338844.1561
18:41:00	18:41:00	63.8	71.2	56.6	2:24:29 PM	2398832.919
18:42:00	18:42:00	58.6	62.1	54.1	2:25:29 PM	724435.9601
18:43:00	18:43:00	56.3	62	48.5	2:26:29 PM	426579.5188
18:44:00	18:44:00	57.1	63.2	49.9	2:27:29 PM	512861.384
18:45:00	18:45:00	58.7	66.6	47.4	2:28:29 PM	741310.2413
18:46:00	18:46:00	51	54.6	46.6	2:29:29 PM	125892.5412
18:47:00	18:47:00	59.6	66	51.9	2:30:29 PM	912010.8394
18:48:00	18:48:00	57.8	61.8	52.8	2:31:29 PM	602559.5861
18:49:00	18:49:00	54.9	62.7	48.4	2:32:29 PM	309029.5433
18:50:00	18:50:00	58.2	65.3	50.4	2:33:29 PM	660693.448
18:51:00	18:51:00	55.2	61.3	51.2	2:34:29 PM	331131.1215
18:52:00	18:52:00	60.6	68.1	52.3	2:35:29 PM	1148153.621
18:53:00	18:53:00	55.5	62.3	50.6	2:36:29 PM	354813.3892
18:54:00	18:54:00	58	65.9	52.1	2:37:29 PM	630957.3445
18:55:00	18:55:00	52	53.6	50.1	2:38:29 PM	158489.3192
18:56:00	18:56:00	56.9	68.6	50.6	2:39:29 PM	489778.8194

18:57:00	18:57:00	54.1	59.1	49.1	2:40:29 PM	257039.5783
18:58:00	18:58:00	55.5	60.8	46.1	2:41:29 PM	354813.3892
18:59:00	18:59:00	53.3	60.7	45.2	2:42:29 PM	213796.209
19:00:00	19:00:00	58.9	66.1	52.4	2:43:29 PM	776247.1166
19:01:00	19:01:00	56.9	61.3	49	2:44:29 PM	489778.8194
19:02:00	19:02:00	55.1	59.7	50.2	2:45:29 PM	323593.6569
19:03:00	19:03:00	51.8	57.3	48.3	2:46:29 PM	151356.1248
19:04:00	19:04:00	62	71.4	48.8	2:47:29 PM	1584893.192
19:05:00	19:05:00	58.3	65.1	51.6	2:48:29 PM	676082.9754
19:06:00	19:06:00	56.2	62.5	50	2:49:29 PM	416869.3835
19:07:00	19:07:00	56.9	64.9	49.7	2:50:29 PM	489778.8194
19:08:00	19:08:00	53.8	62	48.4	2:51:29 PM	239883.2919
19:09:00	19:09:00	54.9	62.5	44.8	2:52:29 PM	309029.5433
19:10:00	19:10:00	56.7	64	47.1	2:53:29 PM	467735.1413
19:11:00	19:11:00	59.8	64.6	51.4	2:54:29 PM	954992.586
19:12:00	19:12:00	60.5	67.3	49.9	2:55:29 PM	1122018.454
19:13:00	19:13:00	56.5	66.5	46.5	2:56:29 PM	446683.5922
19:14:00	19:14:00	56.4	64	50.6	2:57:29 PM	436515.8322
19:15:00	19:15:00	55.1	61.3	50	2:58:29 PM	323593.6569
19:16:00	19:16:00	60.6	70.2	51.7	2:59:29 PM	1148153.621
19:17:00	19:17:00	62.8	74.7	50.4	3:00:29 PM	1905460.718
19:18:00	19:18:00	59.6	66.8	56.6	3:01:29 PM	912010.8394
19:19:00	19:19:00	60.7	65.6	52.6	3:02:29 PM	1174897.555
19:20:00	19:20:00	58	62.3	52.9	3:03:29 PM	630957.3445
19:21:00	19:21:00	59.1	67	53	3:04:29 PM	812830.5162
19:22:00	19:22:00	61.6	71.3	51.4	3:05:29 PM	1445439.771
19:23:00	19:23:00	59.9	64.6	52.8	3:06:29 PM	977237.221
19:24:00	19:24:00	56.9	61.7	50.1	3:07:29 PM	489778.8194
19:25:00	19:25:00	56	61.5	50.6	3:08:29 PM	398107.1706
19:26:00	19:26:00	59.2	68.5	49.5	3:09:29 PM	831763.7711
19:27:00	19:27:00	54.1	57.9	48.9	3:10:29 PM	257039.5783
19:28:00	19:28:00	54.5	59	50.4	3:11:29 PM	281838.2931
19:29:00	19:29:00	51.8	57	48.4	3:12:29 PM	151356.1248
19:30:00	19:30:00	57.4	64.9	48.7	3:13:29 PM	549540.8739
19:31:00	19:31:00	55.7	63.3	48.5	3:14:29 PM	371535.2291
19:32:00	19:32:00	54.8	59.8	49	3:15:29 PM	301995.172
19:33:00	19:33:00	63	75.7	57	3:16:29 PM	1995262.315
19:34:00	19:34:00	55.5	58.3	51.4	3:17:29 PM	354813.3892
19:35:00	19:35:00	58.2	67.2	48.7	3:18:29 PM	660693.448
19:36:00	19:36:00	63	67.7	57.2	3:19:29 PM	1995262.315
19:37:00	19:37:00	61.8	70.7	54.6	3:20:29 PM	1513561.248
19:38:00	19:38:00	58	62.2	53.7	3:21:29 PM	630957.3445
19:39:00	19:39:00	59.2	68.1	52.8	3:22:29 PM	831763.7711
19:40:00	19:40:00	61.1	69.2	55.1	3:23:29 PM	1288249.552
19:41:00	19:41:00	59.3	66.1	51.9	3:24:29 PM	851138.0382
19:42:00	19:42:00	52.5	59.6	48.9	3:25:29 PM	177827.941
19:43:00	19:43:00	60.7	67.5	47.1	3:26:29 PM	1174897.555
19:44:00	19:44:00	58.6	68.2	47.8	3:27:29 PM	724435.9601
19:45:00	19:45:00	58.8	67.1	51.1	3:28:29 PM	758577.575
19:46:00	19:46:00	57.3	63.2	50.9	3:29:29 PM	537031.7964
19:47:00	19:47:00	55.6	59.3	50.5	3:30:29 PM	363078.0548
19:48:00	19:48:00	56.9	60.2	52.3	3:31:29 PM	489778.8194
19:49:00	19:49:00	60.6	63.8	58.1	3:32:29 PM	1148153.621
19:50:00	19:50:00	54.6	61	48.5	3:33:29 PM	288403.1503
19:51:00	19:51:00	56.8	62.1	49	3:34:29 PM	478630.0923
19:52:00	19:52:00	57.6	65	50	3:35:29 PM	575439.9373
19:53:00	19:53:00	54.6	60.8	48.7	3:36:29 PM	288403.1503
19:54:00	19:54:00	54.3	59.4	45	3:37:29 PM	269153.4804
19:55:00	19:55:00	56.7	64.6	45.1	3:38:29 PM	467735.1413
19:56:00	19:56:00	55.5	62.9	49.6	3:39:29 PM	354813.3892
19:57:00	19:57:00	63.5	71	54.5	3:40:29 PM	2238721.139
19:58:00	19:58:00	58.9	64.5	52.4	3:41:29 PM	776247.1166
19:59:00	19:59:00	59	68.5	49.3	3:42:29 PM	794328.2347
20:00:00	20:00:00	59	64.4	51.6	3:43:29 PM	794328.2347
20:01:00	20:01:00	57.5	64.5	46.5	3:44:29 PM	562341.3252
20:02:00	20:02:00	48.7	57.2	45	3:45:29 PM	74131.02413
20:03:00	20:03:00	57	69.4	44.7	3:46:29 PM	501187.2336
20:04:00	20:04:00	58.3	68.7	48.1	3:47:29 PM	676082.9754
20:05:00	20:05:00	62.7	71.7	51.8	3:48:29 PM	1862087.137
20:06:00	20:06:00	58.1	65.4	48.5	3:49:29 PM	645654.229
20:07:00	20:07:00	60.6	67.3	52.9	3:50:29 PM	1148153.621
20:08:00	20:08:00	60	63.6	54.7	3:51:29 PM	1000000
20:09:00	20:09:00	60.2	67.9	54.1	3:52:29 PM	1047128.548
20:10:00	20:10:00	61.2	68.9	53.8	3:53:29 PM	1318256.739
20:11:00	20:11:00	56.5	64.6	48.6	3:54:29 PM	446683.5922
20:12:00	20:12:00	60.4	67.7	52.7	3:55:29 PM	1096478.196
20:13:00	20:13:00	57.2	63.5	49.8	3:56:29 PM	524807.4602
20:14:00	20:14:00	64.2	74.8	51.7	3:57:29 PM	2630267.992
20:15:00	20:15:00	62.9	69.9	56.6	3:58:29 PM	1949844.6
20:16:00	20:16:00	59.7	67.4	50.9	3:59:29 PM	933254.3008
20:17:00	20:17:00	50.9	56.3	45.5	4:00:29 PM	123026.8771
20:18:00	20:18:00	53.8	59.8	48.4	4:01:29 PM	239883.2919
20:19:00	20:19:00	57.4	63.5	48.9	4:02:29 PM	549540.8739
20:20:00	20:20:00	52.6	63.6	42.6	4:03:29 PM	181970.0859
20:21:00	20:21:00	54	61.1	45.4	4:04:29 PM	251188.6432
20:22:00	20:22:00	53	58.2	46.2	4:05:29 PM	199526.2315
20:23:00	20:23:00	51.1	56	47	4:06:29 PM	128824.9552
20:24:00	20:24:00	66.9	76.3	52.4	4:07:29 PM	4897788.194
20:25:00	20:25:00	59.4	65	54.6	4:08:29 PM	870963.59
20:26:00	20:26:00	58.3	64.4	49.2	4:09:29 PM	676082.9754
20:27:00	20:27:00	54	58.5	49.8	4:10:29 PM	251188.6432
20:28:00	20:28:00	50.2	55.2	47	4:11:29 PM	104712.8548
20:29:00	20:29:00	55.3	64.4	48.6	4:12:29 PM	338844.1561
20:30:00	20:30:00	54.5	58.8	50.3	4:13:29 PM	281838.2931
20:31:00	20:31:00	50	56.9	46.2	4:14:29 PM	100000

Study #3 - Haul Route
Long-Duration (24-Hours)

20:32:00	20:32:00	47.8	51.8	44.7	4:15:29 PM	60255.95861
20:33:00	20:33:00	57.2	65.4	46.3	4:16:29 PM	524807.4602
20:34:00	20:34:00	57.5	65.4	43.2	4:17:29 PM	562341.3252
20:35:00	20:35:00	50.9	56.7	41.3	4:18:29 PM	123026.8771
20:36:00	20:36:00	49.3	57.1	43	4:19:29 PM	85113.80382
20:37:00	20:37:00	61.5	67.9	43.5	4:20:29 PM	1412537.545
20:38:00	20:38:00	58.3	66.7	46.2	4:21:29 PM	676082.9754
20:39:00	20:39:00	48.3	54.4	44.4	4:22:29 PM	67608.29754
20:40:00	20:40:00	54.8	61.3	46.6	4:23:29 PM	301995.172
20:41:00	20:41:00	61.3	70.5	45.5	4:24:29 PM	1348962.883
20:42:00	20:42:00	55.6	61.4	48.8	4:25:29 PM	363078.0548
20:43:00	20:43:00	58.3	62.1	54	4:26:29 PM	676082.9754
20:44:00	20:44:00	55	61.3	42.8	4:27:29 PM	316227.766
20:45:00	20:45:00	55.7	60.1	45.7	4:28:29 PM	371535.2291
20:46:00	20:46:00	52.7	59.6	45.2	4:29:29 PM	186208.7137
20:47:00	20:47:00	54.2	59.5	47.3	4:30:29 PM	263026.7992
20:48:00	20:48:00	56.5	61.4	50.3	4:31:29 PM	446683.5922
20:49:00	20:49:00	52.7	57.9	48.1	4:32:29 PM	186208.7137
20:50:00	20:50:00	53.2	62.1	46.6	4:33:29 PM	208929.6131
20:51:00	20:51:00	62	70.5	50.7	4:34:29 PM	1584893.192
20:52:00	20:52:00	57.3	63.3	45.8	4:35:29 PM	537031.7964
20:53:00	20:53:00	56.5	61.6	49.9	4:36:29 PM	446683.5922
20:54:00	20:54:00	54.7	61.1	48.7	4:37:29 PM	295120.9227
20:55:00	20:55:00	49.5	57.5	41.9	4:38:29 PM	89125.09381
20:56:00	20:56:00	51.8	59.2	43.6	4:39:29 PM	151356.1248
20:57:00	20:57:00	49.7	55.3	44.1	4:40:29 PM	93325.43008
20:58:00	20:58:00	54.1	59.2	43.8	4:41:29 PM	257039.5783
20:59:00	20:59:00	52.5	57	46	4:42:29 PM	177827.941
21:00:00	21:00:00	56	60.7	46.7	4:43:29 PM	398107.1706
21:01:00	21:01:00	55.2	60.1	45.3	4:44:29 PM	331131.1215
21:02:00	21:02:00	53.5	59.3	47.9	4:45:29 PM	223872.1139
21:03:00	21:03:00	53.7	57.9	46.8	4:46:29 PM	234422.8815
21:04:00	21:04:00	50.8	56.8	43.4	4:47:29 PM	120226.4435
21:05:00	21:05:00	62.3	71	45.3	4:48:29 PM	1698243.652
21:06:00	21:06:00	62.9	70.6	46.6	4:49:29 PM	1949844.6
21:07:00	21:07:00	57.4	62.9	51.8	4:50:29 PM	549540.8739
21:08:00	21:08:00	51.3	54.6	47.8	4:51:29 PM	134896.2883
21:09:00	21:09:00	61	64.8	53.6	4:52:29 PM	1258925.412
21:10:00	21:10:00	55.9	62.2	45.2	4:53:29 PM	389045.145
21:11:00	21:11:00	57.8	64.2	45.3	4:54:29 PM	602559.5861
21:12:00	21:12:00	60.3	68.6	52	4:55:29 PM	1071519.305
21:13:00	21:13:00	59.2	64.8	47.7	4:56:29 PM	831763.7711
21:14:00	21:14:00	56.3	63	49.5	4:57:29 PM	426579.5188
21:15:00	21:15:00	57.5	72.8	48.5	4:58:29 PM	562341.3252
21:16:00	21:16:00	57.7	63.4	47.2	4:59:29 PM	588843.6554
21:17:00	21:17:00	56.2	62.7	47.1	5:00:29 PM	416869.3835
21:18:00	21:18:00	59.1	68	45.4	5:01:29 PM	812830.5162
21:19:00	21:19:00	66.3	76.2	44.7	5:02:29 PM	4265795.188
21:20:00	21:20:00	52.1	58.8	42.3	5:03:29 PM	162181.0097
21:21:00	21:21:00	60.5	69.7	41.9	5:04:29 PM	1122018.454
21:22:00	21:22:00	48.4	54.2	44.2	5:05:29 PM	69183.09709
21:23:00	21:23:00	51.3	56.4	44.1	5:06:29 PM	134896.2883
21:24:00	21:24:00	51.1	54.7	46.8	5:07:29 PM	128824.9552
21:25:00	21:25:00	51.3	57.4	46	5:08:29 PM	134896.2883
21:26:00	21:26:00	49.4	56	43.9	5:09:29 PM	87096.359
21:27:00	21:27:00	47.2	53.6	43.4	5:10:29 PM	52480.74602
21:28:00	21:28:00	52.9	58.9	43.7	5:11:29 PM	194984.46
21:29:00	21:29:00	46.9	49.2	44.3	5:12:29 PM	48977.88194
21:30:00	21:30:00	54.1	59.7	48.9	5:13:29 PM	257039.5783
21:31:00	21:31:00	53.3	60.3	47.2	5:14:29 PM	213796.209
21:32:00	21:32:00	57.8	64.3	47.9	5:15:29 PM	602559.5861
21:33:00	21:33:00	54.7	61.2	45.1	5:16:29 PM	295120.9227
21:34:00	21:34:00	53.1	58.6	47	5:17:29 PM	204173.7945
21:35:00	21:35:00	54.7	62.1	49.4	5:18:29 PM	295120.9227
21:36:00	21:36:00	55.2	65	46.2	5:19:29 PM	331131.1215
21:37:00	21:37:00	57.2	62	51.1	5:20:29 PM	524807.4602
21:38:00	21:38:00	50.9	56.8	44.7	5:21:29 PM	123026.8771
21:39:00	21:39:00	53.1	62.7	44.2	5:22:29 PM	204173.7945
21:40:00	21:40:00	44.6	51.3	41.6	5:23:29 PM	28840.31503
21:41:00	21:41:00	43.6	47.7	41	5:24:29 PM	22908.67653
21:42:00	21:42:00	56	64.6	47.7	5:25:29 PM	398107.1706
21:43:00	21:43:00	64.5	76.8	48.1	5:26:29 PM	2818382.931
21:44:00	21:44:00	49.3	59.2	42.7	5:27:29 PM	85113.80382
21:45:00	21:45:00	56.8	66.5	43.1	5:28:29 PM	478630.0923
21:46:00	21:46:00	53.5	61.1	44	5:29:29 PM	223872.1139
21:47:00	21:47:00	51.9	57.6	44.2	5:30:29 PM	154881.6619
21:48:00	21:48:00	49.4	57	42.7	5:31:29 PM	87096.359
21:49:00	21:49:00	46.5	53.9	42.9	5:32:29 PM	44668.35922
21:50:00	21:50:00	48.8	56.4	42.8	5:33:29 PM	75857.7575
21:51:00	21:51:00	52.2	57.8	44.5	5:34:29 PM	165958.6907
21:52:00	21:52:00	45.7	49.9	43.5	5:35:29 PM	37153.52291
21:53:00	21:53:00	48.1	54.4	42.8	5:36:29 PM	64565.4229
21:54:00	21:54:00	55.5	58	48.6	5:37:29 PM	354813.3892
21:55:00	21:55:00	60.1	69.1	48.7	5:38:29 PM	1023292.992
21:56:00	21:56:00	56.4	62.8	47.7	5:39:29 PM	436515.8322
21:57:00	21:57:00	51.4	57.7	42.3	5:40:29 PM	138038.4265
21:58:00	21:58:00	43.1	44.9	41.6	5:41:29 PM	20417.37945
21:59:00	21:59:00	47.8	53.7	42.7	5:42:29 PM	60255.95861
22:00:00	22:00:00	47.1	55.4	41.6	5:43:29 PM	51286.1384
22:01:00	22:01:00	41.9	44.5	40.6	5:44:29 PM	15488.16619
22:02:00	22:02:00	42.5	44.7	40.7	5:45:29 PM	17782.7941
22:03:00	22:03:00	52.3	61	42.3	5:46:29 PM	169824.3652
22:04:00	22:04:00	54.3	62	42.7	5:47:29 PM	269153.4804
22:05:00	22:05:00	44.4	48.6	41.7	5:48:29 PM	27542.28703
22:06:00	22:06:00	45	50.5	42.2	5:49:29 PM	31622.7766

22:07:00	22:07:00	51.4	61.4	42.4			5:50:29 PM	138038.4265
22:08:00	22:08:00	46.2	50.6	42.2			5:51:29 PM	41686.93835
22:09:00	22:09:00	44.9	47.7	43.1			5:52:29 PM	30902.95433
22:10:00	22:10:00	50.9	58.7	42.4			5:53:29 PM	123026.8771
22:11:00	22:11:00	49.8	55.6	44.2			5:54:29 PM	95499.2586
22:12:00	22:12:00	56.2	64.4	43.8			5:55:29 PM	416869.3835
22:13:00	22:13:00	44	47.7	41.6			5:56:29 PM	25118.86432
22:14:00	22:14:00	44.4	49.5	40.8			5:57:29 PM	27542.28703
22:15:00	22:15:00	55.4	65.1	43.5			5:58:29 PM	346736.8505
22:16:00	22:16:00	49.5	56.1	43.1			5:59:29 PM	89125.09381
22:17:00	22:17:00	43.4	45.6	41.8			6:00:29 PM	21877.61624
22:18:00	22:18:00	57.5	68.7	41.8			6:01:29 PM	562341.3252
22:19:00	22:19:00	42.8	45.9	41.3			6:02:29 PM	19054.60718
22:20:00	22:20:00	45.4	48.1	42.1			6:03:29 PM	34673.68505
22:21:00	22:21:00	44.5	49.3	41.5			6:04:29 PM	28183.82931
22:22:00	22:22:00	42.4	44	40.3			6:05:29 PM	17378.00829
22:23:00	22:23:00	44.3	51.4	41.4			6:06:29 PM	26915.34804
22:24:00	22:24:00	49.6	57.8	42.3			6:07:29 PM	91201.08394
22:25:00	22:25:00	52.7	63.7	41.5			6:08:29 PM	186208.7137
22:26:00	22:26:00	43.9	49.3	41.3			6:09:29 PM	24547.08916
22:27:00	22:27:00	65.1	78.1	44.2			6:10:29 PM	3235936.569
22:28:00	22:28:00	46.9	52.8	42.2			6:11:29 PM	48977.88194
22:29:00	22:29:00	42.7	44.8	41.6			6:12:29 PM	18620.87137
22:30:00	22:30:00	54.9	65.7	41.2			6:13:29 PM	309029.5433
22:31:00	22:31:00	50.4	58.1	41.9			6:14:29 PM	109647.8196
22:32:00	22:32:00	47.9	53.7	44.3			6:15:29 PM	61659.50019
22:33:00	22:33:00	48.4	53	44.7			6:16:29 PM	69183.09709
22:34:00	22:34:00	45.9	49.8	44			6:17:29 PM	38904.5145
22:35:00	22:35:00	48.4	53.6	43.6			6:18:29 PM	69183.09709
22:36:00	22:36:00	46.1	49.3	43.6			6:19:29 PM	40738.02778
22:37:00	22:37:00	43.3	44.9	41.6			6:20:29 PM	21379.6209
22:38:00	22:38:00	43.3	46.3	41.3			6:21:29 PM	21379.6209
22:39:00	22:39:00	43	45.9	41			6:22:29 PM	19952.62315
22:40:00	22:40:00	41.2	42.8	40.2			6:23:29 PM	13182.56739
22:41:00	22:41:00	41.4	44.3	39.9			6:24:29 PM	13803.84265
22:42:00	22:42:00	46.3	53.6	40.9			6:25:29 PM	42657.95188
22:43:00	22:43:00	64.7	71	52.5			6:26:29 PM	2951209.227
22:44:00	22:44:00	46.3	52.9	41.9			6:27:29 PM	42657.95188
22:45:00	22:45:00	55.5	65.8	43.7			6:28:29 PM	354813.3892
22:46:00	22:46:00	49.3	53.7	43.7			6:29:29 PM	85113.80382
22:47:00	22:47:00	55.7	65.1	45.4			6:30:29 PM	371535.2291
22:48:00	22:48:00	49	55.9	43.2			6:31:29 PM	79432.82347
22:49:00	22:49:00	55.3	67	45.3			6:32:29 PM	338844.1561
22:50:00	22:50:00	47.4	53.4	42.4			6:33:29 PM	54954.08739
22:51:00	22:51:00	47.2	47.6	46.9			6:34:29 PM	52480.74602
22:52:00	22:52:00	54.6	63.1	43.9			6:35:29 PM	288403.1503
22:53:00	22:53:00	41.7	43.9	40.1			6:36:29 PM	14791.08388
22:54:00	22:54:00	41.8	43	40.6			6:37:29 PM	15135.61248
22:55:00	22:55:00	41.2	43.1	39.4			6:38:29 PM	13182.56739
22:56:00	22:56:00	41.3	44.2	39.4			6:39:29 PM	13489.62883
22:57:00	22:57:00	43.5	47.2	40.9			6:40:29 PM	22387.21139
22:58:00	22:58:00	46.9	54.4	43.4			6:41:29 PM	48977.88194
22:59:00	22:59:00	49.3	55	42			6:42:29 PM	85113.80382
23:00:00	23:00:00	47.3	54.6	42.1			6:43:29 PM	53703.17964
23:01:00	23:01:00	55.8	62.8	48.9			6:44:29 PM	380189.3963
23:02:00	23:02:00	44.2	49.7	40.6			6:45:29 PM	26302.67992
23:03:00	23:03:00	43.3	46.2	41.4			6:46:29 PM	21379.6209
23:04:00	23:04:00	47.8	54.7	40.9			6:47:29 PM	60255.95861
23:05:00	23:05:00	47.6	53.6	42			6:48:29 PM	57543.99373
23:06:00	23:06:00	49	57.5	42.3			6:49:29 PM	79432.82347
23:07:00	23:07:00	44.7	50.2	42.5			6:50:29 PM	29512.09227
23:08:00	23:08:00	44.2	52.3	39.9			6:51:29 PM	26302.67992
23:09:00	23:09:00	51.2	54.8	46.7			6:52:29 PM	131825.6739
23:10:00	23:10:00	48.9	56.5	44.6			6:53:29 PM	77624.71166
23:11:00	23:11:00	45.4	47.8	42.7			6:54:29 PM	34673.68505
23:12:00	23:12:00	43.4	44.6	42.1			6:55:29 PM	21877.61624
23:13:00	23:13:00	41.7	44.8	40.3			6:56:29 PM	14791.08388
23:14:00	23:14:00	41.9	44.1	41			6:57:29 PM	15488.16619
23:15:00	23:15:00	42.6	44.2	41			6:58:29 PM	18197.00859
23:16:00	23:16:00	44.7	47.4	41.7			6:59:29 PM	29512.09227
23:17:00	23:17:00	44.6	47.7	42.5	R5-A	Study #4C	7:00:29 PM	28840.31503
23:18:00	23:18:00	55.9	65.3	42.4	R5-A	Study #4C	7:01:29 PM	389045.145
23:19:00	23:19:00	44.1	48.9	41.4	R5-A	Study #4C	7:02:29 PM	25703.95783
23:20:00	23:20:00	42.6	45.5	40.3	R5-A	Study #4C	7:03:29 PM	18197.00859
23:21:00	23:21:00	43.1	48.6	41.7	R5-A	Study #4C	7:04:29 PM	20417.37945
23:22:00	23:22:00	59	68.8	48.6	R5-A	Study #4C	7:05:29 PM	794328.2347
23:23:00	23:23:00	49.5	62.5	41.8	R5-A	Study #4C	7:06:29 PM	89125.09381
23:24:00	23:24:00	45.6	51.6	41.3	R5-A	Study #4C	7:07:29 PM	36307.80548
23:25:00	23:25:00	45.7	51.6	41.8	R5-A	Study #4C	7:08:29 PM	37153.52291
23:26:00	23:26:00	44.2	46.7	41.1	R5-A	Study #4C	7:09:29 PM	26302.67992
23:27:00	23:27:00	43.7	47.2	42.1	R5-A	Study #4C	7:10:29 PM	23442.28815
23:28:00	23:28:00	42.6	44.3	41.2	R5-A	Study #4C	7:11:29 PM	18197.00859
23:29:00	23:29:00	51.6	59.2	41.8	R5-A	Study #4C	7:12:29 PM	144543.9771
23:30:00	23:30:00	44.6	48.9	42	R5-A	Study #4C	7:13:29 PM	28840.31503
23:31:00	23:31:00	49.8	58.2	40.4	R5-A	Study #4C	7:14:29 PM	95499.2586
23:32:00	23:32:00	51.8	57.9	41.5	R5-A	Study #4C	7:15:29 PM	151356.1248
23:33:00	23:33:00	43.6	45.4	41.7			7:16:29 PM	22908.67653
23:34:00	23:34:00	45	50.2	42.1			7:17:29 PM	31622.7766
23:35:00	23:35:00	43.2	44.6	42			7:18:29 PM	20892.96131
23:36:00	23:36:00	45.1	50.9	42.4			7:19:29 PM	32359.36569
23:37:00	23:37:00	44.1	45.2	43.1			7:20:29 PM	25703.95783
23:38:00	23:38:00	44.6	47.3	42.5			7:21:29 PM	28840.31503
23:39:00	23:39:00	44.8	47.2	42.7			7:22:29 PM	30199.5172
23:40:00	23:40:00	46	48	44			7:23:29 PM	39810.71706
23:41:00	23:41:00	50.3	57.7	46			7:24:29 PM	107151.9305

Study #3 - Haul Route
Long-Duration (24-Hours)

23:42:00	23:42:00	45.9	52	41.9
23:43:00	23:43:00	43.9	47	41.5
23:44:00	23:44:00	51.3	57.9	43.7
23:45:00	23:45:00	51.3	60.6	41.7
23:46:00	23:46:00	44.7	46.9	42.4
23:47:00	23:47:00	53.2	60.3	42.8
23:48:00	23:48:00	54.7	64.8	46.1
23:49:00	23:49:00	54.7	63.8	47
23:50:00	23:50:00	47.9	51.4	43.8
23:51:00	23:51:00	48.7	53.4	45
23:52:00	23:52:00	48.5	54.7	44.8
23:53:00	23:53:00	45.4	49.1	42.5
23:54:00	23:54:00	49.6	57.8	42.7
23:55:00	23:55:00	51.8	58.3	46.6
23:56:00	23:56:00	52.6	59.5	44.9
23:57:00	23:57:00	50.3	59.6	43
23:58:00	23:58:00	48	54.1	43.6
23:59:00	23:59:00	59.1	74.1	45.9
24:00:00	24:00:00	51.2	56.4	43

		7:25:29 PM	38904.5145
		7:26:29 PM	24547.08916
R5-C	Study #6	7:27:29 PM	134896.2883
R5-C	Study #6	7:28:29 PM	134896.2883
R5-C	Study #6	7:29:29 PM	29512.09227
R5-C	Study #6	7:30:29 PM	208929.6131
R5-C	Study #6	7:31:29 PM	295120.9227
R5-C	Study #6	7:32:29 PM	295120.9227
R5-C	Study #6	7:33:29 PM	61659.50019
R5-C	Study #6	7:34:29 PM	74131.02413
R5-C	Study #6	7:35:29 PM	70794.57844
R5-C	Study #6	7:36:29 PM	34673.68505
R5-C	Study #6	7:37:29 PM	91201.08394
R5-C	Study #6	7:38:29 PM	151356.1248
R5-C	Study #6	7:39:29 PM	181970.0859
R5-C	Study #6	7:40:29 PM	107151.9305
R5-C	Study #6	7:41:29 PM	63095.73445
R5-C	Study #6	7:42:29 PM	812830.5162
		7:43:29 PM	131825.6739

Study	Study Time	Session Time	OL Status	L_{avg} Meter1	L_{max} Meter1	L_{min} Meter1
Study #4A	0:00:10	0:00:10		61	66.4	49.1
R5-A	0:00:20	0:00:20		45.4	49	42.4
	0:00:30	0:00:30		41.8	42.6	41.1
	0:00:40	0:00:40		41.4	42.2	41.1
	0:00:50	0:00:50		43.8	45.1	41.4
	0:01:00	0:01:00		41.8	43.6	41.2
	0:01:10	0:01:10		43	44.6	41.3
	0:01:20	0:01:20		46	48.4	44.4
	0:01:30	0:01:30		48.4	55.7	44.1
	0:01:40	0:01:40		44.3	45.6	43.7
	0:01:50	0:01:50		46.2	47.6	45.3
	0:02:00	0:02:00		49.1	51.2	45.7
	0:02:10	0:02:10		51.6	52.7	50.6
	0:02:20	0:02:20		52.5	53.5	50.7
	0:02:30	0:02:30		50.7	52.5	48.4
	0:02:40	0:02:40		47.2	50.1	44.7
	0:02:50	0:02:50		46.9	53.3	43.6
	0:03:00	0:03:00		44.7	46.4	43.7
	0:03:10	0:03:10		47.6	50	46.5
	0:03:20	0:03:20		50.3	51.6	49.4
	0:03:30	0:03:30		53.8	55.6	51
	0:03:40	0:03:40		56.2	58.3	54.1
	0:03:50	0:03:50		52.3	54.1	50.1
	0:04:00	0:04:00		53.7	54.4	52.8
	0:04:10	0:04:10		54.3	55.5	53.4
	0:04:20	0:04:20		51.8	53.8	50.9
	0:04:30	0:04:30		49.6	51.8	47.1
	0:04:40	0:04:40		46.4	47.1	45.5
	0:04:50	0:04:50		45.5	45.9	45.1
	0:05:00	0:05:00		44.5	46.4	43.7
	0:05:10	0:05:10		45.2	47.7	43.4
	0:05:20	0:05:20		45.4	47.4	43.9
	0:05:30	0:05:30		45.2	46	44.7
	0:05:40	0:05:40		47.1	48.8	44.8
	0:05:50	0:05:50		51.6	55.3	48.7
	0:06:00	0:06:00		55.1	57.5	52.6
	0:06:10	0:06:10		57.2	58	54.8
	0:06:20	0:06:20		56.7	59.1	55
	0:06:30	0:06:30		55	56.4	53.5
	0:06:40	0:06:40		52.6	53.6	51.7
	0:06:50	0:06:50		53	53.6	52.1
	0:07:00	0:07:00		53.4	55.8	52
	0:07:10	0:07:10		56.5	57.8	54.5
	0:07:20	0:07:20		52.5	55.4	49.3
	0:07:30	0:07:30		48.5	49.4	46.4
	0:07:40	0:07:40		45.4	46.5	43.6
	0:07:50	0:07:50		43.5	44.5	43
	0:08:00	0:08:00		44.4	45.1	43.5
	0:08:10	0:08:10		46	47.6	44.8
	0:08:20	0:08:20		46.4	49.5	44.3
	0:08:30	0:08:30		54.5	60	49.3
	0:08:40	0:08:40		58.8	63.9	44.8
	0:08:50	0:08:50		55	64.1	44
	0:09:00	0:09:00		50.5	57.5	46.5
	0:09:10	0:09:10		50.1	56.3	45.5
	0:09:20	0:09:20		54.8	58.4	51.5
	0:09:30	0:09:30		52.6	53.2	51.9
	0:09:40	0:09:40		52.1	52.8	51
	0:09:50	0:09:50		47.7	51	45
	0:10:00	0:10:00		44.5	45.3	43.7
	0:10:10	0:10:10		45.2	47.2	44.4
	0:10:20	0:10:20		48.3	49.5	47
	0:10:30	0:10:30		57.9	62.1	48.9
	0:10:40	0:10:40		68	72.5	61.6

Start:	7:58:44 PM
End:	8:13:44 PM
Measured:	1/23/2019
	Evening

Baseline Noise Level

L_{eq}:	56.3
CNEL:	61.3

Time	Baseline SPL ($10^{(Leq/10)}$)
7:58:54 PM	1258925.412
7:59:04 PM	34673.68505
7:59:14 PM	15135.61248
7:59:24 PM	13803.84265
7:59:34 PM	23988.32919
7:59:44 PM	15135.61248
7:59:54 PM	19952.62315
8:00:04 PM	39810.71706
8:00:14 PM	69183.09709
8:00:24 PM	26915.34804
8:00:34 PM	41686.93835
8:00:44 PM	81283.05162
8:00:54 PM	144543.9771
8:01:04 PM	177827.941
8:01:14 PM	117489.7555
8:01:24 PM	52480.74602
8:01:34 PM	48977.88194
8:01:44 PM	29512.09227
8:01:54 PM	57543.99373
8:02:04 PM	107151.9305
8:02:14 PM	239883.2919
8:02:24 PM	416869.3835
8:02:34 PM	169824.3652
8:02:44 PM	234422.8815
8:02:54 PM	269153.4804
8:03:04 PM	151356.1248
8:03:14 PM	91201.08394
8:03:24 PM	43651.58322
8:03:34 PM	35481.33892
8:03:44 PM	28183.82931
8:03:54 PM	33113.11215
8:04:04 PM	34673.68505
8:04:14 PM	33113.11215
8:04:24 PM	51286.1384
8:04:34 PM	144543.9771
8:04:44 PM	323593.6569
8:04:54 PM	524807.4602
8:05:04 PM	467735.1413
8:05:14 PM	316227.766
8:05:24 PM	181970.0859
8:05:34 PM	199526.2315
8:05:44 PM	218776.1624
8:05:54 PM	446683.5922
8:06:04 PM	177827.941
8:06:14 PM	70794.57844
8:06:24 PM	34673.68505
8:06:34 PM	22387.21139
8:06:44 PM	27542.28703
8:06:54 PM	39810.71706
8:07:04 PM	43651.58322
8:07:14 PM	281838.2931
8:07:24 PM	758577.575
8:07:34 PM	316227.766
8:07:44 PM	112201.8454
8:07:54 PM	102329.2992
8:08:04 PM	301995.172
8:08:14 PM	181970.0859
8:08:24 PM	162181.0097
8:08:34 PM	58884.36554
8:08:44 PM	28183.82931
8:08:54 PM	33113.11215
8:09:04 PM	67608.29754
8:09:14 PM	616595.0019
8:09:24 PM	6309573.445

	0:10:50	0:10:50	60.5	63.8	57.9			8:09:34 PM	1122018.454
	0:11:00	0:11:00	59	67	57.2			8:09:44 PM	794328.2347
	0:11:10	0:11:10	58.7	66.5	50.2			8:09:54 PM	741310.2413
	0:11:20	0:11:20	47.7	50.5	45.3			8:10:04 PM	58884.36554
	0:11:30	0:11:30	49.4	53.3	46.5			8:10:14 PM	87096.359
	0:11:40	0:11:40	59.6	61	53.3			8:10:24 PM	912010.8394
	0:11:50	0:11:50	59.6	60.4	58.2			8:10:34 PM	912010.8394
	0:12:00	0:12:00	56.7	58.4	53.8			8:10:44 PM	467735.1413
	0:12:10	0:12:10	52.4	54	50.3			8:10:54 PM	173780.0829
	0:12:20	0:12:20	48.1	51.5	45.5			8:11:04 PM	64565.4229
	0:12:30	0:12:30	45.9	46.6	45.3			8:11:14 PM	38904.5145
	0:12:40	0:12:40	46.4	51.5	45.1			8:11:24 PM	43651.58322
	0:12:50	0:12:50	56.2	60.4	48.8			8:11:34 PM	416869.3835
	0:13:00	0:13:00	58.9	61	56			8:11:44 PM	776247.1166
	0:13:10	0:13:10	58.7	60.5	56.5			8:11:54 PM	741310.2413
	0:13:20	0:13:20	58.8	60.9	56.8			8:12:04 PM	758577.575
	0:13:30	0:13:30	61.1	66.1	55.5			8:12:14 PM	1288249.552
	0:13:40	0:13:40	64.4	67.4	61.6			8:12:24 PM	2754228.703
	0:13:50	0:13:50	57.9	61.6	53.9			8:12:34 PM	616595.0019
	0:14:00	0:14:00	54.6	57.1	52.5			8:12:44 PM	288403.1503
	0:14:10	0:14:10	56.4	58.8	54.1			8:12:54 PM	436515.8322
	0:14:20	0:14:20	57.7	59.7	56.1			8:13:04 PM	588843.6554
	0:14:30	0:14:30	57.6	61.1	52.9			8:13:14 PM	575439.9373
	0:14:40	0:14:40	53.4	55.3	52.3			8:13:24 PM	218776.1624
	0:14:50	0:14:50	58.1	61.6	55.3			8:13:34 PM	645654.229
	0:15:00	0:15:00	67.9	71.4	57			8:13:44 PM	6165950.019
Study #5	0:00:10	0:00:10	61.4	63.7	59.3	Start:	8:32:50 PM	8:33:00 PM	1380384.265
R5-B	0:00:20	0:00:20	61.8	63	59.5	End:	8:47:50 PM	8:33:10 PM	1513561.248
	0:00:30	0:00:30	65.7	67.8	62.3	Measured:	1/23/2019	8:33:20 PM	3715352.291
	0:00:40	0:00:40	62.7	64.2	60.5		**Evening**	8:33:30 PM	1862087.137
	0:00:50	0:00:50	63.2	65.4	59			8:33:40 PM	2089296.131
	0:01:00	0:01:00	56.2	59	53.5			8:33:50 PM	416869.3835
	0:01:10	0:01:10	57.4	58.3	56	**Baseline Noise Level**		8:34:00 PM	549540.8739
	0:01:20	0:01:20	55.5	58.7	53.4	**L_{eq}:**	66.3	8:34:10 PM	354813.3892
	0:01:30	0:01:30	60.5	62.3	58.4	**CNEL:**	71.3	8:34:20 PM	1122018.454
	0:01:40	0:01:40	59.8	61.5	58.2			8:34:30 PM	954992.586
	0:01:50	0:01:50	60.3	61.6	58.9			8:34:40 PM	1071519.305
	0:02:00	0:02:00	60.3	62.4	58			8:34:50 PM	1071519.305
	0:02:10	0:02:10	60.7	63.6	58.5			8:35:00 PM	1174897.555
	0:02:20	0:02:20	63.3	67.5	61.3			8:35:10 PM	2137962.09
	0:02:30	0:02:30	59.8	62.3	55.5			8:35:20 PM	954992.586
	0:02:40	0:02:40	60.7	68.2	54			8:35:30 PM	1174897.555
	0:02:50	0:02:50	69.3	72.4	60.2			8:35:40 PM	8511380.382
	0:03:00	0:03:00	61.6	64.1	57.7			8:35:50 PM	1445439.771
	0:03:10	0:03:10	60	64	56.1			8:36:00 PM	1000000
	0:03:20	0:03:20	60.5	63.4	56.2			8:36:10 PM	1122018.454
	0:03:30	0:03:30	62.5	65	58.4			8:36:20 PM	1778279.41
	0:03:40	0:03:40	64.7	67.6	61.1			8:36:30 PM	2951209.227
	0:03:50	0:03:50	62.8	64.8	60			8:36:40 PM	1905460.718
	0:04:00	0:04:00	62.1	62.9	60			8:36:50 PM	1621810.097
	0:04:10	0:04:10	63.4	64.2	62.6			8:37:00 PM	2187761.624
	0:04:20	0:04:20	64.1	66	60.1			8:37:10 PM	2570395.783
	0:04:30	0:04:30	63.7	65.4	62.4			8:37:20 PM	2344228.815
	0:04:40	0:04:40	63.9	66.1	61.5			8:37:30 PM	2454708.916
	0:04:50	0:04:50	70.7	74.1	64.3			8:37:40 PM	11748975.55
	0:05:00	0:05:00	66.5	68.6	63.6			8:37:50 PM	4466835.922
	0:05:10	0:05:10	65.5	67.8	64.4			8:38:00 PM	3548133.892
	0:05:20	0:05:20	65.3	67.2	63.8			8:38:10 PM	3388441.561
	0:05:30	0:05:30	61.6	63.8	58.2			8:38:20 PM	1445439.771
	0:05:40	0:05:40	68.2	76.7	58			8:38:30 PM	6606934.48
	0:05:50	0:05:50	70.1	76.2	64.8			8:38:40 PM	10232929.92
	0:06:00	0:06:00	61	64.7	54.9			8:38:50 PM	1258925.412
	0:06:10	0:06:10	57.6	59.2	55.8			8:39:00 PM	575439.9373
	0:06:20	0:06:20	55.9	58.8	53.2			8:39:10 PM	389045.145
	0:06:30	0:06:30	58.7	60.4	56.2			8:39:20 PM	741310.2413
	0:06:40	0:06:40	58.7	59.9	56.6			8:39:30 PM	741310.2413
	0:06:50	0:06:50	58.8	60.7	54.1			8:39:40 PM	758577.575

	0:07:00	0:07:00	58.8	61.1	54			8:39:50 PM	758577.575
	0:07:10	0:07:10	59.9	62.4	57.1			8:40:00 PM	977237.221
	0:07:20	0:07:20	62.7	65.3	56.9			8:40:10 PM	1862087.137
	0:07:30	0:07:30	62.4	65.4	60.1			8:40:20 PM	1737800.829
	0:07:40	0:07:40	62	64.4	57.5			8:40:30 PM	1584893.192
	0:07:50	0:07:50	60.1	61.8	57.5			8:40:40 PM	1023292.992
	0:08:00	0:08:00	60.7	65.3	57.6			8:40:50 PM	1174897.555
	0:08:10	0:08:10	72.6	74.9	65.3			8:41:00 PM	18197008.59
	0:08:20	0:08:20	75.6	79.1	67.1			8:41:10 PM	36307805.48
	0:08:30	0:08:30	79.5	83.1	70.2			8:41:20 PM	89125093.81
	0:08:40	0:08:40	65.5	70.2	62.4			8:41:30 PM	3548133.892
	0:08:50	0:08:50	64.7	66.9	63.2			8:41:40 PM	2951209.227
	0:09:00	0:09:00	65.5	66.5	64.5			8:41:50 PM	3548133.892
	0:09:10	0:09:10	62.1	65.9	58.4			8:42:00 PM	1621810.097
	0:09:20	0:09:20	65.3	67.8	62.7			8:42:10 PM	3388441.561
	0:09:30	0:09:30	62.6	64.8	59.4			8:42:20 PM	1819700.859
	0:09:40	0:09:40	66.5	69	61.3			8:42:30 PM	4466835.922
	0:09:50	0:09:50	64.4	66.8	63			8:42:40 PM	2754228.703
	0:10:00	0:10:00	67.9	69.5	65.5			8:42:50 PM	6165950.019
	0:10:10	0:10:10	64.9	69.4	61.5			8:43:00 PM	3090295.433
	0:10:20	0:10:20	60.9	63.5	56			8:43:10 PM	1230268.771
	0:10:30	0:10:30	63.1	65.6	58.7			8:43:20 PM	2041737.945
	0:10:40	0:10:40	61.6	66.1	57.8			8:43:30 PM	1445439.771
	0:10:50	0:10:50	63.1	66.4	59.1			8:43:40 PM	2041737.945
	0:11:00	0:11:00	64.4	66.2	62.2			8:43:50 PM	2754228.703
	0:11:10	0:11:10	63.2	66.4	61.6			8:44:00 PM	2089296.131
	0:11:20	0:11:20	63.8	70.1	60.5			8:44:10 PM	2398832.919
	0:11:30	0:11:30	66.9	71.2	59.3			8:44:20 PM	4897788.194
	0:11:40	0:11:40	62.4	66.6	55.5			8:44:30 PM	1737800.829
	0:11:50	0:11:50	53.6	55.6	52			8:44:40 PM	229086.7653
	0:12:00	0:12:00	53.4	54.5	51.7			8:44:50 PM	218776.1624
	0:12:10	0:12:10	58	59.7	54			8:45:00 PM	630957.3445
	0:12:20	0:12:20	63.4	67.8	59.7			8:45:10 PM	2187761.624
	0:12:30	0:12:30	65.9	69.2	62.5			8:45:20 PM	3890451.45
	0:12:40	0:12:40	62.1	63.1	61.4			8:45:30 PM	1621810.097
	0:12:50	0:12:50	58.8	62.7	53.1			8:45:40 PM	758577.575
	0:13:00	0:13:00	52.9	55	51.9			8:45:50 PM	194984.46
	0:13:10	0:13:10	59.2	62.3	55			8:46:00 PM	831763.7711
	0:13:20	0:13:20	61.2	63.7	56.2			8:46:10 PM	1318256.739
	0:13:30	0:13:30	63.9	65.3	60.6			8:46:20 PM	2454708.916
	0:13:40	0:13:40	60.1	63.2	57.5			8:46:30 PM	1023292.992
	0:13:50	0:13:50	58.7	60.6	55.6			8:46:40 PM	741310.2413
	0:14:00	0:14:00	55.9	57.5	53.9			8:46:50 PM	389045.145
	0:14:10	0:14:10	76.4	82.1	56			8:47:00 PM	43651583.22
	0:14:20	0:14:20	61.7	66.1	57.9			8:47:10 PM	1479108.388
	0:14:30	0:14:30	59.4	61.3	55.8			8:47:20 PM	870963.59
	0:14:40	0:14:40	58.1	60.8	53.7			8:47:30 PM	645654.229
	0:14:50	0:14:50	62.3	65.4	58.2			8:47:40 PM	1698243.652
	0:15:00	0:15:00	70.6	73.5	65.2			8:47:50 PM	11481536.21
Study #4B	0:00:10	0:00:10	62.8	66.6	60	Start:	8:48:59 PM	8:49:09 PM	1905460.718
R5-A	0:00:20	0:00:20	63.8	66.6	61.1	End:	9:03:59 PM	8:49:19 PM	2398832.919
	0:00:30	0:00:30	67.2	70.1	61.4	Measured:	1/23/2019	8:49:29 PM	5248074.602
	0:00:40	0:00:40	64.2	68.9	59		**Evening**	8:49:39 PM	2630267.992
	0:00:50	0:00:50	58.1	60.1	55.4			8:49:49 PM	645654.229
	0:01:00	0:01:00	60	66.9	53.2			8:49:59 PM	1000000
	0:01:10	0:01:10	62.1	67	51.4	**Baseline Noise Level**		8:50:09 PM	1621810.097
	0:01:20	0:01:20	50.6	51.8	49.6	**L_{eq}:**	62.4	8:50:19 PM	114815.3621
	0:01:30	0:01:30	50.2	50.6	49.7	**CNEL:**	67.4	8:50:29 PM	104712.8548
	0:01:40	0:01:40	52.5	55.6	50			8:50:39 PM	177827.941
	0:01:50	0:01:50	57.5	59.3	55.6			8:50:49 PM	562341.3252
	0:02:00	0:02:00	62.7	64.5	59			8:50:59 PM	1862087.137
	0:02:10	0:02:10	60.2	62.3	57.8			8:51:09 PM	1047128.548
	0:02:20	0:02:20	55.9	58	52.9			8:51:19 PM	389045.145
	0:02:30	0:02:30	51.9	54.4	50.5			8:51:29 PM	154881.6619
	0:02:40	0:02:40	57.2	61.4	52.7			8:51:39 PM	524807.4602
	0:02:50	0:02:50	63.8	70.5	57.2			8:51:49 PM	2398832.919
	0:03:00	0:03:00	57.8	66.4	51.8			8:51:59 PM	602559.5861

0:03:10	0:03:10	56.4	59.9	52.7	8:52:09 PM	436515.8322
0:03:20	0:03:20	61.1	64.3	54	8:52:19 PM	1288249.552
0:03:30	0:03:30	60.6	62.6	55.8	8:52:29 PM	1148153.621
0:03:40	0:03:40	66.7	71.5	60.4	8:52:39 PM	4677351.413
0:03:50	0:03:50	60.5	61.7	59.5	8:52:49 PM	1122018.454
0:04:00	0:04:00	64.8	66.4	61.8	8:52:59 PM	3019951.72
0:04:10	0:04:10	60	63.4	55.1	8:53:09 PM	1000000
0:04:20	0:04:20	58.3	59.6	55.8	8:53:19 PM	676082.9754
0:04:30	0:04:30	51.9	55.8	50.3	8:53:29 PM	154881.6619
0:04:40	0:04:40	54.9	59.2	50.2	8:53:39 PM	309029.5433
0:04:50	0:04:50	58.1	62.5	53	8:53:49 PM	645654.229
0:05:00	0:05:00	58.8	65.2	52.8	8:53:59 PM	758577.575
0:05:10	0:05:10	62.2	65.7	57.5	8:54:09 PM	1659586.907
0:05:20	0:05:20	62.4	64	59.7	8:54:19 PM	1737800.829
0:05:30	0:05:30	57.1	60.6	53.2	8:54:29 PM	512861.384
0:05:40	0:05:40	58.9	62.4	54.1	8:54:39 PM	776247.1166
0:05:50	0:05:50	64.4	67.3	58.2	8:54:49 PM	2754228.703
0:06:00	0:06:00	63	66.1	57.1	8:54:59 PM	1995262.315
0:06:10	0:06:10	53.1	57.1	50.2	8:55:09 PM	204173.7945
0:06:20	0:06:20	51.8	54.4	50.6	8:55:19 PM	151356.1248
0:06:30	0:06:30	57.5	60.9	51.6	8:55:29 PM	562341.3252
0:06:40	0:06:40	60.8	64.3	51.4	8:55:39 PM	1202264.435
0:06:50	0:06:50	57.7	63	50.7	8:55:49 PM	588843.6554
0:07:00	0:07:00	52.9	53.8	51.1	8:55:59 PM	194984.46
0:07:10	0:07:10	49.6	51.1	48.6	8:56:09 PM	91201.08394
0:07:20	0:07:20	63.5	70.7	50.4	8:56:19 PM	2238721.139
0:07:30	0:07:30	58.2	62.8	55.4	8:56:29 PM	660693.448
0:07:40	0:07:40	57.7	62.6	50.7	8:56:39 PM	588843.6554
0:07:50	0:07:50	55.9	58.8	50.9	8:56:49 PM	389045.145
0:08:00	0:08:00	54.6	58.9	50.1	8:56:59 PM	288403.1503
0:08:10	0:08:10	58.2	59.4	56.2	8:57:09 PM	660693.448
0:08:20	0:08:20	54.4	56.9	53	8:57:19 PM	275422.8703
0:08:30	0:08:30	68.4	76.6	53.7	8:57:29 PM	6918309.709
0:08:40	0:08:40	71	76.8	64.2	8:57:39 PM	12589254.12
0:08:50	0:08:50	73	77.4	65.9	8:57:49 PM	19952623.15
0:09:00	0:09:00	62.6	66	58.4	8:57:59 PM	1819700.859
0:09:10	0:09:10	60.7	62.6	58.3	8:58:09 PM	1174897.555
0:09:20	0:09:20	73.4	77.5	60.7	8:58:19 PM	21877616.24
0:09:30	0:09:30	63.9	72.2	52	8:58:29 PM	2454708.916
0:09:40	0:09:40	56.7	59.9	52	8:58:39 PM	467735.1413
0:09:50	0:09:50	57.7	62.8	53.6	8:58:49 PM	588843.6554
0:10:00	0:10:00	62	64	59.3	8:58:59 PM	1584893.192
0:10:10	0:10:10	61.1	62.6	57	8:59:09 PM	1288249.552
0:10:20	0:10:20	61.1	64.3	55.1	8:59:19 PM	1288249.552
0:10:30	0:10:30	53.9	58.4	51.1	8:59:29 PM	245470.8916
0:10:40	0:10:40	60.7	67.4	55	8:59:39 PM	1174897.555
0:10:50	0:10:50	67.7	70.7	58.3	8:59:49 PM	5888436.554
0:11:00	0:11:00	58.5	61	53.4	8:59:59 PM	707945.7844
0:11:10	0:11:10	58.4	61.6	51.8	9:00:09 PM	691830.9709
0:11:20	0:11:20	51.6	54.9	49.9	9:00:19 PM	144543.9771
0:11:30	0:11:30	51.4	52.7	51	9:00:29 PM	138038.4265
0:11:40	0:11:40	51.5	53.2	49.3	9:00:39 PM	141253.7545
0:11:50	0:11:50	59.9	64.9	51.2	9:00:49 PM	977237.221
0:12:00	0:12:00	59.8	64.9	57.3	9:00:59 PM	954992.586
0:12:10	0:12:10	63.9	65.8	59.2	9:01:09 PM	2454708.916
0:12:20	0:12:20	65.9	67.8	62.7	9:01:19 PM	3890451.45
0:12:30	0:12:30	59.9	64.1	53.9	9:01:29 PM	977237.221
0:12:40	0:12:40	53	54.6	51.9	9:01:39 PM	199526.2315
0:12:50	0:12:50	57.2	61.8	52.4	9:01:49 PM	524807.4602
0:13:00	0:13:00	61.5	65.7	57.1	9:01:59 PM	1412537.545
0:13:10	0:13:10	58.8	64.1	55.6	9:02:09 PM	758577.575
0:13:20	0:13:20	53	55.6	50.4	9:02:19 PM	199526.2315
0:13:30	0:13:30	55.2	58.2	51.2	9:02:29 PM	331131.1215
0:13:40	0:13:40	58.2	61.3	53.9	9:02:39 PM	660693.448
0:13:50	0:13:50	58.8	60.8	57	9:02:49 PM	758577.575
0:14:00	0:14:00	60.7	63.1	58	9:02:59 PM	1174897.555
0:14:10	0:14:10	60.9	65.4	56.5	9:03:09 PM	1230268.771

	0:14:20	0:14:20	54.3	57.6	49.9			9:03:19 PM	269153.4804
	0:14:30	0:14:30	50.2	50.9	49.5			9:03:29 PM	104712.8548
	0:14:40	0:14:40	50.1	51.6	49			9:03:39 PM	102329.2992
	0:14:50	0:14:50	56.1	62.5	50.9			9:03:49 PM	407380.2778
	0:15:00	0:15:00	56.4	62.4	50.5			9:03:59 PM	436515.8322
Study #4C	0:00:10	0:00:10	60.2	61.1	59.4	Start:	7:00:42 PM	7:00:52 PM	1047128.548
R5-A	0:00:20	0:00:20	65.7	68	60	End:	7:15:42 PM	7:01:02 PM	3715352.291
	0:00:30	0:00:30	67.5	73.8	61.3	Measured:	1/24/2019	7:01:12 PM	5623413.252
	0:00:40	0:00:40	72.1	75.6	65.2		**Evening**	7:01:22 PM	16218100.97
	0:00:50	0:00:50	63.2	65.2	62			7:01:32 PM	2089296.131
	0:01:00	0:01:00	63.6	64.5	62.7			7:01:42 PM	2290867.653
	0:01:10	0:01:10	64.4	64.9	64	**Baseline Noise Level**		7:01:52 PM	2754228.703
	0:01:20	0:01:20	64.9	66	63.4	**L_{eq}:**	67.7	7:02:02 PM	3090295.433
	0:01:30	0:01:30	64.3	66.1	62.8	**CNEL:**	72.7	7:02:12 PM	2691534.804
	0:01:40	0:01:40	64.4	65.7	63.1			7:02:22 PM	2754228.703
	0:01:50	0:01:50	62.9	63.9	61.6			7:02:32 PM	1949844.6
	0:02:00	0:02:00	63.1	64.2	61.4			7:02:42 PM	2041737.945
	0:02:10	0:02:10	63.7	67.3	61.2			7:02:52 PM	2344228.815
	0:02:20	0:02:20	68.7	73.6	64.1			7:03:02 PM	7413102.413
	0:02:30	0:02:30	64	65.7	63.1			7:03:12 PM	2511886.432
	0:02:40	0:02:40	64.5	65.8	63			7:03:22 PM	2818382.931
	0:02:50	0:02:50	64.5	65.8	62.8			7:03:32 PM	2818382.931
	0:03:00	0:03:00	64	66.2	61.4			7:03:42 PM	2511886.432
	0:03:10	0:03:10	66.4	67.2	65.8			7:03:52 PM	4365158.322
	0:03:20	0:03:20	71.4	75.2	64.4			7:04:02 PM	13803842.65
	0:03:30	0:03:30	64.2	65.9	62.5			7:04:12 PM	2630267.992
	0:03:40	0:03:40	61.7	63.8	59.8			7:04:22 PM	1479108.388
	0:03:50	0:03:50	62.8	63.5	61.8			7:04:32 PM	1905460.718
	0:04:00	0:04:00	61.9	63.1	60.2			7:04:42 PM	1548816.619
	0:04:10	0:04:10	62	62.7	61.2			7:04:52 PM	1584893.192
	0:04:20	0:04:20	61.2	62.4	60.2			7:05:02 PM	1318256.739
	0:04:30	0:04:30	62.3	65.1	60.8			7:05:12 PM	1698243.652
	0:04:40	0:04:40	65.3	67.9	64.2			7:05:22 PM	3388441.561
	0:04:50	0:04:50	65.7	68.5	62.2			7:05:32 PM	3715352.291
	0:05:00	0:05:00	63.1	66.9	61.4			7:05:42 PM	2041737.945
	0:05:10	0:05:10	67.7	68.4	66.6			7:05:52 PM	5888436.554
	0:05:20	0:05:20	66.7	68	64.8			7:06:02 PM	4677351.413
	0:05:30	0:05:30	81.5	88.1	64.1			7:06:12 PM	141253754.5
	0:05:40	0:05:40	65.4	68.6	64			7:06:22 PM	3467368.505
	0:05:50	0:05:50	64.5	67.6	62.2			7:06:32 PM	2818382.931
	0:06:00	0:06:00	67.4	68	66.7			7:06:42 PM	5495408.739
	0:06:10	0:06:10	66.3	67.8	63.8			7:06:52 PM	4265795.188
	0:06:20	0:06:20	63.9	65.2	62.3			7:07:02 PM	2454708.916
	0:06:30	0:06:30	64.6	66.2	62.5			7:07:12 PM	2884031.503
	0:06:40	0:06:40	61.2	62.6	59.7			7:07:22 PM	1318256.739
	0:06:50	0:06:50	59.5	61.5	57.7			7:07:32 PM	891250.9381
	0:07:00	0:07:00	62.7	68	60.6			7:07:42 PM	1862087.137
	0:07:10	0:07:10	66.3	68.3	63.5			7:07:52 PM	4265795.188
	0:07:20	0:07:20	63.7	64.4	63			7:08:02 PM	2344228.815
	0:07:30	0:07:30	62.6	63.6	61.7			7:08:12 PM	1819700.859
	0:07:40	0:07:40	75.5	82.8	56.8			7:08:22 PM	35481338.92
	0:07:50	0:07:50	67	74.5	55.7			7:08:32 PM	5011872.336
	0:08:00	0:08:00	56	59.2	53.5			7:08:42 PM	398107.1706
	0:08:10	0:08:10	59.5	63.8	55.5			7:08:52 PM	891250.9381
	0:08:20	0:08:20	64	65.9	62			7:09:02 PM	2511886.432
	0:08:30	0:08:30	63.8	65.8	61.5			7:09:12 PM	2398832.919
	0:08:40	0:08:40	62.9	66	58			7:09:22 PM	1949844.6
	0:08:50	0:08:50	64	66.3	61.3			7:09:32 PM	2511886.432
	0:09:00	0:09:00	62.4	65.4	57.2			7:09:42 PM	1737800.829
	0:09:10	0:09:10	62.2	62.9	61.3			7:09:52 PM	1659586.907
	0:09:20	0:09:20	59.9	61.6	58.2			7:10:02 PM	977237.221
	0:09:30	0:09:30	58.5	61.4	55.7			7:10:12 PM	707945.7844
	0:09:40	0:09:40	61.1	66.2	56.5			7:10:22 PM	1288249.552
	0:09:50	0:09:50	64.4	66.4	62.3			7:10:32 PM	2754228.703
	0:10:00	0:10:00	64.6	68.2	61.3			7:10:42 PM	2884031.503
	0:10:10	0:10:10	65.5	67.8	61.5			7:10:52 PM	3548133.892
	0:10:20	0:10:20	61.9	65.6	58.8			7:11:02 PM	1548816.619

	0:10:30	0:10:30	63.2	65.4	60			7:11:12 PM	2089296.131
	0:10:40	0:10:40	63.5	64.4	61.9			7:11:22 PM	2238721.139
	0:10:50	0:10:50	61.7	64.2	57.7			7:11:32 PM	1479108.388
	0:11:00	0:11:00	57.3	60	54			7:11:42 PM	537031.7964
	0:11:10	0:11:10	59.8	61.1	55.2			7:11:52 PM	954992.586
	0:11:20	0:11:20	63.5	66.8	60.1			7:12:02 PM	2238721.139
	0:11:30	0:11:30	63.2	65.6	61			7:12:12 PM	2089296.131
	0:11:40	0:11:40	64.8	67.9	61.1			7:12:22 PM	3019951.72
	0:11:50	0:11:50	61.3	63.5	59.4			7:12:32 PM	1348962.883
	0:12:00	0:12:00	61.2	64.2	57.1			7:12:42 PM	1318256.739
	0:12:10	0:12:10	60.6	61.7	58.6			7:12:52 PM	1148153.621
	0:12:20	0:12:20	63.3	65.4	58.8			7:13:02 PM	2137962.09
	0:12:30	0:12:30	64.6	66.3	62.9			7:13:12 PM	2884031.503
	0:12:40	0:12:40	64.8	67.4	62.6			7:13:22 PM	3019951.72
	0:12:50	0:12:50	67	69.1	64.6			7:13:32 PM	5011872.336
	0:13:00	0:13:00	65.9	66.9	63.9			7:13:42 PM	3890451.45
	0:13:10	0:13:10	80	84.7	63.9			7:13:52 PM	100000000
	0:13:20	0:13:20	64.9	70.2	61.8			7:14:02 PM	3090295.433
	0:13:30	0:13:30	68.3	70	65.8			7:14:12 PM	6760829.754
	0:13:40	0:13:40	64	65.9	62.3			7:14:22 PM	2511886.432
	0:13:50	0:13:50	64.2	65.3	62.8			7:14:32 PM	2630267.992
	0:14:00	0:14:00	67.4	69.4	64.2			7:14:42 PM	5495408.739
	0:14:10	0:14:10	64	66.1	60.9			7:14:52 PM	2511886.432
	0:14:20	0:14:20	61.2	64.4	58.9			7:15:02 PM	1318256.739
	0:14:30	0:14:30	66.5	68.5	64.4			7:15:12 PM	4466835.922
	0:14:40	0:14:40	62.9	65.9	60.7			7:15:22 PM	1949844.6
	0:14:50	0:14:50	58.6	61.3	57.6			7:15:32 PM	724435.9601
	0:15:00	0:15:00	62	65.1	58.2			7:15:42 PM	1584893.192
Study #6	0:00:10	0:00:10	70.4	74.4	65.4	Start:	7:27:34 PM	7:27:44 PM	10964781.96
R5-C	0:00:20	0:00:20	72.6	76.7	66.4	End:	7:42:34 PM	7:27:54 PM	18197008.59
	0:00:30	0:00:30	67.3	70.9	61.7	Measured:	1/24/2019	7:28:04 PM	5370317.964
	0:00:40	0:00:40	69.1	70.6	63.4		**Evening**	7:28:14 PM	8128305.162
	0:00:50	0:00:50	58.1	63.4	54.4			7:28:24 PM	645654.229
	0:01:00	0:01:00	72.1	76.6	59.7			7:28:34 PM	16218100.97
	0:01:10	0:01:10	71.9	73.3	69.3	**Baseline Noise Level**		7:28:44 PM	15488166.19
	0:01:20	0:01:20	69.4	71.3	62.5	**L_{eq}:**	69.9	7:28:54 PM	8709635.9
	0:01:30	0:01:30	68.9	74.6	61.5	**CNEL:**	74.9	7:29:04 PM	7762471.166
	0:01:40	0:01:40	73.6	78.1	61			7:29:14 PM	22908676.53
	0:01:50	0:01:50	67.4	74.1	57.6			7:29:24 PM	5495408.739
	0:02:00	0:02:00	72.3	75.1	61.4			7:29:34 PM	16982436.52
	0:02:10	0:02:10	66.5	69.4	60.2			7:29:44 PM	4466835.922
	0:02:20	0:02:20	60.8	67.7	51.6			7:29:54 PM	1202264.435
	0:02:30	0:02:30	67.4	72.4	54.9			7:30:04 PM	5495408.739
	0:02:40	0:02:40	67.4	72	54.5			7:30:14 PM	5495408.739
	0:02:50	0:02:50	67.5	73.2	52.9			7:30:24 PM	5623413.252
	0:03:00	0:03:00	73.9	75.9	69.5			7:30:34 PM	24547089.16
	0:03:10	0:03:10	77.3	82.4	66.9			7:30:44 PM	53703179.64
	0:03:20	0:03:20	68.6	71.9	65.7			7:30:54 PM	7244359.601
	0:03:30	0:03:30	68.7	70.2	66.6			7:31:04 PM	7413102.413
	0:03:40	0:03:40	63.6	69	54.8			7:31:14 PM	2290867.653
	0:03:50	0:03:50	63.9	66.6	56.9			7:31:24 PM	2454708.916
	0:04:00	0:04:00	66.3	69.7	58.2			7:31:34 PM	4265795.188
	0:04:10	0:04:10	71.1	75.8	65.3			7:31:44 PM	12882495.52
	0:04:20	0:04:20	69.4	71.3	64.9			7:31:54 PM	8709635.9
	0:04:30	0:04:30	74.3	77.3	71.4			7:32:04 PM	26915348.04
	0:04:40	0:04:40	71.2	75.1	64			7:32:14 PM	13182567.39
	0:04:50	0:04:50	70.5	72.2	63.9			7:32:24 PM	11220184.54
	0:05:00	0:05:00	68.3	71.1	61.4			7:32:34 PM	6760829.754
	0:05:10	0:05:10	71.1	75.8	63.7			7:32:44 PM	12882495.52
	0:05:20	0:05:20	72.9	76.7	68.4			7:32:54 PM	19498446
	0:05:30	0:05:30	70.7	76.7	61.7			7:33:04 PM	11748975.55
	0:05:40	0:05:40	72.1	76	66.2			7:33:14 PM	16218100.97
	0:05:50	0:05:50	73.2	75	71.2			7:33:24 PM	20892961.31
	0:06:00	0:06:00	71.9	76.9	67.8			7:33:34 PM	15488166.19
	0:06:10	0:06:10	70	73.7	65.9			7:33:44 PM	10000000
	0:06:20	0:06:20	70.8	72.7	67.3			7:33:54 PM	12022644.35
	0:06:30	0:06:30	64.7	70.9	53.2			7:34:04 PM	2951209.227

0:06:40	0:06:40	69.1	74.3	53.2	7:34:14 PM	8128305.162
0:06:50	0:06:50	57.9	63.8	53.9	7:34:24 PM	616595.0019
0:07:00	0:07:00	73.9	78.2	60.4	7:34:34 PM	24547089.16
0:07:10	0:07:10	69.9	74.7	61.4	7:34:44 PM	9772372.21
0:07:20	0:07:20	55.5	61.3	49.7	7:34:54 PM	354813.3892
0:07:30	0:07:30	66.2	68.7	58.4	7:35:04 PM	4168693.835
0:07:40	0:07:40	70.3	75.8	59.9	7:35:14 PM	10715193.05
0:07:50	0:07:50	64.5	71.9	50.8	7:35:24 PM	2818382.931
0:08:00	0:08:00	55	62	50	7:35:34 PM	316227.766
0:08:10	0:08:10	63.8	67.1	57.6	7:35:44 PM	2398832.919
0:08:20	0:08:20	68.3	74.5	58.5	7:35:54 PM	6760829.754
0:08:30	0:08:30	73.1	76.9	64.3	7:36:04 PM	20417379.45
0:08:40	0:08:40	72.6	77.1	67.6	7:36:14 PM	18197008.59
0:08:50	0:08:50	70.2	73.6	63.5	7:36:24 PM	10471285.48
0:09:00	0:09:00	57.3	63.5	49.1	7:36:34 PM	537031.7964
0:09:10	0:09:10	55.3	62.7	49	7:36:44 PM	338844.1561
0:09:20	0:09:20	74.9	81.1	62.7	7:36:54 PM	30902954.33
0:09:30	0:09:30	66.5	70.1	64	7:37:04 PM	4466835.922
0:09:40	0:09:40	73.2	76.2	65.2	7:37:14 PM	20892961.31
0:09:50	0:09:50	68.2	71.2	62.7	7:37:24 PM	6606934.48
0:10:00	0:10:00	72.8	78.7	58.9	7:37:34 PM	19054607.18
0:10:10	0:10:10	67.4	69.8	58.8	7:37:44 PM	5495408.739
0:10:20	0:10:20	59	64	54.4	7:37:54 PM	794328.2347
0:10:30	0:10:30	53.8	56.3	52.2	7:38:04 PM	239883.2919
0:10:40	0:10:40	72.2	77.4	56.3	7:38:14 PM	16595869.07
0:10:50	0:10:50	74.2	77.2	67.4	7:38:24 PM	26302679.92
0:11:00	0:11:00	72.8	76.7	63.5	7:38:34 PM	19054607.18
0:11:10	0:11:10	67.6	73.5	61.2	7:38:44 PM	5754399.373
0:11:20	0:11:20	70.6	76	63	7:38:54 PM	11481536.21
0:11:30	0:11:30	67.1	69.8	63.5	7:39:04 PM	5128613.84
0:11:40	0:11:40	69.7	76.1	55.7	7:39:14 PM	9332543.008
0:11:50	0:11:50	62.8	66.8	55.8	7:39:24 PM	1905460.718
0:12:00	0:12:00	68.4	75.1	55.6	7:39:34 PM	6918309.709
0:12:10	0:12:10	68	71.3	59.9	7:39:44 PM	6309573.445
0:12:20	0:12:20	55.3	59.9	52	7:39:54 PM	338844.1561
0:12:30	0:12:30	73.1	78	56.2	7:40:04 PM	20417379.45
0:12:40	0:12:40	68.9	70.5	65.7	7:40:14 PM	7762471.166
0:12:50	0:12:50	58.9	65.7	53.1	7:40:24 PM	776247.1166
0:13:00	0:13:00	67	69.9	56.5	7:40:34 PM	5011872.336
0:13:10	0:13:10	69.4	75	56.9	7:40:44 PM	8709635.9
0:13:20	0:13:20	51.6	56.8	48.4	7:40:54 PM	144543.9771
0:13:30	0:13:30	59.3	66	49.3	7:41:04 PM	851138.0382
0:13:40	0:13:40	70.3	74.2	63.7	7:41:14 PM	10715193.05
0:13:50	0:13:50	69.4	71.8	62.1	7:41:24 PM	8709635.9
0:14:00	0:14:00	56.7	62	52.8	7:41:34 PM	467735.1413
0:14:10	0:14:10	64.5	69.1	54.2	7:41:44 PM	2818382.931
0:14:20	0:14:20	51.9	55.2	49.5	7:41:54 PM	154881.6619
0:14:30	0:14:30	67.3	72.7	55.2	7:42:04 PM	5370317.964
0:14:40	0:14:40	55.5	62.9	49.1	7:42:14 PM	354813.3892
0:14:50	0:14:50	55.9	64.2	49.3	7:42:24 PM	389045.145
0:15:00	0:15:00	73	78.4	64.2	7:42:34 PM	19952623.15

APPENDIX D

NON-TRANSPORTATION SOURCES – NOISE IMPACT DETERMINATION

Insertion Loss Calculations @ R2 + R3

Mountain Range/Topography Barrier Noise Attenuation

Insertion Loss Calculations @ Receptors 2 (R2) & 3 (R3)

Insertion Loss (IL) Equation = 5dB + 20log((√2pN)/tanh(√2pN))dB

Source: Center for Transportation Research's *Design Guide for Highway Noise Barriers* (2003)

Caltrans *Technical Noise Supplement* offers the following guidance (Caltrans, 2013):

"Given the same site cross section, distance between source and receiver, and barrier height, a berm allows greater barrier attenuation than the thin screen (wedge), such as a soundwall. In general the actual extra attenuation associated with a berm is somewhere between 1 and 3 dBA."

Because the intervening mountain range is a large earthen mass (similar to an earthen berm), an additional -3 dBA of noise attenuation is assumed.

Fresnel Number (N): $((a + b - ʅ)ƒ)/c_0$

Note: Fresnel number (N) is a nondimensional measure of how much farther the sound must travel as a result of the barrier.

ʅ - The original length of the direct path from source to receiver (ft.)
a - Path length from barrier to source (ft.)
b - Path length from barrier to receiver (ft.)
ƒ - Equipment sound frequency in hertz (Hz)
c_0 - Speed of sound propagation in air (approximately 1,100 ft./sec.)

Receptor & Equipment Source Elevation Data

940	feet (amsl)	(approximate elevation of the lowest intervening mountain peak between closest excavation area and Receptors 2 (R2) and 3 (R3))
865	feet (amsl)	(approximate elevation of Receptors 2 (R2) and 3 (R3))
830	feet	(approximate distance between closest/lowest intervening mountain peak and Receptor 2 (R2) and 3 (R3))
875	feet (amsl)	(approximate elevation of the excavation area closest to Receptor 2 (R2) and 3 (R3))
400	feet	(approximate distance between closest/lowest intervening mountain peak and closest excavation area)

True Distances

833.4	feet	(straight line distance between lowest intervening mountain ridge and Receptor 2 (R2) and 3 (R3))
405.2	feet	(straight line distance between lowest intervening mountain ridge and excavation area closest to Receptor 2 (R2) and 3 (R3))

Project Results

ʅ -	1,238.63	feet	(total true distance between closest excavation/equipment area(s) and R2/R3)
a -	405.33	feet	(direct distance between the closest/lowest mountain peak and top of excavation equipment)
b -	833.40	feet	(direct distance between the closest/lowest mountain peak and R2/R3)
ƒ -	2,000.00	hertz	(2,000 is appropriate for crushing/screening, conservatively applied to mobile mining equipment)
Fresnel Number (N)	0.16		
Estimated Insertion Loss [A]	**10.4**	dBA reduction @ R2/R3 due to intervening mountain range	

Footnotes:

Note - Mining equipment (e.g., loaders, excavators, dozers, etc.) height is estimated to be 8-feet above the ground surface. Receiver/receptor height is estimated to be 5-feet above the ground surface.

amsl = above mean sea level (feet). Elevations were estimated using topographic data provided by Pacific Rock.

A - Per Caltrans *Technical Noise Supplement* (2013) guidance referenced above, an additional -3 dB of noise attenuation is assumed due to mountain range being the equivalent of an "earthen berm" as opposed to a hard surfaced soundwall.

Facility/Onsite Noise Impact Calculations

Excavation Equipment (Mobile Sources) Noise Reference Data				
Equipment	**L_{max} at 50-feet** [A]	**Usage Factor (%)** [B]	**Adjusted L_{eq}1H at 50-feet**	**Source of Data**
Front-End Loader	80	0.33	75.2	Equipment noise data sourced from the Federal Highway Administration's (FHWA's) *Roadway Construction Noise Model* and Ventura County's *Construction Noise Threshold Criteria and Control Plan*. Usage factor (UF) is "the percentage of time during the work period that the equipment is operating under full load or near full power". Usage factors are based on the default equipment specific usage factors from FHWA's *Roadway Construction Noise Model* multiplied by an efficiency factor. An efficiency factor of 83% (50 minutes/hour) is utilized to account for operator inefficiencies and breaks. Rock drill and water truck efficiencies are assumed to be 25% (15 minutes/hour) due to their less frequent and shorter activity cycles.
Dozer (Bulldozer)	85	0.33	80.2	
Excavator	85	0.33	80.2	
Rock Drill	85	0.05	72.0	
Water Truck	94	0.10	84.0	
Mobile Source Noise Levels (L_{eq}1H):	**95.5**	**dBA**	**87.1**	**dBA**

Footnotes:

A - L_{max} noise levels for mobile equipment are defaults from the FHWA's *Roadway Construction Noise Model*. Water truck L_{max} taken from Ventura County's *Construction Noise Threshold Criteria and Control Plan.*

B - Default usage factors (UF %) taken from the FHWA's *Roadway Construction Noise Model*. Default UF's % are multiplied by an efficiency factor to account for operator inefficiencies and breaks.

Front-End Loader = 40%, Dozer (Bulldozer) = 40%, Excavator = 40%, Rock Drill = 20%, Water Truck = 40% (utilized "Dump Truck" UF %).

Unmitigated Mobile Source Noise Levels @ Facility Receptors (L_{eq}1H)							
		Nearest Mining/Facility Boundary			**Nearest Mining Area with Line-of-Sight (LoS)** [F]		
Receptor [A]	**Ambient Daytime Noise Level (dBA)** [C]	**Distance Nearest Mine Boundary to Receptor (ft.)** [B]	**Noise Attenuation due to Topography (dBA)** [E]	**Mobile Sources Noise with Attenuation (dBA)** [D, E]	**Distance Nearest Mining Area with Direct Line-of-Sight (LoS) to Receptor (ft.)**	**Noise Attenuation due to Topography (dBA)**	**Mobile Sources Noise with Attenuation (dBA)** [D]
Receptor 1 (R1)	41.6	1,160	0	59.8	1,160	0	59.8
Receptor 2-A (R2-A)	44.8	1,161	-10	49.8	---	---	---
Receptor 2-B (R2-B)	44.8	1,194	-10	49.5	1,652	0	56.7
Receptor 2-C (R2-C)	44.8	943	-10	51.6	---	---	---
Receptor 3 (R3)	44.8	390	-10	59.2	---	---	---

Footnotes:

A - Please see Figure 2 which shows the location of Receptors R1, R2 and R3. R2 receptors (R2-A, R2-B and R2-C) collectively represent residential properties in the Dos Vientos community in Newbury Park.

B - Distances (feet) between receptors and closest excavation boundaries were estimated using Google Earth (see Figure 2).

C - Ambient measurements were collected at Receptors R1 and R2/R3 on 12/20/2018 and 12/21/2018. Please see Appendix C for more detail.

D - L_{eq}/L_{max} = Total Equipment L_{eq}/L_{max} @ 50-feet - 20*log(D/50). D = distance between source and receptor. (Source: Ventura County's *Construction Noise Threshold and Control Plan* and FHWA's *Roadway Construction Noise Model*).

E - As shown on Figures 4A, 4B, and 4C, none of the residences that comprise Receptor 2 (R2) or the portion of the Powerline hiking trail represented by Receptor 3 (R3) will have direct line-of-sight to mobile equipment sources operating within the mining areas closest to each receptor. Therefore, due to intervening mountain ranges blocking line-of-sight between noise sources (i.e., mobile mining equipment) and receptors, an additional -10 dBA of noise attenuation is assumed at Receptors 2 (R2) and 3 (R3). See the noise barrier insertion loss calculations (Appendix D) for more detail. Based on the intervening topography, -10 dBA of sound attenuation represents a conservative estimate of noise attenuation provided by the mountain ridge.

F - As shown on Figures 4A and 4C, Receptors 2-A (R2-A), 2-C (R2-C) and 3 (R3) do not have a direct line-of-sight to any of the expanded mining boundaries. Therefore, worst case noise impacts will occur when mobile equipment is operating at the nearest mining boundary (see previous calculations) with a -10 dBA attenuation assumed due to the intervening topography. However, for Receptor 2-B (R2-B) there are three (3) areas within the expanded mining boundary where this receptor will have direct line-of-sight to operating mobile equipment (e.g., loaders, excavators, water truck, etc.), and therefore no noise attenuation can be assumed. Please see Figure 4B and Figure 5 which show the three (3) mining areas where Receptor 2-B (R2-B) will have direct line-of-sight to operating mining equipment, the closest of which is approximately 1,652-feet away. Mobile equipment operating in these areas will produce the worst case noise impacts at Receptor 2-B (R2-B), and are therefore analyzed to determine the significance of noise impacts at this receptor.

Facility/Onsite Noise Impacts @ Receptor 2-B (R2-B)

Unmitigated Noise Impacts with Line-of-Sight/Attenuation

Facility/Onsite Noise Impact Calculations @ Receptor 2-B (R2-B)

Excavation (i.e., mobile) Equipment Noise Reference Data

Equipment	L_{max} at 50-feet [A]	Usage Factor (%) [B]	Adjusted L_{eq}1H at 50-feet	Source of Data
Front-End Loader	80	0.33	75.2	Equipment noise data sourced from the Federal Highway Administration's (FHWA's) *Roadway Construction Noise Model* and Ventura County's *Construction Noise Threshold Criteria and Control Plan*. Usage factor (UF) is "the percentage of time during the work period that the equipment is operating under full load or near full power". Usage factors are based on the default equipment specific usage factors from FHWA's *Roadway Construction Noise Model* multiplied by an efficiency factor. An efficiency factor of 83% (50 minutes/hour) is utilized to account for operator inefficiencies and breaks. Rock drill and water truck efficiencies are assumed to be 25% (15 minutes/hour) due to their less frequent and shorter activity cycles.
Dozer (Bulldozer)	85	0.33	80.2	
Excavator	85	0.33	80.2	
Rock Drill	85	0.05	72.0	
Water Truck	94	0.10	84.0	
Mobile Source Noise Levels - L_{eq}1H (dBA):	**95.5**		**87.1**	

Aggregate + Recycle Plant Equipment (Stationary Source) Noise Reference Data

Equipment	Measured L_{eq} at 50-feet [C]	Source of Data
Recycle Plant	84.1	The existing Aggregate Plant and the proposed Recycle Plant noise levels based on field measurements of rock crushing/recycling activities from a previous Sespe noise study completed in Otay Mesa, California (Sespe, 2020). This reference data is a conservative representation of Pacific Rock's existing and proposed operations. See Appendix B for relevant equipment measurement data and additional explanation from the Sespe's 2020 study.
Aggregate Plant	84.1	

Recycle/Aggregate Plant Noise @ R2-B

Recycle Plant Noise @ 50-feet:	84.1	dBA
Aggregate Plant Noise @ 50-feet:	84.1	dBA
Distance (ft.) from R2-B to Recycle Plant [B]:	2,688	feet
Distance (ft.) from R2-B to Aggregate Plant [B]:	2,781	feet
Assumed LoS Attenuation [D]:	-10	dba
Recycle Plant Noise Level @ R2-B:	39.5	dBA
Aggregate Plant Noise Level @ R2-B:	39.2	dBA
Total Stationary Source Noise @ R2-B:	**42.4**	dBA

Ambient Noise Level @ R2-B

Measured Ambient Noise Level (Daytime):	44.8	dBA

Unmitigated Noise Propagation Calculations @ Receptor 2-B (R2-B)

	Receptor 2-A [E]	Receptor 2-B [G]	Receptor 2-C [E]	
Excavation Noise @ 50-feet =	---	87.1	---	dBA
Distance to LoS-A = [F]	---	1,652	---	feet
Peak Noise Level (L_{eq}1H) at LoS-A =	---	**57.1**	---	dBA
Distance to LoS-B = [F]	---	2,486	---	feet
Peak Noise Level (L_{eq}1H) at LoS-B =	---	54.0	---	dBA
Distance to LoS-C = [F]	---	3,528	---	feet
Peak Noise Level (L_{eq}1H) at LoS-C =	---	51.8	---	dBA

Footnotes:

A - L_{max} noise levels for equipment are defaults from the FHWA's *Roadway Construction Noise Model*. Water truck L_{max} taken from Ventura County's *Construction Noise Threshold Criteria and Control Plan.*

B - Default usage factors (UF %) taken from the FHWA's *Roadway Construction Noise Model*. Default UF's % are multiplied by an efficiency factor to account for operator inefficiencies and breaks.

Front-End Loader = 40%, Dozer (Bulldozer) = 40%, Excavator = 40%, Rock Drill = 20%, Water Truck = 40% (utilized "Dump Truck" UF %).

C - Aggregate and Recycle Plant L_{eq} noise levels at 50-feet based on field measurements of a rock crushing/aggregate processing plant from a previous Sespe noise study conducted in Otay Mesa, California (Sespe, 2020). See Appendix B more detail.

D - Due to intervening mountain ranges/excavation pit walls blocking line-of-sight between Receptor 2-B (R2-B) and the Aggregate Plant and Recycle Plant locations, an additional -10 dBA of noise attenuation is assumed.

E - Please see Figure 5 which displays the LoS areas and associated distances in relation to Receptor 2-B (R2-B). Receptor 2-A (see Figure 4A) and 2-C (see Figure 4C) do not have line-of-sight to the areas designated as LoS-A, LoS-B or LoS-C, and therefore calculations are not shown (see previous sheet).

F - Distances (feet) between R2-B and closest line-of-sight (LoS) areas estimated using Google Earth (see Figure 5).

G - Since Line-of-Sight Area A (LoS-A) is the visible mining area (i.e. has line-of-sight) nearest to Receptor 2-B, mining in LoS-A will result in the worst case noise impacts to receptor R2-B and is therefore utilized to determine the significance of Facility noise impacts at this receptor.

Facility/Onsite Noise Impact Calculations

Excavation Equipment (Mobile Sources) Noise Reference Data				
Equipment	L_{max} at 50-feet [A]	Usage Factor (%) [B]	Adjusted L_{eq}1H at 50-feet	Source of Data
Front-End Loader	80	0.33	75.2	Equipment noise data sourced from the Federal Highway Administration's (FHWA's) *Roadway Construction Noise Model* and Ventura County's *Construction Noise Threshold Criteria and Control Plan*. Usage factor (UF) is "the percentage of time during the work period that the equipment is operating under full load or near full power". Usage factors are based on the default equipment specific usage factors from FHWA's *Roadway Construction Noise Model* multiplied by an efficiency factor. An efficiency factor of 83% (50 minutes/hour) is utilized to account for operator inefficiencies and breaks. Rock drill and water truck efficiencies are assumed to be 25% (15 minutes/hour) due to their less frequent and shorter activity cycles.
Dozer (Bulldozer)	85	0.33	80.2	
Excavator	85	0.33	80.2	
Rock Drill	85	0.05	72.0	
Water Truck	94	0.10	84.0	
Mobile Source Noise Levels (L_{eq}1H):	**95.5**	**dBA**	**87.1**	**dBA**

Aggregate + Recycle Plant Equipment (Stationary Source) Noise Reference Data		
Equipment	Measured L_{eq} at 50-feet [C]	Source of Data
Recycle Plant	84.1	The existing Aggregate Plant and the proposed Recycle Plant noise levels based on field measurements of rock crushing/recycling activities from a previous Sespe noise study completed in Otay Mesa, California (Sespe, 2020). This reference data is a conservative representation of Pacific Rock's existing and proposed operations. See Appendix B for relevant equipment measurement data and additional explanation from the Sespe's 2020 study.
Aggregate Plant	84.1	

Footnotes:

A - L_{max} noise levels for mobile equipment are defaults from the FHWA's *Roadway Construction Noise Model*. Water truck L_{max} taken from Ventura County's *Construction Noise Threshold Criteria and Control Plan.*

B - Default usage factors (UF %) taken from the FHWA's *Roadway Construction Noise Model*. Default UF's % are multiplied by an efficiency factor to account for operator inefficiencies and breaks.

Front-End Loader = 40%, Dozer (Bulldozer) = 40%, Excavator = 40%, Rock Drill = 20%, Water Truck = 40% (utilized "Dump Truck" UF %).

C - Existing Aggregate Plant and proposed Recycle Plant L_{eq} noise level at 50-feet is based on field measurements of a rock crushing/processing plant from a previous Sespe noise study completed in Otay Mesa, California (Sespe, 2020). See Appendix B for relevant excerpt and source measurement data from Sespe's 2020 study.

Unmitigated Onsite Noise Levels @ Facility Receptors (L_{eq}1H)										
		Mobile Source Noise Levels		Stationary Source Noise Levels				Project Impacts & Significance Determination		
Receptor[A]	Ambient Daytime Noise Level (dBA) [C]	Distance Mobile Sources to Receptor (ft.) [B]	Mobile Sources Noise with Attenuation (dBA) [D, E, H]	Distance to Existing Aggregate Plant to Receptor (ft.) [B]	Existing Aggregate Plant Noise with Attenuation (dBA) [D, E]	Distance to Proposed Recycle Plant to Receptor (ft.) [B]	Proposed Recycle Plant Noise with Attenuation (dBA) [D, E]	Total Project Noise Level @ Receptor (dBA) [F]	Significance Threshold (dBA) [G]	Significant?
Receptor 1 (R1)	41.6	1,160	59.8	2,474	50.2	1,833	52.8	**61.0**	**55**	**Yes**
Receptor 2-A (R2-A)	44.8	1,161	49.8	2,728	39.4	2,547	40.0	51.6	55	No
Receptor 2-B (R2-B)	44.8	1,652	56.7	2,781	39.2	2,688	39.5	**57.1**	**55**	**Yes**
Receptor 2-C (R2-C)	44.8	943	51.6	2,730	39.4	2,580	39.8	52.8	55	No
Receptor 3 (R3)	44.8	390	59.2	2,201	41.2	1,955	42.3	**59.5**	**55**	**Yes**

Footnotes:

A - Please see Figure 2 which shows the location of Receptors R1, R2 and R3. R2 receptors (R2-A, R2-B and R2-C) collectively represent residential properties in the Dos Vientos community in Newbury Park.

B - Distances (feet) between receptors and closest excavation boundaries/line-of-sight areas as well as the stationary Aggregate Plant and potential Recycle Plant locations estimated using Google Earth (see Figure 2 and 5).

C - Ambient measurements were collected at Receptors R1 and R2/R3 on 12/20/2018 and 12/21/2018. Please see Appendix C for more detail.

D - L_{eq}/L_{max} = Total Equipment L_{eq}/L_{max} @ 50-feet - 20*log(D/50). D = distance between source and receptor. (Source: Ventura County's *Construction Noise Threshold and Control Plan* and FHWA's *Roadway Construction Noise Model*).

E - Due to intervening mountain ranges blocking line-of-sight between noise sources (i.e., mining equipment, recycle plant) and receptors, an additional -10 dBA of noise attenuation is assumed. Specifically, none of the Facility receptors to the east (R2 and R3) have a direct line-of-sight to the existing Aggregate Plant or proposed Recycle Plant due to its proposed location within the bottom of the existing mine pit. Additionally, the intervening mountain range blocks line-of-sight between excavation equipment and Receptors R2-A (Figure 4A) as well as R2-C and R-3 (Figure 4C). See the noise barrier insertion loss calculations (Appendix D) for more detail. Based on the intervening topography, -10 dBA of sound attenuation represents a conservative estimate. Conservatively, no attenuation was assumed at Receptor 1 (R1) as portions of this receptor may have an unobstructed view of both the existing Aggregate Plant and proposed Recycle Plant.

F - Total Project noise levels (L_{eq}1H) at each receptor represents the calculated Facility noise level (i.e., operating mobile and stationary equipment) added to the measured ambient noise level. This represents the total unmitigated noise level (L_{eq}1H, dBA) experienced at receptors as a result of the Project. Please note, these Project noise levels take into account applicable line-of-sight attenuation.

G - Because excavation operations will continue to occur during daytime hours only (7:00 a.m. - 4:00 p.m.), only the daytime significance thresholds are utilized to determine the significance of noise impacts at Facility receptors. Ventura County General Plan Noise Element has a daytime (6:00 a.m. - 7:00 p.m.) significance threshold of 55 L_{eq}1H dBA.

H - As discussed previously, there are areas within the expanded mining boundary where Receptor 2-B (R2-B) will have a direct line-of-sight to mobile equipment (e.g., loaders, excavators, water truck, etc.) within the expanded mine areas, and therefore no noise attenuation can be assumed. Please see Figure 4B and Figure 5 which show the three (3) mining areas where Receptor 2-B (R2-B) will have direct line-of-sight to operating mining equipment, the closest of which is approximately 1,652-feet away. Mobile equipment operating in these areas will produce the worst case noise impacts at Receptor 2-B (R2-B), and are therefore analyzed to determine the significance of noise impacts at this receptor.

Mitigation Measure NO-2 - Mitigated Noise Impacts

Mitigated Noise Levels at Impacted Receptors

Expected Decrease in Excavation Equipment (Mobile Sources) Noise Levels due to Mitigation

Equipment	Dominant Noise Components [A]	Unmitigated L_{eq} @ 50-feet (dBA)	Noise Component to Mitigated [B, C]	Control Techniques [B, C]	Probable Noise Reduction (dBA) [C]	Mitigated L_{eq}1H @ 50-feet (dBA) [D]	L_{avg} $10^{(X/10)}$	
Front-End Loader	E, C, F, I, H	75.2	Exhaust (E)	Install improved muffler	-10	65.2	3320000.0	
Dozer (Bulldozer)	E, C, F, I, H	80.2	Exhaust (E)	Install improved muffler	-10	70.2	10498761.8	
Excavator (Shovel)	E, C, F, I, H, W	80.2	Exhaust (E)	Install improved muffler	-10	70.2	10498761.8	
Rock Drill	W, E, P	72.0	Exhaust (E)	Install improved muffler	-5	67.0	5000000.0	
Water Truck	W, E, C, F, I, T	84.0	Exhaust (E)	Install improved muffler	-5	79.0	79432823.5	
						Total Mitigated Excavation Noise Level (L_{eq}1H):	**80.4**	**dBA**

Footnotes:

A - Ranked noisy components. C = casing, E = exhaust, F = fan, H = hydraulics, I = intake air, P = pneumatic exhaust, T = transmission, W = work tool. These represent the equipment components that can be controlled/altered to reduce reduce the overall noise level generated by the equipment. (Sources: Ventura County's *Construction Noise Threshold Criteria and Control Plan,* EPA's *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances).*

B - Ventura County's *Construction Noise Threshold Criteria and Control Plan* has unmitigated and mitigated noise levels for the equipment shown at 50-feet. Mitigated noise levels are the "estimated level obtainable by quieter methods or equipment and implementing feasible noise control." These can be achieved by controlling the noisy equipment components (e.g., the exhaust).

C - The EPA's *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances* notes that installation of an "improved muffler" on each equipment's "exhaust" would result in a "probable noise reduction" of -10 dBA. Conservatively, this NVIA assumes this control measure would achieve only a -5 dBA noise reduction for the rock drill and water truck, as the exhaust port is not the dominant noise component. This mitigation is also presented in Ventura County's *Construction Noise Threshold Criteria and Control Plan* , which references the EPA's mitigated equipment noise levels. An excerpt from the EPA's guidance document is included in Appendix B.

D - Following installation of an "improved muffler" on each piece of mining equipment, the mitigated noise level (L_{eq}) is expected to be achieved. (Source: EPA's *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*).

Plant Equipment (Stationary Source) Noise Reference Data

Equipment	Measured L_{eq} at 50-feet [G]	Source of Data
Recycle Plant	84.1	See previous sheet/Appendix B.
Aggregate Plant	84.1	

Mitigated Onsite Noise Levels @ Facility Receptors (L_{eq}1H)

		Mitigated Mobile Source Noise Levels		Stationary Source Noise Levels				Mitigated Project Impacts & Significance Determination		
Receptor [A]	Ambient Daytime Noise Level (dBA) [C]	Distance Mobile Source to Receptor (ft.) [A, F]	Mobile Source Noise with Attenuation (dBA) [B, C]	Distance to Existing Aggregate Plant to Receptor (ft.) [A]	Existing Aggregate Plant Noise with Attenuation (dBA) [B, C]	Distance to Proposed Recycle Plant to Receptor (ft.) [A]	Proposed Recycle Plant Noise with Attenuation (dBA) [B, C]	Total Project Noise Level @ Receptor (dBA) [D]	Significance Threshold (dBA) [E]	Significant?
Receptor 1 (R1)	41.6	1,160	53.1	2,474	50.2	1,833	52.8	**57.1**	**55**	**Yes**
Receptor 2-A (R2-A)	44.8	1,161	43.0	2,728	39.4	2,547	40.0	48.4	55	No
Receptor 2-B (R2-B)	44.8	1,652	50.0	2,781	39.2	2,688	39.5	51.7	55	No
Receptor 2-C (R2-C)	44.8	943	44.9	2,730	39.4	2,580	39.8	49.0	55	No
Receptor 3 (R3)	44.8	390	52.5	2,201	41.2	1,955	42.3	53.8	55	No

Note: Prior to mitigation, noise impacts at Residence 2A (R2-A) and Residence 2C (R2-C) were shown to be below the significance threshold due to intervening topography (see previous sheet). However, since the proposed mitigation will apply to all excavation equipment, including equipment operating near R2-A and R2-C, the mitigated noise levels at these receptors are also shown here for informational purposes.

Footnotes:

A - Distances estimated using Google Earth (see Figure 2 & Figure 5).

B - L_{eq}/L_{max} = Total Equipment L_{eq}/L_{max} @ 50-feet - 20*log(D/50). D = distance between source and receptor. (Source: Ventura County's *Construction Noise Threshold and Control Plan* and FHWA's *Roadway Construction Noise Model*).

C - Due to intervening mountain ranges blocking line-of-sight between noise sources (i.e., mining equipment, recycle plant) and receptors , an additional -10 dBA of noise attenuation is assumed. Specifically, none of the Facility receptors to the east (R2 and R3) have a direct line-of-sight to the existing Aggregate Plant or proposed Recycle Plant due to its proposed location within the bottom of the existing mine pit. Additionally, the intervening mountain range blocks line-of-sight between excavation equipment and Receptors R2-A (Figure 4A) as well as R2-C and R-3 (Figure 4C). See the noise barrier insertion loss calculations (Appendix D) for more detail. Based on the intervening topography, -10 dBA of sound attenuation represents a conservative estimate. Conservatively, no attenuation was assumed at Receptor 1 (R1) as portions of this receptor may have an unobstructed view of both the existing Aggregate Plant and proposed Recycle Plant.

D - Total Project noise levels (L_{eq}1H) at each receptor represents the calculated Facility noise level (i.e., operating mobile and stationary equipment) added to the measured ambient noise level. This represents the total noise level (L_{eq}1H, dBA) experienced at receptors as a result of the Project. Please note, these Project noise levels take into account applicable line-of-sight attenuation as well as equipment mitigations (i.e., improved mufflers on mobile equipment) described above.

E - Ventura County *2040 General Plan* Health and Safety Element has the daytime (6:00 a.m. - 7:00 p.m.) significance threshold of 55 L_{eq}1H dBA.

F - Since Line-of-Sight Area A (LoS-A) is the visible mining area (i.e., has line-of-sight) nearest to Receptor 2-B, mining in LoS-A will result in the worst case noise impacts to receptor R2-B and is therefore utilized to determine the significance of Facility noise impacts. Distances (feet) between R2-B and closest line-of-sight (LoS) areas estimated using Google Earth (see Figure 5).

G - Ambient measurements were collected at Receptors R1 and R2/R3 on 12/20/2018 and 12/21/2018. Please see Appendix C for more detail.

Mitigation Measure NO-4 - Mitigated Noise Impacts

Mitigated Noise Levels at Impacted Receptors

Expected Decrease in Excavation Equipment (Mobile Sources) Noise Levels due to Mitigation							
Equipment	**Dominant Noise Components [A]**	**Unmitigated L_{eq} @ 50-feet (dBA)**	**Noise Component to Mitigated [B, C]**	**Control Techniques [B, C]**	**Probable Noise Reduction (dBA) [C]**	**Mitigated L_{eq}1H @ 50-feet (dBA) [D]**	**L_{avg} $10^{(X/10)}$**
Front-End Loader	E, C, F, I, H	75.2	Exhaust (E)	Install improved muffler	-10	65.2	3320000.0
Dozer (Bulldozer)	E, C, F, I, H	80.2	Exhaust (E)	Install improved muffler	-10	70.2	10498761.8
Excavator (Shovel)	E, C, F, I, H, W	80.2	Exhaust (E)	Install improved muffler	-10	70.2	10498761.8
Rock Drill	W, E, P	72.0	Exhaust (E)	Install improved muffler	-5	67.0	5000000.0
Water Truck	W, E, C, F, I, T	84.0	Exhaust (E)	Install improved muffler	-5	79.0	79432823.5
						Total Mitigated Excavation Noise Level (L_{eq}1H):	**80.4** dBA

Footnotes:

A - Ranked noisy components. C = casing, E = exhaust, F = fan, H = hydraulics, I = intake air, P = pneumatic exhaust, T = transmission, W = work tool. These represent the equipment components that can be controlled/altered to reduce reduce the overall noise level generated by the equipment. (Sources: Ventura County's *Construction Noise Threshold Criteria and Control Plan,* EPA's *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances).*

B - Ventura County's *Construction Noise Threshold Criteria and Control Plan* has unmitigated and mitigated noise levels for the equipment shown at 50-feet. Mitigated noise levels are the "estimated level obtainable by quieter methods or equipment and implementing feasible noise control." These can be achieved by controlling the noisy equipment components (e.g., the exhaust).

C - The EPA's *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances* notes that installation of an "improved muffler" on each equipment's "exhaust" would result in a "probable noise reduction" of -10 dBA. Conservatively, this NVIA assumes this control measure would achieve only a -5 dBA noise reduction for the rock drill and water truck, as the exhaust port is not the dominant noise component. This mitigation is also presented in Ventura County's *Construction Noise Threshold Criteria and Control Plan* , which references the EPA's mitigated equipment noise levels. An excerpt from the EPA's guidance document is included in Appendix B.

D - Following installation of an "improved muffler" on each piece of mining equipment, the mitigated noise level (L_{eq}) is expected to be achieved. (Source: EPA's *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*).

Plant Equipment (Stationary Source) Noise Reference Data		
Equipment	**Measured L_{eq} at 50-feet [G]**	**Source of Data**
Recycle Plant	84.1	See previous sheet/Appendix B.
Aggregate Plant	84.1	

Mitigated Onsite Noise Levels @ Facility Receptors (L_{eq}1H)										
		Mitigated Mobile Source Noise Levels		**Stationary Source Noise Levels**				**Mitigated Project Impacts & Significance Determination**		
Receptor [A]	**Ambient Daytime Noise Level (dBA) [C]**	**Distance Mobile Source to Receptor (ft.) [A, F]**	**Mobile Source Noise with Attenuation (dBA) [B, C]**	**Distance to Existing Aggregate Plant to Receptor (ft.) [A]**	**Existing Aggregate Plant Noise with Attenuation (dBA) [H]**	**Distance to Proposed Recycle Plant to Receptor (ft.) [A]**	**Proposed Recycle Plant Noise with Attenuation (dBA) [B, C]**	**Total Project Noise Level @ Receptor (dBA) [D, H]**	**Significance Threshold (dBA) [E]**	**Significant?**
Receptor 1 (R1)	41.6	1,160	53.1	2,474	---	1,833	52.8	**56.1**	**55**	**Yes**
Receptor 2-A (R2-A)	44.8	1,161	43.0	2,728	---	2,547	40.0	47.8	55	No
Receptor 2-B (R2-B)	44.8	1,652	50.0	2,781	---	2,688	39.5	51.4	55	No
Receptor 2-C (R2-C)	44.8	943	44.9	2,730	---	2,580	39.8	48.5	55	No
Receptor 3 (R3)	44.8	390	52.5	2,201	---	1,955	42.3	53.5	55	No

Note: Prior to mitigation, noise impacts at Receptor 2 (R2) and Receptor 3 (R3) were shown to be below the significance threshold due to intervening topography (see previous sheet). However, since the proposed mitigation will apply to all excavation equipment, including stationary and mobile equipment operating near R2 and R3, the mitigated noise levels at these receptors are also shown here for informational purposes.

Footnotes:

A - Distances estimated using Google Earth (see Figure 2 & Figure 5).

B - L_{eq}/L_{max} = Total Equipment L_{eq}/L_{max} @ 50-feet - 20*log(D/50). D = distance between source and receptor. (Source: Ventura County's *Construction Noise Threshold and Control Plan* and FHWA's *Roadway Construction Noise Model*).

C - Due to intervening mountain ranges blocking line-of-sight between noise sources (i.e., mining equipment, recycle plant) and receptors , an additional -10 dBA of noise attenuation is assumed. Specifically, none of the Facility receptors to the east (R2 and R3) have a direct line-of-sight to the existing Aggregate Plant or proposed Recycle Plant due to its proposed location within the bottom of the existing mine pit. Additionally, the intervening mountain range blocks line-of-sight between excavation equipment and Receptors R2-A (Figure 4A) as well as R2-C and R-3 (Figure 4C). See the noise barrier insertion loss calculations (Appendix D) for more detail. Based on the intervening topography, -10 dBA of sound attenuation represents a conservative estimate. Conservatively, no attenuation was assumed at Receptor 1 (R1) as portions of this receptor may have an unobstructed view of both the existing Aggregate Plant and proposed Recycle Plant.

D - Total Project noise levels (L_{eq}1H) at each receptor represents the calculated Facility noise level (i.e., operating mobile and stationary equipment) added to the measured ambient noise level. This represents the total noise level (L_{eq}1H, dBA) experienced at receptors as a result of the Project. Please note, these Project noise levels take into account applicable line-of-sight attenuation as well as mobile equipment mitigations (i.e., improved mufflers on mobile equipment) and stationary equipment mitigations (i.e., no simultaneous operation of processing equipment).

E - Ventura County *2040 General Plan* Health and Safety Element has the daytime (6:00 a.m. - 7:00 p.m.) significance threshold of 55 L_{eq}1H dBA.

F - Since Line-of-Sight Area A (LoS-A) is the visible mining area (i.e., has line-of-sight) nearest to Receptor 2-B, mining in LoS-A will result in the worst case noise impacts to receptor R2-B and is therefore utilized to determine the significance of Facility noise impacts. Distances (feet) between R2-B and closest line-of-sight (LoS) areas estimated using Google Earth (see Figure 5).

G - Ambient measurements were collected at Receptors R1 and R2/R3 on 12/20/2018 and 12/21/2018. Please see Appendix C for more detail.

H - Per recommend Mitigation Measure NO-4, the existing Aggregate Plant and proposed Recycle Plant will not operate simultaneously for any time period. As such, the noise contribution from the existing Aggregate Plant has been removed from the total Project noise impacts determined at Receptors 1 (R1), 2 (R2) and 3 (R3). As shown on the previous calculation sheet, the Aggregate Plant is estimated to produce less noise than the Recycle Plant at all Facility receptors. Therefore, assuming the Recycle Plant is operational but the Aggregate Plant does not operate per Mitigation Measure NO-4, produces the conservative worst-case noise impacts at Facility receptors (R1, R2 and R3). With the implementation of Mitigation Measure NO-4, impacts are less than significant at Facility receptors except for Receptor 1 (please see Mitigation Measure NO-5 for additional recommendations).

Mitigation Measure NO-5 - Mitigated Noise Impacts

Mitigated Noise Levels at Impacted Receptors

Expected Decrease in Excavation Equipment (Mobile Sources) Noise Levels due to Mitigation

Equipment	Dominant Noise Components [A]	Unmitigated L_{eq} @ 50-feet (dBA)	Noise Component to Mitigated [B, C]	Control Techniques [B, C]	Probable Noise Reduction (dBA) [C]	Mitigated L_{eq}1H @ 50-feet (dBA) [D]	L_{avg} $10^{(X/10)}$
Front-End Loader	E, C, F, I, H	75.2	Exhaust (E)	Install improved muffler	-10	65.2	3320000.0
Dozer (Bulldozer)	E, C, F, I, H	80.2	Exhaust (E)	Install improved muffler	-10	70.2	10498761.8
Excavator (Shovel)	E, C, F, I, H, W	80.2	Exhaust (E)	Install improved muffler	-10	70.2	10498761.8
Rock Drill	W, E, P	72.0	Exhaust (E)	Install improved muffler	-5	67.0	5000000.0
Water Truck	W, E, C, F, I, T	84.0	Exhaust (E)	Install improved muffler	-5	79.0	79432823.5
						Total Mitigated Excavation Noise Level (L_{eq}1H):	**80.4** dBA

Footnotes:

A - Ranked noisy components. C = casing, E = exhaust, F = fan, H = hydraulics, I = intake air, P = pneumatic exhaust, T = transmission, W = work tool. These represent the equipment components that can be controlled/altered to reduce reduce the overall noise level generated by the equipment. (Sources: Ventura County's *Construction Noise Threshold Criteria and Control Plan,* EPA's *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances).*

B - Ventura County's *Construction Noise Threshold Criteria and Control Plan* has unmitigated and mitigated noise levels for the equipment shown at 50-feet. Mitigated noise levels are the "estimated level obtainable by quieter methods or equipment and implementing feasible noise control." These can be achieved by controlling the noisy equipment components (e.g. the exhaust).

C - The EPA's *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances* notes that installation of an "improved muffler" on each equipment's "exhaust" would result in a "probable noise reduction" of -10 dBA. Conservatively, this NVIA assumes this control measure would achieve only a -5 dBA noise reduction for the rock drill and water truck, as the exhaust port is not the dominant noise component. This mitigation is also presented in Ventura County's *Construction Noise Threshold Criteria and Control Plan*, which references the EPA's mitigated equipment noise levels. An excerpt from the EPA's guidance document is included in Appendix B.

D - Following installation of an "improved muffler" on each piece of mining equipment, the mitigated noise level (L_{eq}) is expected to be achieved. (Source: EPA's *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*).

Plant Equipment (Stationary Source) Noise Reference Data @ R1

Equipment	Measured L_{eq} at 50-feet [G]	Distance to R1 to Stationary Source (ft.) [A]	Plant Noise Level @ R1 with Attenuation (dBA) [C]	Source of Data
Recycle Plant	84.1	1,833	52.8	See previous sheet/Appendix B.
Aggregate Plant	84.1	2,474	---	
		Total Stationary Source Noise Level @ R1:	**52.8**	dBA

Ambient Noise Levels @ R1

Receptor	Ambient Daytime Noise Level (dBA) F	Source of Data
Receptor 1 (R1)	41.6	See Appendix C.

Receptor 1 (R1) - Distance Propagation Calculations

Distance Assessed [A]	Noise Level (L_{eq}1H) @ Receptor without Attenuation (dBA) [D]	Ventura County Significance Threshold (L_{eq}) [E]	Significant
1,160	56.1	55	Yes
1,310	55.6	55	Yes
1,460	55.2	55	Yes
1,610	**54.9**	**55**	**No**
1,760	54.7	55	No
1,910	54.5	55	No

Note: As shown above, cumulative worst-case noise impacts (i.e., Recycle Plant and mobile excavation equipment) experienced at Receptor 1 (R1) are below the County General Plan threshold when excavation equipment is operating a minimum of 1,600-feet away from R1.
Therefore, per Mitigation Measure NO-5, to ensure noise impacts are less than significant at R1, neither the proposed Recycle Plant nor the existing Aggregate Plant shall operated when excavation is occurring within 1,600-feet of R1 in accordance with recommended Mitigation Measure NO-5.
Please note, with the implementation of Mitigation Measure NO-5, worst-case noise impacts experienced at R1 when excavation is occurring at the closest mining boundary (i.e., 1,160-feet between source and receptor), noise levels experienced at R1 would be 53.4 dBA, which is below the General Plan threshold of 55 dBA.
Please see Figure 8 which displays the potential mining areas less than 1,600-feet away from Receptor R1. If excavation is occurring within the area shown on Figure 8, Mitigation Measure NO-5 (i.e., no processing operations) shall be implemented.

Footnotes:

A - Distances estimated using Google Earth (see Figure 8).

B - L_{eq}/L_{max} = Total Equipment L_{eq}/L_{max} @ 50-feet - 20*log(D/50). D = distance between source and receptor. (Source: Ventura County's *Construction Noise Threshold and Control Plan* and FHWA's *Roadway Construction Noise Model*).

C - Per recommend Mitigation Measure NO-4, the existing Aggregate Plant and proposed Recycle Plant will not operate simultaneously for any time period. As such, the noise contribution from the existing Aggregate Plant has been removed from the total Project noise impacts determined at Receptors 1 (R1), 2 (R2) and 3 (R3). As shown on the previous calculation sheet, the Aggregate Plant is estimated to produce less noise than the Recycle Plant at the Facility receptors. Therefore, assuming the Recycle Plant is operational but the Aggregate Plant does not operate per Mitigation Measure NO-4, produces the conservative worst-case noise impacts at Facility receptors (R1, R2 and R3).

D - Total Project noise levels (L_{eq}1H) at each receptor represents the calculated Facility noise level (i.e. operating mobile and stationary equipment) added to the measured ambient noise level. This represents the total noise level (L_{eq}1H, dBA) experienced as a result of the Project. Please note, these Project noise levels take into account applicable line-of-sight attenuation as well as mobile equipment mitigations (i.e., improved mufflers on mobile equipment), stationary equipment mitigations (i.e., no simultaneous operation of processing equipment), and distance mitigations at Receptor 1 (i.e., no processing operations when excavation occurring within 1,600-feet of R1).

E - Ventura County *2040 General Plan* Health and Safety Element has the daytime (6:00 a.m. - 7:00 p.m.) significance threshold of 55 L_{eq}1H dBA.

F - Ambient measurements were collected at Receptors R1 and R2/R3 on 12/20/2018 and 12/21/2018. Please see Appendix C for more detail.

APPENDIX E

TRANSPORTATION SOURCES – NOISE IMPACT DETERMINATION

SoundPLAN Essential 4.0 - Model Settings & Data

Noise Standards Utilized	
Noise Source	**Noise Standard**
Traffic/Road	Traffic Noise Model - FHWA; 1998 (TNM)
Industrial	ISO 9613-2: 1996

Environmental/Meteorological Settings		
Parameter	**Setting**	**Unit**
Temperature	61.2	F°
	16.2	C°
Humidity	79	%
Air Pressure	1014	mbar (SoundPLAN default)

Note: Average temperature and humidity data for Oxnard/Camarillo taken from the Western Regional Climate Center (WRCC).

Calculation Settings		
Grid Noise Map		
Height above ground:	1.5	meters
	4.9	feet
Grid distance:	5.0	meters
	16.4	feet
Limit Lines		
Height above ground:	1.5	meters
	4.9	feet

Receiver Settings		
Height above ground for free field receivers:	1.5	meters
	4.9	feet
Height above ground floor for building receivers:	2	meters
	6.6	feet
Floor height:	3.7	meters
	12.1	feet

Volume Attenuation Areas			
Type	**Description**	**Height**	
Wall	Soundwall along residences located on Pleasant Valley Road & Pancho Road	1.8	meters
		6	feet
Ground Absorbption	Grass/shrubs in front of R4	1.0	Ground factor

Receptor Building Data			
Receptor	**Description**	**Height**	
Facility Receptors			
R1	Conejo Mountain Funeral Home	2	floors
		3.7	meters
		12.0	feet
R2	Residence(s)	2	floors
		3.7	meters
		12.0	feet
Haul Route Receptors			
R4	Residence	1	floors
		3.7	meters
		12.0	feet
R5	Residence(s)	1	floors
		3.7	meters
		12.0	feet

Traffic Model Data

Daily Truck Trips			
Vehicle Type	**Daily Loads**	**Daily Trips**	**Source**
Aggregate Truck (HHD)	60	120	Condition #38, CUP 3817-3

Note: There are no proposed changes to existing daily CUP truck trip limit (i.e. 60 loads/day, 120 one-way trips/day)

Affected Roadway Attributes & Distribution of Project Trips						
Roadway	**Segment Length (km)**	**Speed Limit (km/h)**	**Road Width (m)**	**Road Material**	**Project Trips/Day**	**% of Trips**
Howard Road (near facility)	0.77	8 (5 mph)	8	OGAC	120	100%
Howard Road (near Receptor 3)	0.76	24 (15 mph)	8	DGAC	120	100%
Pancho Road	1.55	48 (30 mph)	8	Average (of DGAC and PCC)	120	100%
Pleasant Valley Road (northbound/southbound)	0.76	80 (50 mph)	24	PCC	102	85%
Pleasant Valley Road (westbound/eastbound)	0.44	80 (50 mph)	24	PCC	18	15%

Based on information provided by Pacific Rock, it is assumed that 85% of daily truck trips leaving the Facility will head north/south on Pleasant Valley Road toward the 101 Freeway, and the other 15% will head west/east toward the Pacific Coast Highway/Oxnard.

OGAC = open-graded asphaltic concrete
DGAC = dense-graded asphaltic concrete
PCC = Portland cement concrete

PLEASANT VALLEY ROAD (Lewis Road → Pancho Road)

Day Measured: Tuesday
Date Measured: 11/27/2018

EASTBOUND														
Time	**#1**	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**#8**	**#9**	**#10**	**#11**	**#12**	**#13**	**Total**
12:00 AM	0	23	2	0	2	0	0	0	0	0	0	0	0	**27**
1:00 AM	0	24	5	0	0	0	0	0	0	0	0	0	0	**29**
2:00 AM	0	14	1	0	1	0	0	0	0	0	0	0	0	**16**
3:00 AM	0	40	5	0	2	0	0	0	0	0	0	0	0	**47**
4:00 AM	0	217	32	0	8	0	0	0	0	0	0	0	0	**257**
5:00 AM	0	470	64	0	18	0	0	0	0	0	0	0	0	**552**
6:00 AM	1	638	115	0	36	1	0	3	0	0	0	0	0	**794**
7:00 AM	2	744	128	3	49	1	0	1	1	0	0	0	0	**929**
8:00 AM	2	527	88	2	37	1	0	2	5	0	0	0	0	**664**
9:00 AM	1	373	59	2	34	1	0	0	0	0	0	0	0	**470**
10:00 AM	0	304	69	0	33	0	0	0	2	0	0	0	0	**408**
11:00 AM	1	340	58	1	25	1	0	4	0	0	0	0	0	**430**
12:00 PM	1	461	74	2	38	3	0	3	3	0	0	0	0	**585**
1:00 PM	0	446	81	4	38	0	0	1	1	0	0	0	0	**571**
2:00 PM	1	491	77	2	40	1	0	2	1	0	0	0	0	**615**
3:00 PM	2	761	127	1	41	3	1	1	0	0	0	0	0	**937**
4:00 PM	3	779	98	0	35	0	0	3	0	0	0	0	0	**918**
5:00 PM	1	640	96	2	32	0	0	2	1	0	0	0	0	**774**
6:00 PM	3	525	60	0	27	0	0	1	0	0	0	0	0	**616**
7:00 PM	2	271	34	0	10	0	0	0	0	0	0	0	0	**317**
8:00 PM	0	235	26	0	7	0	0	0	0	0	0	0	0	**268**
9:00 PM	0	183	20	0	4	0	0	0	0	0	0	0	0	**207**
10:00 PM	0	81	7	0	0	0	0	0	0	0	0	0	0	**88**
11:00 PM	0	50	4	0	1	0	0	0	0	0	0	0	0	**55**
Totals:	**20**	**8,637**	**1,330**	**19**	**518**	**12**	**1**	**23**	**14**	**0**	**0**	**0**	**0**	**10,574**
% of Totals	0%	82%	13%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	100%

AM Volumes	7	3,714	626	8	245	5	0	10	8	0	0	0	0	4,623
% AM	0%	35%	6%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	44%
AM Peak Hour	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	6:00 AM	---	11:00 AM	8:00 AM	---	---	---	---	7:00 AM
Volume	2	744	128	3	49	1	---	4	5	---	---	---	---	936
PM Volumes	13	4,923	704	11	273	7	1	13	6	0	0	0	0	5,951
% PM	0%	47%	7%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	56%
PM Peak Hour	4:00 PM	4:00 PM	3:00 PM	1:00 PM	3:00 PM	12:00 PM	3:00 PM	12:00 PM	12:00 PM	---	---	---	---	3:00 PM
Volume	3	779	127	4	41	3	1	3	3	---	---	---	---	964

Directional Peak Periods	**AM 7:00 a.m. - 9:00 a.m.**			**Noon 12:00 p.m. - 2:00 p.m.**			**PM 4:00 p.m. - 6:00 p.m.**			**Off Peak Volumes**		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	1,593	↔	15%	1,156	↔	11%	1,692	↔	16%	6,133	↔	58%

Classification Definitions

1 Motorcycles
2 Passenger Cars (Auto)
3 2-Axle, 4-Tire Single Units (Auto)
4 Buses
5 2-Axle, 6-Tire Single Units (Med.)
6 3-Axle Single Units (Med.)
7 >= 4-Axle Single Units (Med.)
8 <= 4-Axle Single Trailers (Heavy)
9 5-Axle Single Trailers (Heavy)
10 >= 6-Axle Single Trailers (Heavy)
11 <= 5-Axle Multi-Trailers (Heavy)
12 6-Axle Multi-Trailers (Heavy)
13 >= 7-Axle Multi-Trailers (Heavy)

PLEASANT VALLEY ROAD (Lewis Road → Pancho Road)

Day Measured: Tuesday
Date Measured: 11/27/2018

WESTBOUND														
Time	**#1**	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**#8**	**#9**	**#10**	**#11**	**#12**	**#13**	**Total**
12:00 AM	0	79	5	1	1	0	0	0	0	0	0	0	0	**86**
1:00 AM	0	60	4	0	0	0	0	0	0	0	0	0	0	**64**
2:00 AM	0	50	4	0	0	0	0	0	0	0	0	0	0	**54**
3:00 AM	0	13	1	0	0	0	0	0	0	0	0	0	0	**14**
4:00 AM	0	35	8	0	1	0	0	0	0	0	0	0	0	**44**
5:00 AM	0	156	20	0	6	0	0	2	0	0	0	0	0	**184**
6:00 AM	3	386	54	0	12	0	0	0	0	0	0	0	0	**455**
7:00 AM	1	627	74	1	21	0	0	0	0	0	0	0	0	**724**
8:00 AM	1	599	64	0	18	1	0	0	0	0	0	0	0	**683**
9:00 AM	1	375	35	0	13	0	0	1	0	0	0	0	0	**425**
10:00 AM	0	288	46	0	10	0	0	0	2	0	0	0	0	**346**
11:00 AM	2	313	48	0	13	0	0	1	0	0	0	0	0	**377**
12:00 PM	1	357	54	0	13	0	0	0	0	0	0	0	0	**425**
1:00 PM	1	389	55	1	15	0	0	0	1	0	0	0	0	**462**
2:00 PM	1	516	73	1	21	0	0	1	1	0	0	0	0	**614**
3:00 PM	4	875	120	2	33	0	0	0	1	0	0	0	0	**1,035**
4:00 PM	2	956	143	4	34	1	0	0	0	0	0	0	0	**1,140**
5:00 PM	2	986	117	2	26	0	0	0	0	0	0	0	0	**1,133**
6:00 PM	0	529	52	1	14	0	0	0	0	0	0	0	0	**596**
7:00 PM	0	203	20	0	7	0	0	0	0	0	0	0	0	**230**
8:00 PM	0	144	17	0	3	0	0	0	0	0	0	0	0	**164**
9:00 PM	0	136	10	0	1	0	0	0	0	0	0	0	0	**147**
10:00 PM	0	107	12	0	1	0	0	0	0	0	0	0	0	**120**
11:00 PM	0	78	5	0	1	0	0	0	0	0	0	0	0	**84**
Totals:	**19**	**8,257**	**1,041**	**13**	**264**	**2**	**0**	**5**	**5**	**0**	**0**	**0**	**0**	**9,606**
% of Totals	0%	86%	11%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	100%

AM Volumes	8	2,981	363	2	95	1	0	4	2	0	0	0	0	3,456
% AM	0%	31%	4%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	36%
AM Peak Hour	6:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	8:00 AM	---	5:00 AM	10:00 AM	---	---	---	---	7:00 AM
Volume	3	627	74	1	21	1	---	2	2	---	---	---	---	731
PM Volumes	11	5,276	678	11	169	1	0	1	3	0	0	0	0	6,150
% PM	0%	55%	7%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	64%
PM Peak Hour	3:00 PM	5:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	---	2:00 PM	1:00 PM	---	---	---	---	3:00 PM
Volume	4	986	143	4	34	1	---	1	1	---	---	---	---	1,174

Directional Peak Periods	**AM 7:00 a.m. - 9:00 a.m.**			**Noon 12:00 p.m. - 2:00 p.m.**			**PM 4:00 p.m. - 6:00 p.m.**			**Off Peak Volumes**		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	1,407	↔	15%	887	↔	9%	2,273	↔	24%	5,039	↔	52%

Classification Definitions

1 Motorcycles
2 Passenger Cars (Auto)
3 2-Axle, 4-Tire Single Units (Auto)
4 Buses
5 2-Axle, 6-Tire Single Units (Med.)
6 3-Axle Single Units (Med.)
7 >= 4-Axle Single Units (Med.)
8 <= 4-Axle Single Trailers (Heavy)
9 5-Axle Single Trailers (Heavy)
10 >= 6-Axle Single Trailers (Heavy)
11 <= 5-Axle Multi-Trailers (Heavy)
12 6-Axle Multi-Trailers (Heavy)
13 >= 7-Axle Multi-Trailers (Heavy)

24-Hour Traffic Measurment Data

VRPA Technologies Inc.

PLEASANT VALLEY ROAD (US 101 Freeway → Pancho Road)

Day Measured: Tuesday
Date Measured: 11/27/2018

NORTHBOUND														
Time	**#1**	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**#8**	**#9**	**#10**	**#11**	**#12**	**#13**	**Total**
12:00 AM	0	47	2	0	1	0	0	1	0	0	0	0	0	**51**
1:00 AM	0	35	2	0	0	0	0	0	0	0	0	0	0	**37**
2:00 AM	0	53	1	0	2	0	0	0	0	0	0	0	0	**56**
3:00 AM	0	24	3	0	0	0	0	1	0	0	0	0	0	**28**
4:00 AM	0	89	14	0	4	0	0	0	0	0	0	0	0	**107**
5:00 AM	0	289	50	1	12	0	0	0	0	0	0	0	0	**352**
6:00 AM	0	469	64	0	18	0	0	3	0	0	0	0	0	**554**
7:00 AM	0	822	94	1	28	0	0	0	0	0	0	0	0	**945**
8:00 AM	0	584	80	0	25	0	0	1	0	0	0	0	0	**690**
9:00 AM	0	408	54	1	26	3	0	1	0	0	0	0	0	**493**
10:00 AM	0	423	43	3	31	0	0	3	1	0	0	0	0	**504**
11:00 AM	0	478	62	1	23	0	0	0	1	0	0	0	0	**565**
12:00 PM	0	591	60	0	29	0	0	3	1	0	0	0	0	**684**
1:00 PM	0	530	68	0	26	1	0	2	0	0	0	0	0	**627**
2:00 PM	0	654	68	0	28	0	0	1	0	0	0	0	0	**751**
3:00 PM	1	853	98	0	31	0	0	0	0	0	0	0	0	**983**
4:00 PM	1	987	88	0	27	0	0	0	1	0	0	0	0	**1,104**
5:00 PM	1	958	98	0	20	0	0	1	0	0	0	0	0	**1,078**
6:00 PM	0	645	43	0	28	0	0	2	0	0	0	0	0	**718**
7:00 PM	0	380	27	0	9	0	0	0	0	0	0	0	0	**416**
8:00 PM	0	226	10	0	7	0	0	0	0	0	0	0	0	**243**
9:00 PM	0	193	7	0	6	0	0	0	0	0	0	0	0	**206**
10:00 PM	0	103	1	0	1	0	0	0	1	0	0	0	0	**106**
11:00 PM	0	54	3	0	2	0	0	0	0	0	0	0	0	**59**
Totals:	**3**	**9,895**	**1,040**	**7**	**384**	**4**	**0**	**19**	**5**	**0**	**0**	**0**	**0**	**11,357**
% of Totals	0%	87%	9%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	100%

AM Volumes	0	3,721	469	7	170	3	0	10	2	0	0	0	0	4,382
% AM	0%	33%	4%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	39%
AM Peak Hour	---	7:00 AM	7:00 AM	#######	10:00 AM	9:00 AM	---	6:00 AM	10:00 AM	---	---	---	---	7:00 AM
Volume	---	822	94	3	31	3	---	3	1	---	---	---	---	957
PM Volumes	3	6,174	571	0	214	1	0	9	3	0	0	0	0	6,975
% PM	0%	54%	5%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	61%
PM Peak Hour	3:00 PM	4:00 PM	3:00 PM	---	3:00 PM	1:00 PM	---	12:00 PM	12:00 PM	---	---	---	---	3:00 PM
Volume	1	987	98	---	31	1	---	3	1	---	---	---	---	1,122

Directional Peak Periods	**AM 7:00 a.m. - 9:00 a.m.**			**Noon 12:00 p.m. - 2:00 p.m.**			**PM 4:00 p.m. - 6:00 p.m.**			**Off Peak Volumes**		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	1,635	↔	14%	1,311	↔	12%	2,182	↔	19%	6,229	↔	55%

Classification Definitions

1 Motorcycles
2 Passenger Cars (Auto)
3 2-Axle, 4-Tire Single Units (Auto)
4 Buses
5 2-Axle, 6-Tire Single Units (Med.)
6 3-Axle Single Units (Med.)
7 >= 4-Axle Single Units (Med.)
8 <= 4-Axle Single Trailers (Heavy)
9 5-Axle Single Trailers (Heavy)
10 >= 6-Axle Single Trailers (Heavy)
11 <= 5-Axle Multi-Trailers (Heavy)
12 6-Axle Multi-Trailers (Heavy)
13 >= 7-Axle Multi-Trailers (Heavy)

PLEASANT VALLEY ROAD (US 101 Freeway → Pancho Road)

Day Measured: Tuesday
Date Measured: 11/27/2018

SOUTHBOUND														
Time	**#1**	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**#8**	**#9**	**#10**	**#11**	**#12**	**#13**	**Total**
12:00 AM	0	30	1	0	2	0	0	1	0	0	0	0	0	**34**
1:00 AM	0	18	4	0	1	0	0	0	0	0	0	0	0	**23**
2:00 AM	0	16	4	0	4	0	0	0	0	0	0	0	0	**24**
3:00 AM	0	15	2	0	0	0	0	0	0	0	0	0	0	**17**
4:00 AM	0	123	18	0	6	0	0	0	0	0	0	0	0	**147**
5:00 AM	0	276	33	0	18	1	0	1	1	0	0	0	0	**330**
6:00 AM	1	540	80	0	33	0	0	0	0	0	0	0	0	**654**
7:00 AM	2	747	113	3	59	1	0	2	0	0	0	0	0	**927**
8:00 AM	1	706	99	1	39	4	1	2	0	0	0	0	0	**853**
9:00 AM	1	425	68	1	24	0	1	1	0	0	0	0	0	**521**
10:00 AM	1	328	49	0	23	2	1	1	0	0	0	0	0	**405**
11:00 AM	1	367	67	1	21	1	0	0	1	0	0	0	0	**459**
12:00 PM	1	476	78	2	33	0	0	0	0	0	0	0	0	**590**
1:00 PM	1	456	82	2	28	2	0	1	1	0	0	0	0	**573**
2:00 PM	0	496	78	1	40	1	0	2	0	0	0	0	0	**618**
3:00 PM	1	650	100	1	40	1	0	0	0	0	0	0	0	**793**
4:00 PM	1	728	107	3	59	0	0	0	0	0	0	0	0	**898**
5:00 PM	0	723	120	1	37	0	0	1	1	0	0	0	0	**883**
6:00 PM	0	516	64	0	24	0	0	0	0	0	0	0	0	**604**
7:00 PM	0	251	26	0	12	0	0	0	0	0	0	0	0	**289**
8:00 PM	0	178	25	0	8	0	0	0	0	0	0	0	0	**211**
9:00 PM	0	174	26	0	7	0	0	0	0	0	0	0	0	**207**
10:00 PM	0	120	18	0	5	0	0	0	0	0	0	0	0	**143**
11:00 PM	0	73	3	0	3	0	0	0	0	0	0	0	0	**79**
Totals:	**11**	**8,432**	**1,265**	**16**	**526**	**13**	**3**	**12**	**4**	**0**	**0**	**0**	**0**	**10,282**
% of Totals	0%	82%	12%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	100%

AM Volumes	7	3,591	538	6	230	9	3	8	2	0	0	0	0	4,394
% AM	0%	35%	5%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	43%
AM Peak Hour	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	8:00 AM	8:00 AM	7:00 AM	5:00 AM	---	---	---	---	7:00 AM
Volume	2	747	113	3	59	4	1	2	1	---	---	---	---	932
PM Volumes	4	4,841	727	10	296	4	0	4	2	0	0	0	0	5,888
% PM	0%	47%	7%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	57%
PM Peak Hour	12:00 PM	4:00 PM	5:00 PM	4:00 PM	4:00 PM	1:00 PM	---	2:00 PM	1:00 PM	---	---	---	---	3:00 PM
Volume	1	728	120	3	59	2	---	2	1	---	---	---	---	916

Directional Peak Periods	**AM 7:00 a.m. - 9:00 a.m.**			**Noon 12:00 p.m. - 2:00 p.m.**			**PM 4:00 p.m. - 6:00 p.m.**			**Off Peak Volumes**		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	1,780	↔	17%	1,163	↔	11%	1,781	↔	17%	5,558	↔	54%

Classification Definitions

1 Motorcycles
2 Passenger Cars (Auto)
3 2-Axle, 4-Tire Single Units (Auto)
4 Buses
5 2-Axle, 6-Tire Single Units (Med.)
6 3-Axle Single Units (Med.)
7 >= 4-Axle Single Units (Med.)
8 <= 4-Axle Single Trailers (Heavy)
9 5-Axle Single Trailers (Heavy)
10 >= 6-Axle Single Trailers (Heavy)
11 <= 5-Axle Multi-Trailers (Heavy)
12 6-Axle Multi-Trailers (Heavy)
13 >= 7-Axle Multi-Trailers (Heavy)

PANCHO ROAD (Howard Road → Pleasant Valley Road)

Day Measured: Tuesday
Date Measured: 11/27/2018

NORTHBOUND														
Time	**#1**	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**#8**	**#9**	**#10**	**#11**	**#12**	**#13**	**Total**
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
2:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	**1**
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
5:00 AM	0	1	1	0	2	0	0	0	0	0	0	0	0	**4**
6:00 AM	0	5	1	1	3	0	0	0	0	0	0	0	0	**10**
7:00 AM	0	10	2	0	5	0	0	1	1	0	0	0	0	**19**
8:00 AM	0	11	1	0	4	0	0	0	1	0	0	0	0	**17**
9:00 AM	0	8	5	0	6	0	0	2	1	0	0	0	0	**22**
10:00 AM	0	9	2	0	3	1	0	0	2	0	0	0	0	**17**
11:00 AM	1	26	4	1	5	0	1	0	2	0	0	0	0	**40**
12:00 PM	1	32	11	0	2	0	0	0	2	0	0	0	0	**48**
1:00 PM	0	20	5	0	4	0	0	0	0	0	0	0	0	**29**
2:00 PM	0	43	10	1	6	2	0	0	0	0	0	0	0	**62**
3:00 PM	0	55	13	0	10	0	0	0	0	0	0	0	0	**78**
4:00 PM	0	56	11	1	7	0	0	0	0	0	0	0	0	**75**
5:00 PM	0	19	6	0	4	0	0	0	0	0	0	0	0	**29**
6:00 PM	0	4	1	0	2	0	0	0	0	0	0	0	0	**7**
7:00 PM	0	8	1	0	1	0	0	0	0	0	0	0	0	**10**
8:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	**2**
9:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	**2**
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
11:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	**2**
Totals:	**2**	**311**	**74**	**4**	**66**	**3**	**1**	**4**	**9**	**0**	**0**	**0**	**0**	**474**
% of Totals	0%	66%	16%	1%	14%	1%	0%	1%	2%	0%	0%	0%	0%	100%

AM Volumes	1	70	16	2	28	1	1	4	7	0	0	0	0	130
% AM	0%	15%	3%	0%	6%	0%	0%	1%	1%	0%	0%	0%	0%	27%
AM Peak Hour	11:00 AM	11:00 AM	9:00 AM	6:00 AM	9:00 AM	10:00 AM	11:00 AM	9:00 AM	10:00 AM	---	---	---	---	11:00 AM
Volume	1	26	5	1	6	1	1	2	2	---	---	---	---	45
PM Volumes	1	241	58	2	38	2	0	0	2	0	0	0	0	344
% PM	0%	51%	12%	0%	8%	0%	0%	0%	0%	0%	0%	0%	0%	73%
PM Peak Hour	12:00 PM	4:00 PM	3:00 PM	2:00 PM	3:00 PM	2:00 PM	---	---	12:00 PM	---	---	---	---	3:00 PM
Volume	1	56	13	1	10	2	---	---	2	---	---	---	---	85

Directional Peak Periods	**AM 7:00 a.m. - 9:00 a.m.**			**Noon 12:00 p.m. - 2:00 p.m.**			**PM 4:00 p.m. - 6:00 p.m.**			**Off Peak Volumes**		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	36	↔	8%	77	↔	16%	104	↔	22%	257	↔	54%

Classification Definitions

1 Motorcycles
2 Passenger Cars (Auto)
3 2-Axle, 4-Tire Single Units (Auto)
4 Buses
5 2-Axle, 6-Tire Single Units (Med.)
6 3-Axle Single Units (Med.)
7 >= 4-Axle Single Units (Med.)
8 <= 4-Axle Single Trailers (Heavy)
9 5-Axle Single Trailers (Heavy)
10 >= 6-Axle Single Trailers (Heavy)
11 <= 5-Axle Multi-Trailers (Heavy)
12 6-Axle Multi-Trailers (Heavy)
13 >= 7-Axle Multi-Trailers (Heavy)

PANCHO ROAD (Howard Road → Pleasant Valley Road)

Day Measured: Tuesday
Date Measured: 11/27/2018

SOUTHBOUND														
Time	**#1**	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**#8**	**#9**	**#10**	**#11**	**#12**	**#13**	**Total**
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
4:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**
5:00 AM	0	5	2	0	0	0	0	0	0	0	0	0	0	**7**
6:00 AM	0	89	14	1	8	0	0	0	1	0	0	0	0	**113**
7:00 AM	0	17	5	0	3	0	0	1	0	0	0	0	0	**26**
8:00 AM	1	16	5	0	7	1	0	0	0	0	0	0	0	**30**
9:00 AM	2	13	2	0	5	1	0	0	1	0	0	0	0	**24**
10:00 AM	0	19	1	0	3	1	0	0	2	0	0	0	0	**26**
11:00 AM	1	27	5	0	6	0	0	0	1	0	0	0	0	**40**
12:00 PM	1	32	9	0	3	1	0	0	1	0	0	0	0	**47**
1:00 PM	0	19	5	0	7	1	0	0	0	0	0	0	0	**32**
2:00 PM	0	21	3	1	2	0	0	0	0	0	0	0	0	**27**
3:00 PM	0	26	3	0	3	0	0	0	0	0	0	0	0	**32**
4:00 PM	0	17	3	0	4	0	0	0	0	0	0	0	0	**24**
5:00 PM	0	11	4	0	2	0	0	0	0	0	0	0	0	**17**
6:00 PM	0	11	2	0	0	0	0	0	0	0	0	0	0	**13**
7:00 PM	0	6	0	0	0	0	0	0	0	0	0	0	0	**6**
8:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	**2**
9:00 PM	0	2	0	0	0	0	0	1	0	0	0	0	0	**3**
10:00 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	**2**
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Totals:	**5**	**335**	**64**	**2**	**53**	**5**	**0**	**2**	**6**	**0**	**0**	**0**	**0**	**472**
% of Totals	1%	71%	14%	0%	11%	1%	0%	0%	1%	0%	0%	0%	0%	100%

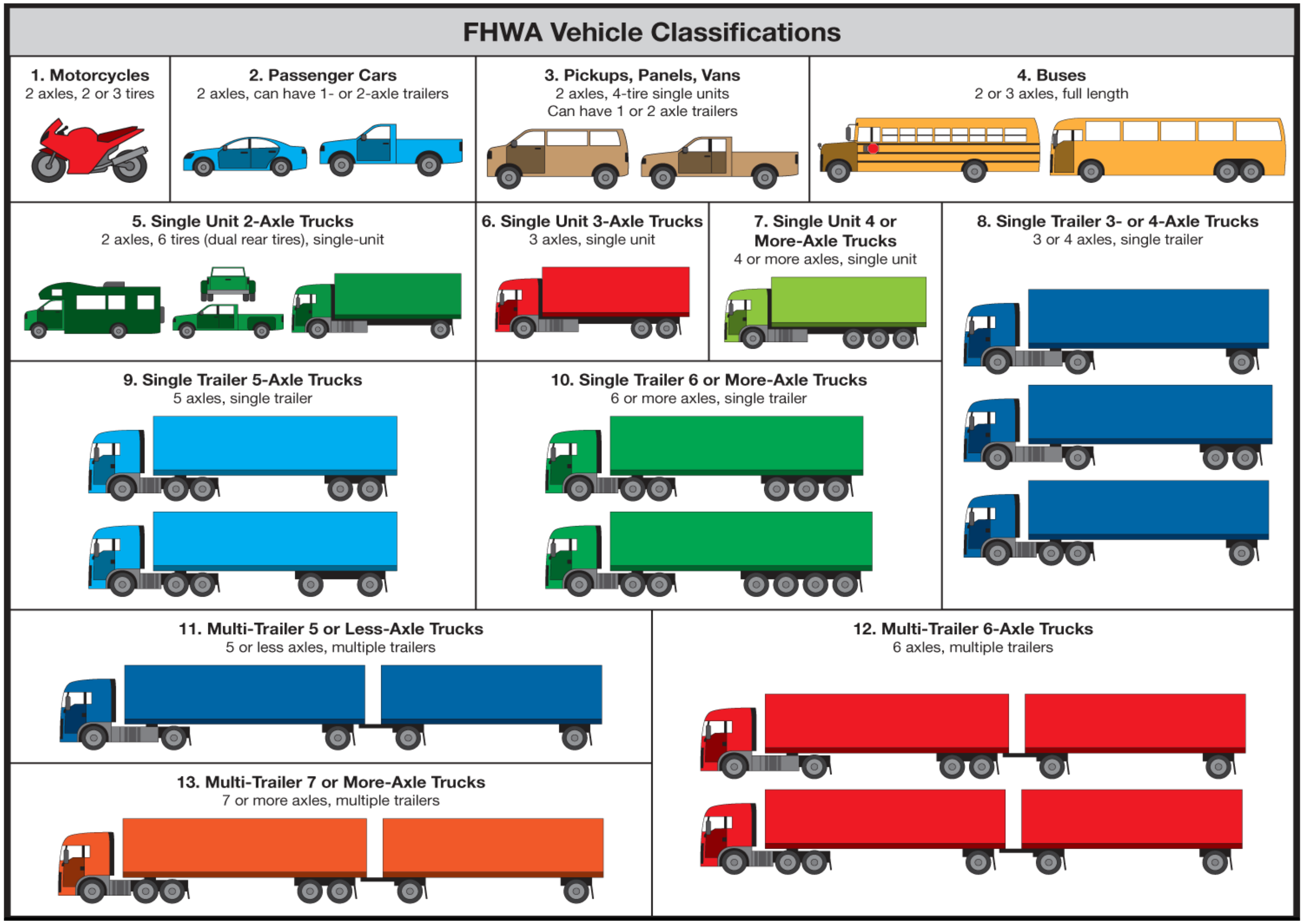
AM Volumes	4	187	34	1	32	3	0	1	5	0	0	0	0	267
% AM	1%	40%	7%	0%	7%	1%	0%	0%	1%	0%	0%	0%	0%	57%
AM Peak Hour	9:00 AM	6:00 AM	6:00 AM	6:00 AM	6:00 AM	8:00 AM	---	7:00 AM	10:00 AM	---	---	---	---	6:00 AM
Volume	2	89	14	1	8	1	---	1	2	---	---	---	---	118
PM Volumes	1	148	30	1	21	2	0	1	1	0	0	0	0	205
% PM	0%	31%	6%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	43%
PM Peak Hour	12:00 PM	12:00 PM	12:00 PM	2:00 PM	1:00 PM	12:00 PM	---	9:00 PM	12:00 PM	---	---	---	---	12:00 PM
Volume	1	32	9	1	7	1	---	1	1	---	---	---	---	53

Directional Peak Periods	**AM 7:00 a.m. - 9:00 a.m.**			**Noon 12:00 p.m. - 2:00 p.m.**			**PM 4:00 p.m. - 6:00 p.m.**			**Off Peak Volumes**		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	56	↔	12%	79	↔	17%	41	↔	9%	296	↔	63%

Classification Definitions

1 Motorcycles
2 Passenger Cars (Auto)
3 2-Axle, 4-Tire Single Units (Auto)
4 Buses
5 2-Axle, 6-Tire Single Units (Med.)
6 3-Axle Single Units (Med.)
7 >= 4-Axle Single Units (Med.)
8 <= 4-Axle Single Trailers (Heavy)
9 5-Axle Single Trailers (Heavy)
10 >= 6-Axle Single Trailers (Heavy)
11 <= 5-Axle Multi-Trailers (Heavy)
12 6-Axle Multi-Trailers (Heavy)
13 >= 7-Axle Multi-Trailers (Heavy)

Vehicle Type Visual Guide



Existing/Baseline - Daytime (6:00 a.m. - 7:00 p.m.) Traffic Data													
Roadway	Segment	Direction	Time	Actual Traffic Counts by Vehicle Type: Motorcycles	Buses	Automobiles	Medium Trucks	Heavy Trucks	Average Traffic Counts by Vehicle Type: Motorcycles	Buses	Automobiles	Medium Trucks	Heavy Trucks
Pleasant Valley Road	Lewis Road → Pancho Road	eastbound	6:00 a.m.	1	0	753	37	3	1	1	628	37	3
			7:00 a.m.	2	3	872	50	2					
			8:00 a.m.	2	2	615	38	7					
			9:00 a.m.	1	2	432	35	0					
			10:00 a.m.	0	0	373	33	2					
			11:00 a.m.	1	1	398	26	4					
			12:00 p.m.	1	2	535	41	6					
			1:00 p.m.	0	4	527	38	2					
			2:00 p.m.	1	2	568	41	3					
			3:00 p.m.	2	1	888	45	1					
			4:00 p.m.	3	0	877	35	3					
			5:00 p.m.	1	2	736	32	3					
			6:00 p.m.	3	0	585	27	1					
		westbound	6:00 a.m.	3	0	440	12	0	1	1	625	19	1
			7:00 a.m.	1	1	701	21	0					
			8:00 a.m.	1	0	663	19	0					
			9:00 a.m.	1	0	410	13	1					
			10:00 a.m.	0	0	334	10	2					
			11:00 a.m.	2	0	361	13	1					
			12:00 p.m.	1	0	411	13	0					
			1:00 p.m.	1	1	444	15	1					
			2:00 p.m.	1	1	589	21	2					
			3:00 p.m.	4	2	995	33	1					
			4:00 p.m.	2	4	1,099	35	0					
			5:00 p.m.	2	2	1,103	26	0					
			6:00 p.m.	0	1	581	14	0					
	US 101 → Pancho Road	northbound	6:00 a.m.	0	0	533	18	3	0	0	717	26	2
			7:00 a.m.	0	1	916	28	0					
			8:00 a.m.	0	0	664	25	1					
			9:00 a.m.	0	1	462	29	1					
			10:00 a.m.	0	3	466	31	4					
			11:00 a.m.	0	1	540	23	1					
			12:00 p.m.	0	0	651	29	4					
			1:00 p.m.	0	0	598	27	2					
			2:00 p.m.	0	0	722	28	1					
			3:00 p.m.	1	0	951	31	0					
			4:00 p.m.	1	0	1,075	27	1					
			5:00 p.m.	1	0	1,056	20	1					
			6:00 p.m.	0	0	688	28	2					
		southbound	6:00 a.m.	1	0	620	33	0	1	1	636	37	1
			7:00 a.m.	2	3	860	60	2					
			8:00 a.m.	1	1	805	44	2					
			9:00 a.m.	1	1	493	25	1					
			10:00 a.m.	1	0	377	26	1					
			11:00 a.m.	1	1	434	22	1					
			12:00 p.m.	1	2	554	33	0					
			1:00 p.m.	1	2	538	30	2					
			2:00 p.m.	0	1	574	41	2					
			3:00 p.m.	1	1	750	41	0					
			4:00 p.m.	1	3	835	59	0					
			5:00 p.m.	0	1	843	37	2					
			6:00 p.m.	0	0	580	24	0					
Pancho Road / Howard Road	Pleasant Valley Road → Howard Road	northbound	6:00 a.m.	0	1	6	3	0	0	0	28	5	1
			7:00 a.m.	0	0	12	5	2					
			8:00 a.m.	0	0	12	4	1					
			9:00 a.m.	0	0	13	6	3					
			10:00 a.m.	0	0	11	4	2					
			11:00 a.m.	1	1	30	6	2					
			12:00 p.m.	1	0	43	2	2					
			1:00 p.m.	0	0	25	4	0					
			2:00 p.m.	0	1	53	8	0					
			3:00 p.m.	0	0	68	10	0					
			4:00 p.m.	0	1	67	7	0					
			5:00 p.m.	0	0	25	4	0					
			6:00 p.m.	0	0	5	2	0					
		southbound	6:00 a.m.	0	1	103	8	1	0	0	29	4	1
			7:00 a.m.	0	0	22	3	1					
			8:00 a.m.	1	0	21	8	0					
			9:00 a.m.	2	0	15	6	1					
			10:00 a.m.	0	0	20	4	2					
			11:00 a.m.	1	0	32	6	1					
			12:00 p.m.	1	0	41	4	1					
			1:00 p.m.	0	0	24	8	0					
			2:00 p.m.	0	1	24	2	0					
			3:00 p.m.	0	0	29	3	0					
			4:00 p.m.	0	0	20	4	0					
			5:00 p.m.	0	0	15	2	0					
			6:00 p.m.	0	0	13	0	0					

Day Measured: Tuesday
Date Measured: 11/27/2018

Baseline Traffic Summary - Evening

VRPA Technologies Inc.

Existing/Baseline - Evening Hours (7:00 p.m. - 10:00 p.m.) Traffic Data

Roadway	Segment	Direction	Time	Actual Traffic Counts by Vehicle Type					Average Traffic Counts by Vehicle Type				
				Motorcycles	Buses	Automobiles	Medium Trucks	Heavy Trucks	Motorcycles	Buses	Automobiles	Medium Trucks	Heavy Trucks
Pleasant Valley Road	Lewis Road → Pancho Road	eastbound	7:00 p.m.	2	0	305	10	0	1	0	256	7	0
			8:00 p.m.	0	0	261	7	0					
			9:00 p.m.	0	0	203	4	0					
		westbound	7:00 p.m.	0	0	223	7	0	0	0	177	4	0
			8:00 p.m.	0	0	161	3	0					
			9:00 p.m.	0	0	146	1	0					
	US 101 → Pancho Road	northbound	7:00 p.m.	0	0	407	9	0	0	0	281	7	0
			8:00 p.m.	0	0	236	7	0					
			9:00 p.m.	0	0	200	6	0					
		southbound	7:00 p.m.	0	0	277	12	0	0	0	227	9	0
			8:00 p.m.	0	0	203	8	0					
			9:00 p.m.	0	0	200	7	0					
Pancho Road	Pleasant Valley Road → Howard Road	northbound	7:00 p.m.	0	0	9	1	0	0	0	4	1	0
			8:00 p.m.	0	0	2	0	0					
			9:00 p.m.	0	0	0	2	0					
		southbound	7:00 p.m.	0	0	6	0	0	0	0	3	0	0
			8:00 p.m.	0	0	2	0	0					
			9:00 p.m.	0	0	2	0	1					

Day Measured: Tuesday
Date Measured: 11/27/2018

Baseline Traffic Summary - Nighttime

VRPA Technologies Inc.

Existing/Baseline - Nighttime (10:00 p.m. - 6:00 a.m.) Traffic Data

Roadway	Segment	Direction	Time	Actual Traffic Counts by Vehicle Type: Motorcycles	Buses	Automobiles	Medium Trucks	Heavy Trucks	Average Traffic Counts by Vehicle Type: Motorcycles	Buses	Automobiles	Medium Trucks	Heavy Trucks
Pleasant Valley Road	Lewis Road → Pancho Road	eastbound	10:00 p.m.	0	0	88	0	0	0	0	130	4	0
			11:00 p.m.	0	0	54	1	0					
			12:00 a.m.	0	0	25	2	0					
			1:00 a.m.	0	0	29	0	0					
			2:00 a.m.	0	0	15	1	0					
			3:00 a.m.	0	0	45	2	0					
			4:00 a.m.	0	0	249	8	0					
			5:00 a.m.	0	0	534	18	0					
		westbound	10:00 p.m.	0	0	119	1	0	0	0	80	1	0
			11:00 p.m.	0	0	83	1	0					
			12:00 a.m.	0	1	84	1	0					
			1:00 a.m.	0	0	64	0	0					
			2:00 a.m.	0	0	54	0	0					
			3:00 a.m.	0	0	14	0	0					
			4:00 a.m.	0	0	43	1	0					
			5:00 a.m.	0	0	176	6	2					
	US 101 → Pancho Road	northbound	10:00 p.m.	0	0	104	1	1	0	0	96	3	0
			11:00 p.m.	0	0	57	2	0					
			12:00 a.m.	0	0	49	1	1					
			1:00 a.m.	0	0	37	0	0					
			2:00 a.m.	0	0	54	2	0					
			3:00 a.m.	0	0	27	0	1					
			4:00 a.m.	0	0	103	4	0					
			5:00 a.m.	0	1	339	12	0					
		southbound	10:00 p.m.	0	0	138	5	0	0	0	94	5	0
			11:00 p.m.	0	0	76	3	0					
			12:00 a.m.	0	0	31	2	1					
			1:00 a.m.	0	0	22	1	0					
			2:00 a.m.	0	0	20	4	0					
			3:00 a.m.	0	0	17	0	0					
			4:00 a.m.	0	0	141	6	0					
			5:00 a.m.	0	0	309	19	2					
Pancho Road	Pleasant Valley Road → Howard Road	northbound	10:00 p.m.	0	0	0	0	0	0	0	1	0	0
			11:00 p.m.	0	0	2	0	0					
			12:00 a.m.	0	0	0	0	0					
			1:00 a.m.	0	0	0	0	0					
			2:00 a.m.	0	0	0	0	1					
			3:00 a.m.	0	0	0	0	0					
			4:00 a.m.	0	0	0	0	0					
			5:00 a.m.	0	0	2	2	0					
		southbound	10:00 p.m.	0	0	2	0	0	0	0	1	0	0
			11:00 p.m.	0	0	0	0	0					
			12:00 a.m.	0	0	0	0	0					
			1:00 a.m.	0	0	0	0	0					
			2:00 a.m.	0	0	0	0	0					
			3:00 a.m.	0	0	0	0	0					
			4:00 a.m.	0	0	1	0	0					
			5:00 a.m.	0	0	7	0	0					

Day Measured: Tuesday
Date Measured: 11/27/2018

Community Equivalent Noise Level (CNEL) - Model Inputs

Baseline + Project Traffic Counts

Existing/Baseline - Facility Haul Truck/Traffic Data								
Parameter	Daily Limits - CUP 3817-3		Average Trips/Hour					
			Baseline[A]			Project[B]		
	Loads	One-Way Trip	Daytime	Evening	Nighttime	Daytime	Evening	Nighttime
Haul Trucks	60	120	13	---	---	5	5	5

Note: There are no proposed changes to existing daily CUP truck trip limit (i.e. 60 loads/day, 120 one-way trips/day)

A - Per the existing CUP, a maximum of 120 haul truck trips/day occur during the operating hours of 7:00 a.m. and 4:00 p.m. (9 hours total). To model baseline traffic noise impacts at haul road receptors, it is assumed that the maximum number of haul truck trips occurs (120 trips/day) spread evenly throughout each hour of the daytime operating hours (120 trips ÷ 9 hours = 13 trips/hour).

B - There are no proposed changes to existing CUP limit 120 truck trips/day. However, the Project involves limited 24 hour/day haul truck operations during special projects. To model Project traffic noise impacts at haul road receptors, it is assumed that the maximum number of haul truck trips occurs (120 trips/day) spread evenly throughout 24-hour daytime, evening, and nighttime operating hours (120 trips ÷ 24 hours = 5 trips/hour).

Daytime (7:00 a.m. - 7:00 p.m.) - CNEL Model											
Road Segment	Direction	BASELINE[C]					PROJECT[D]				
		Average Hourly Traffic Trip Counts					Average Hourly Traffic Trip Counts				
		Motorcycles	Buses	Automobiles	Medium Trucks	Heavy Trucks	Motorcycles	Buses	Automobiles	Medium Trucks	Heavy Trucks
Howard Road / Pancho Road	Northbound	0	0	28	5	14	0	0	28	5	19
	Southbound	0	0	29	4	14	0	0	29	4	19
	Eastbound	---	---	---	---	---	---	---	---	---	---
	Westbound	---	---	---	---	---	---	---	---	---	---
Pleasant Valley Road	Northbound	0	0	717	26	13	0	0	717	26	17
	Southbound	1	1	636	37	12	1	1	636	37	17
	Eastbound	1	1	628	37	5	1	1	628	37	6
	Westbound	1	1	625	19	3	1	1	625	19	3

Evening (7:00 p.m. - 10:00 p.m.) - CNEL Model											
Road Segment	Direction	BASELINE[C]					PROJECT[D]				
		Average Hourly Traffic Trip Counts					Average Hourly Traffic Trip Counts				
		Motorcycles	Buses	Automobiles	Medium Trucks	Heavy Trucks	Motorcycles	Buses	Automobiles	Medium Trucks	Heavy Trucks
Howard Road / Pancho Road	Northbound	0	0	4	1	0	0	0	4	1	5
	Southbound	0	0	3	0	0	0	0	3	0	5
	Eastbound	---	---	---	---	---	---	---	---	---	---
	Westbound	---	---	---	---	---	---	---	---	---	---
Pleasant Valley Road	Northbound	0	0	281	7	0	0	0	281	7	4
	Southbound	0	0	227	9	0	0	0	227	9	4
	Eastbound	1	0	256	7	0	1	0	256	7	1
	Westbound	0	0	177	4	0	0	0	177	4	1

Nighttime (10:00 p.m. - 7:00 a.m.) - CNEL Model											
Road Segment	Direction	BASELINE[C]					PROJECT[D]				
		Average Hourly Traffic Trip Counts					Average Hourly Traffic Trip Counts				
		Motorcycles	Buses	Automobiles	Medium Trucks	Heavy Trucks	Motorcycles	Buses	Automobiles	Medium Trucks	Heavy Trucks
Howard Road / Pancho Road	Northbound	0	0	1	0	0	0	0	1	0	5
	Southbound	0	0	1	0	0	0	0	1	0	5
	Eastbound	---	---	---	---	---	---	---	---	---	---
	Westbound	---	---	---	---	---	---	---	---	---	---
Pleasant Valley Road	Northbound	0	0	96	3	0	0	0	96	3	5
	Southbound	0	0	94	5	0	0	0	94	5	5
	Eastbound	0	0	130	4	0	0	0	130	4	1
	Westbound	0	0	80	1	0	0	0	80	1	1

C - Modeled baseline traffic data was collected by VRBA on 11/28/2018 (see previous sheets). To account for existing/permitted Pacific Rock Quarry haul truck activity during daytime hours (7:00 a.m. - 4:00 p.m.), the baseline daytime "Heavy Truck" traffic numbers were scaled up appropriately.

D - Modeled Project traffic data includes the baseline VRBA/Pacific Rock data, with the Project "Heavy Truck" totals scaled up appropriately to account for the new Project truck trips during the evening and nighttime hours.

Haul Route Noise Model - CNEL Results

Model Results + Impact Determination

Haul Route Receptors

Receptor	Description	Nearby Roadway	# of Floors	Existing Barriers
R4	Residential Dwelling	Howard Road / Pancho Road	1	Front Yard Hedges/Trees
R5-A	Residential Dwelling	Pleasant Valley Road / Pancho Road	1	5-Foot Soundwall along Pleasant Valley Road
R5-B	Residential Dwelling	Pleasant Valley Road	1	5-Foot Soundwall along Pleasant Valley Road
R5-C	Residential Dwelling	Pleasant Valley Road	1	5-Foot Soundwall along Pleasant Valley Road

See Figures 3, 6, and 7 (Appendix A) which show the location of the receptors included in the SoundPLAN model.

CNEL Noise Levels @ Haul Route Receptors

Receptor	Baseline (dBA) Outdoor CNEL[B]	County Evening CNEL Fixed Significance Threshold[A]	Adjusted Evening CNEL Significance Threshold[A]	Total Project (dBA) Outdoor CNEL[B]	Applicable Evening CNEL Significance Threshold[A]	Exceed Threshold?
R4	50.3	60	60	55.2	60	No
R5-A	59.7	60	62.7	61.1	62.7	No
R5-B	60.3	60	63.3	61.4	63.3	No
R5-C	61.3	60	64.3	61.6	64.3	No

As discussed on the previous sheet, it is assumed the permit limit of 120 trips would be spread evenly throughout the operating day.
Specifically, Project haul trucks would be limited to 5 loads (10 one-way trips) during the average daytime, evening, and nighttime hours.

CNEL Indoor Noise Levels @ Haul Route Receptors

Receptor	Baseline (dBA) Indoor CNEL[B, C]	County Evening CNEL Fixed Significance Threshold[A]	Adjusted Evening CNEL Significance Threshold[A]	Total Project (dBA) Indoor CNEL[B, C]	Applicable Evening CNEL Significance Threshold[A]	Exceed Threshold?
R4	30.3	45	45	35.2	45	No
R5-A	39.7	45	45	41.1	45	No
R5-B	40.3	45	45	41.4	45	No
R5-C	41.3	45	45	41.6	45	No

As discussed on the previous sheet, it is assumed the permit limit of 120 trips would be spread evenly throughout the operating day.
Specifically, Project haul trucks would be limited to 5 loads (10 one-way trips) during the average daytime, evening, and nighttime hours.

Footnotes:

A - Per the Ventura County General Plan/CEQA Guidelines (see Appendix C), the outdoor "fixed" CNEL significance threshold is 60 dBA and the indoor "fixed" CNEL significance threshold is 45 dBA. However, as with the Facility tresholds, if the modeled ambient/baseline noise levels exceed the "fixed" threshold, the modeled "ambient noise level +3 decibels (dBA)" is utilized to determine the significance of haul route noise impacts. As shown above, the "ambient +3 dBA" CNEL threshold is utilized at Receptors R5-A, R5-B, and R5-C to determine the significance of outdoor noise impacts.
However, the "fixed" CNEL thresholds are utilized to determine the significance of outdoor noise impacts (60 dBA) at R4 and indoor impacts (45 dBA) at all receptors (R4, R5-A, R5-B, R5-C).

B - Both the baseline and Project traffic noise levels at haul route receptors were modeled in SoundPLAN Essential. See previous sheets which describes the methodologies and traffic counts input into both the baseline and Project traffic noise models. Please see Figure 6 (Appendix A) for the baseline model results and Figure 7 (Appendix A) for the Project traffic model results.

C - Based on the EPA's *Protective Noise Levels* document (March, 1974), an outdoor to indoor attenuation of 20 dBA is assumed. This takes into account the average noise reduction provided while windows are closed (25 dBA) and while windows are open (15 dBA). This is a conservatively low estimate of noise attenuation as residences are expected to generally keep windows closed, especially those facing sources of noise. The 20 dBA attenuation is applied to the baseline and Project CNEL values. See Appendix B for the applicable excerpt from the EPA guidance document.

Noise Emissions of Road Traffic

Statior km	ADT Veh/24	Vehicles type	Vehicle name	Traffic values day Veh/h	evenin Veh/h	night Veh/h	Speed km/h	Control device	Constr Speed km/h	Affect. veh. %	Road surface	Gradier Min / M %
Pancho (northbound)			Traffic direction: In entry direction									
0+00(	588	Total	-	47	5	1	-	none	-	-	OGAC (open-graded asphaltic	0.0
		Automobiles	-	28	4	1	8					
		Medium trucks	-	5	1	-	8					
		Heavy trucks	-	14	-	-	8					
		Buses	-	-	-	-	8					
		Motorcycles	-	-	-	-	8					
		Auxiliary Vehicle	-	-	-	-	8					
0+782	588	Total	-	47	5	1	-	none	-	-	DGAC (dense-graded asphaltic	0.0
		Automobiles	-	28	4	1	24					
		Medium trucks	-	5	1	-	24					
		Heavy trucks	-	14	-	-	24					
		Buses	-	-	-	-	24					
		Motorcycles	-	-	-	-	24					
		Auxiliary Vehicle	-	-	-	-	24					
1+486	588	Total	-	47	5	1	-	none	-	-	Average (of DGAC and PCC)	0.0
		Automobiles	-	28	4	1	48					
		Medium trucks	-	5	1	-	48					
		Heavy trucks	-	14	-	-	48					
		Buses	-	-	-	-	48					
		Motorcycles	-	-	-	-	48					
		Auxiliary Vehicle	-	-	-	-	48					
3+067	588	Total	-	47	5	1	-	none	-	-	PCC (Portland cement concrete	0.0
		Automobiles	-	28	4	1	72					
		Medium trucks	-	5	1	-	72					
		Heavy trucks	-	14	-	-	72					
		Buses	-	-	-	-	72					
		Motorcycles	-	-	-	-	72					
		Auxiliary Vehicle	-	-	-	-	72					
3+105	-							-	-	-	-	-
Pancho (southbound)			Traffic direction: In entry direction									
0+00(	582	Total	-	47	3	1	-	Traffic light	0.0	25.0	PCC (Portland cement concrete	0.0
		Automobiles	-	29	3	1	72					
		Medium trucks	-	4	-	-	72					
		Heavy trucks	-	14	-	-	72					
		Buses	-	-	-	-	72					
		Motorcycles	-	-	-	-	72					
		Auxiliary Vehicle	-	-	-	-	72					
0+032	582	Total	-	47	3	1	-	none	-	-	Average (of DGAC and PCC)	0.0
		Automobiles	-	29	3	1	48					
		Medium trucks	-	4	-	-	48					
		Heavy trucks	-	14	-	-	48					
		Buses	-	-	-	-	48					
		Motorcycles	-	-	-	-	48					
		Auxiliary Vehicle	-	-	-	-	48					
1+613	582	Total	-	47	3	1	-	none	-	-	DGAC (dense-graded asphaltic	0.0
		Automobiles	-	29	3	1	24					
		Medium trucks	-	4	-	-	24					
		Heavy trucks	-	14	-	-	24					
		Buses	-	-	-	-	24					
		Motorcycles	-	-	-	-	24					
		Auxiliary Vehicle	-	-	-	-	24					
2+323	582	Total	-	47	3	1	-	none	-	-	OGAC (open-graded asphaltic	0.0
		Automobiles	-	29	3	1	8					
		Medium trucks	-	4	-	-	8					
		Heavy trucks	-	14	-	-	8					
		Buses	-	-	-	-	8					
		Motorcycles	-	-	-	-	8					
		Auxiliary Vehicle	-	-	-	-	8					
3+106	-							-	-	-	-	-

Noise Emissions of Road Traffic

Statior km	ADT Veh/24	Vehicles type	Vehicle name	Traffic values day Veh/h	evenin Veh/h	night Veh/h	Speed km/h	Control device	Constr Speed km/h	Affect. veh. %	Road surface	Gradier Min / M %
Pleasant (northbound)				Traffic direction: In entry direction								
0+000	10827	Total	-	756	288	99	-	Traffic light	0.0	25.0	PCC (Portland cement concrete	0.0
		Automobiles	-	717	281	96	80					
		Medium trucks	-	26	7	3	80					
		Heavy trucks	-	13	-	-	80					
		Buses	-	-	-	-	80					
		Motorcycles	-	-	-	-	80					
		Auxiliary Vehicle	-	-	-	-	80					
0+104	10827	Total	-	756	288	99	-	none	-	-	PCC (Portland cement concrete	0.0
		Automobiles	-	717	281	96	80					
		Medium trucks	-	26	7	3	80					
		Heavy trucks	-	13	-	-	80					
		Buses	-	-	-	-	80					
		Motorcycles	-	-	-	-	80					
		Auxiliary Vehicle	-	-	-	-	80					
0+790	-							-	-	-	-	-
Pleasant (southbound)				Traffic direction: In entry direction								
0+000	9843	Total	-	687	236	99	-	Stop sign	0.0	50.0	PCC (Portland cement concrete	0.0
		Automobiles	-	636	227	94	80					
		Medium trucks	-	37	9	5	80					
		Heavy trucks	-	12	-	-	80					
		Buses	-	1	-	-	80					
		Motorcycles	-	1	-	-	80					
		Auxiliary Vehicle	-	-	-	-	80					
0+193	9843	Total	-	687	236	99	-	none	-	-	PCC (Portland cement concrete	0.0
		Automobiles	-	636	227	94	80					
		Medium trucks	-	37	9	5	80					
		Heavy trucks	-	12	-	-	80					
		Buses	-	1	-	-	80					
		Motorcycles	-	1	-	-	80					
		Auxiliary Vehicle	-	-	-	-	80					
0+701	-							-	-	-	-	-
Pleasant (westbound)				Traffic direction: In entry direction								
0+000	9060	Total	-	649	181	81	-	Traffic light	0.0	25.0	PCC (Portland cement concrete	0.0
		Automobiles	-	625	177	80	80					
		Medium trucks	-	19	4	1	80					
		Heavy trucks	-	3	-	-	80					
		Buses	-	1	-	-	80					
		Motorcycles	-	1	-	-	80					
		Auxiliary Vehicle	-	-	-	-	80					
0+075	9060	Total	-	649	181	81	-	none	-	-	PCC (Portland cement concrete	0.0
		Automobiles	-	625	177	80	80					
		Medium trucks	-	19	4	1	80					
		Heavy trucks	-	3	-	-	80					
		Buses	-	1	-	-	80					
		Motorcycles	-	1	-	-	80					
		Auxiliary Vehicle	-	-	-	-	80					
0+795	-							-	-	-	-	-
Pleasant (eastbound)				Traffic direction: In entry direction								
0+000	10062	Total	-	672	264	134	-	none	-	-	PCC (Portland cement concrete	0.0
		Automobiles	-	628	256	130	80					
		Medium trucks	-	37	7	4	80					
		Heavy trucks	-	5	-	-	80					
		Buses	-	1	-	-	80					
		Motorcycles	-	1	1	-	80					
		Auxiliary Vehicle	-	-	-	-	80					
0+800	-							-	-	-	-	-

Receiver List

No.	Receiver name	Coordinates X	Y	Buildir side	Floor	Heigl m	Limit Day	Evenir	Night	Lden	Level Day	Evenir	Night	Lden	Conflict Day	Evenir	Night	Lden
		in meter					dB(A)				dB(A)				dB(A)			
1	R4	314595.9	3785170		1.Fl	1.50	-	-	-	-	53.2	34.6	25.6	50.3	-	-	-	-
2	R5-A	314626.8	3786889		1.Fl	1.50	-	-	-	-	59.9	53.8	49.8	59.7	-	-	-	-
3	R5-B	314822.7	3787273		1.Fl	1.50	-	-	-	-	60.2	54.7	50.6	60.3	-	-	-	-
4	R5-C	314409.7	3786799		1.Fl	1.50	-	-	-	-	60.8	55.4	52.1	61.3	-	-	-	-

Contribution Levels of the Receivers

Source name	Lane	Level Day dB(A)	Evening	Night	Lden
R3 1.Fl		53.2	34.6	25.6	50.3
Pancho (northbound)		51.7	34.0	23.4	48.8
Pancho (southbound)		47.9	21.1	16.4	44.9
Pleasant (eastbound)		23.3	18.4	15.0	24.0
Pleasant (northbound)		23.9	17.8	13.3	23.6
Pleasant (southbound)		23.8	17.1	13.7	23.6
Pleasant (westbound)		23.8	17.2	13.4	23.5
R4-A 1.Fl		59.9	53.8	49.8	59.7
Pancho (northbound)		41.8	24.1	12.8	38.9
Pancho (southbound)		41.9	18.3	13.5	39.0
Pleasant (eastbound)		46.5	41.8	38.7	47.5
Pleasant (northbound)		56.6	50.7	46.2	56.3
Pleasant (southbound)		55.8	49.8	46.2	55.9
Pleasant (westbound)		47.2	40.8	37.1	47.0
R4-B 1.Fl		60.2	54.7	50.6	60.3
Pancho (northbound)		34.0	15.2	3.4	31.1
Pancho (southbound)		31.9	7.2	2.4	28.9
Pleasant (eastbound)		34.5	29.0	25.7	35.0
Pleasant (northbound)		56.7	51.7	47.2	56.9
Pleasant (southbound)		57.6	51.5	47.9	57.6
Pleasant (westbound)		35.2	27.9	24.1	34.6
R4-C 1.Fl		60.8	55.4	52.1	61.3
Pancho (northbound)		39.0	19.3	7.6	36.1
Pancho (southbound)		37.6	13.2	8.5	34.6
Pleasant (eastbound)		57.4	52.7	49.7	58.5
Pleasant (northbound)		43.1	35.6	31.1	42.2
Pleasant (southbound)		41.8	34.2	30.7	41.1
Pleasant (westbound)		57.8	51.8	48.2	57.8

Spectra of the Receivers

No	Name	Floor	Time	50 H	63 H	80 H	100	125	160	200	250	315	400	500	630	800	1 kH	1 kH	2 kH	2 kH	2 kH	3 kH	4 kH	5 kH	6 kH	8 kH	10 k
1	R4	1.Fl	Day	25.	31.	36.	39.	41.	42.	43.	43.	40.	36.	37.	38.	40.	41.	40.	39.	39.	40.	40.	38.	35.	35.	32.	28.
			Even	11.	16.	20.	22.	23.	24.	24.	21.	21.	21.	22.	24.	21.	22.	21.	21.	20.	19.	17.	14.	11.	10.	7.6	3.8
			Night	1.9	9.1	13.	14.	15.	16.	15.	11.	11.	11.	13.	14.	12.	13.	11.	11.	10.	8.0	5.6	2.4	-0.6	-1.4	-4.1	-7.3
			Lden	22.	29.	33.	36.	38.	39.	40.	40.	37.	33.	34.	35.	37.	38.	38.	36.	36.	37.	37.	35.	32.	32.	29.	25.
3	R5-B	1.Fl	Day	28.	36.	40.	43.	45.	46.	46.	43.	42.	42.	45.	49.	51.	52.	51.	49.	48.	46.	43.	40.	36.	35.	32.	28.
			Even	22.	30.	34.	37.	38.	39.	39.	36.	36.	36.	39.	44.	45.	47.	46.	44.	43.	40.	36.	31.	25.	25.	22.	20.
			Night	19.	26.	30.	33.	34.	35.	36.	32.	32.	32.	35.	40.	41.	43.	42.	40.	39.	36.	31.	27.	20.	21.	18.	16.
			Lden	28.	36.	40.	43.	44.	45.	46.	43.	42.	42.	45.	49.	51.	53.	51.	50.	48.	46.	42.	39.	34.	34.	30.	27.
2	R5-A	1.Fl	Day	29.	37.	42.	44.	46.	47.	47.	44.	43.	42.	44.	47.	49.	51.	51.	49.	47.	46.	44.	40.	37.	37.	33.	29.
			Even	24.	31.	35.	38.	39.	40.	40.	36.	36.	35.	38.	42.	43.	46.	45.	44.	42.	39.	36.	30.	24.	24.	21.	19.
			Night	20.	27.	31.	34.	35.	36.	36.	32.	32.	31.	34.	38.	39.	42.	41.	40.	38.	35.	31.	26.	20.	20.	17.	15.
			Lden	29.	37.	41.	44.	45.	46.	46.	43.	42.	41.	44.	47.	49.	51.	51.	50.	47.	45.	43.	39.	35.	34.	31.	27.
4	R5-C	1.Fl	Day	28.	36.	40.	43.	44.	45.	46.	42.	42.	43.	47.	51.	52.	52.	51.	51.	48.	46.	43.	38.	34.	33.	30.	27.
			Even	22.	30.	34.	37.	38.	39.	40.	36.	36.	37.	41.	46.	47.	47.	46.	46.	43.	40.	36.	31.	25.	25.	22.	20.
			Night	19.	27.	31.	33.	35.	36.	36.	33.	32.	34.	38.	42.	43.	44.	43.	43.	40.	37.	33.	28.	22.	22.	19.	17.
			Lden	29.	36.	40.	43.	44.	45.	46.	42.	42.	43.	47.	52.	52.	53.	52.	52.	49.	46.	43.	38.	33.	32.	29.	26.

MODEL OUTPUT FILES - ROAD NOISE (PROJECT)

Noise Emissions of Road Traffic

			Traffic values									Gradier
Statior	ADT	Vehicles type	Vehicle name	day	evenin	night	Speed	Control device	Constr Speed	Affect. veh.	Road surface	Min / M
km	Veh/24			Veh/h	Veh/h	Veh/h	km/h		km/h	%		%
Pancho (northbound)			Traffic direction: In entry direction									
0+000	552	Total	-	39	10	6	-	none	-	-	OGAC (open-graded asphaltic	0.0
		Automobiles	-	28	4	1	8					
		Medium trucks	-	5	1	-	8					
		Heavy trucks	-	6	5	5	8					
		Buses	-	-	-	-	8					
		Motorcycles	-	-	-	-	8					
		Auxiliary Vehicle	-	-	-	-	8					
0+782	552	Total	-	39	10	6	-	none	-	-	DGAC (dense-graded asphaltic	0.0
		Automobiles	-	28	4	1	24					
		Medium trucks	-	5	1	-	24					
		Heavy trucks	-	6	5	5	24					
		Buses	-	-	-	-	24					
		Motorcycles	-	-	-	-	24					
		Auxiliary Vehicle	-	-	-	-	24					
1+486	552	Total	-	39	10	6	-	none	-	-	Average (of DGAC and PCC)	0.0
		Automobiles	-	28	4	1	48					
		Medium trucks	-	5	1	-	48					
		Heavy trucks	-	6	5	5	48					
		Buses	-	-	-	-	48					
		Motorcycles	-	-	-	-	48					
		Auxiliary Vehicle	-	-	-	-	48					
3+067	552	Total	-	39	10	6	-	none	-	-	PCC (Portland cement concrete	0.0
		Automobiles	-	28	4	1	72					
		Medium trucks	-	5	1	-	72					
		Heavy trucks	-	6	5	5	72					
		Buses	-	-	-	-	72					
		Motorcycles	-	-	-	-	72					
		Auxiliary Vehicle	-	-	-	-	72					
3+105	-							-	-	-	-	-
Pancho (southbound)			Traffic direction: In entry direction									
0+000	546	Total	-	39	8	6	-	Traffic light	0.0	25.0	PCC (Portland cement concrete	0.0
		Automobiles	-	29	3	1	72					
		Medium trucks	-	4	-	-	72					
		Heavy trucks	-	6	5	5	72					
		Buses	-	-	-	-	72					
		Motorcycles	-	-	-	-	72					
		Auxiliary Vehicle	-	-	-	-	72					
0+032	546	Total	-	39	8	6	-	none	-	-	Average (of DGAC and PCC)	0.0
		Automobiles	-	29	3	1	48					
		Medium trucks	-	4	-	-	48					
		Heavy trucks	-	6	5	5	48					
		Buses	-	-	-	-	48					
		Motorcycles	-	-	-	-	48					
		Auxiliary Vehicle	-	-	-	-	48					
1+613	546	Total	-	39	8	6	-	none	-	-	DGAC (dense-graded asphaltic	0.0
		Automobiles	-	29	3	1	24					
		Medium trucks	-	4	-	-	24					
		Heavy trucks	-	6	5	5	24					
		Buses	-	-	-	-	24					
		Motorcycles	-	-	-	-	24					
		Auxiliary Vehicle	-	-	-	-	24					
2+323	546	Total	-	39	8	6	-	none	-	-	OGAC (open-graded asphaltic	0.0
		Automobiles	-	29	3	1	8					
		Medium trucks	-	4	-	-	8					
		Heavy trucks	-	6	5	5	8					
		Buses	-	-	-	-	8					
		Motorcycles	-	-	-	-	8					
		Auxiliary Vehicle	-	-	-	-	8					
3+106	-							-	-	-	-	-

Noise Emissions of Road Traffic

Station km	ADT Veh/24	Vehicles type	Vehicle name	day Veh/h	evenin Veh/h	night Veh/h	Speed km/h	Control device	Constr Speed km/h	Affect. veh. %	Road surface	Gradier Min / M %
Pleasant (northbound)			Traffic direction: In entry direction									
0+000	10800	Total	-	749	292	104	-	Traffic light	0.0	25.0	PCC (Portland cement concrete	0.0
		Automobiles	-	717	281	96	80					
		Medium trucks	-	26	7	3	80					
		Heavy trucks	-	6	4	5	80					
		Buses	-	-	-	-	80					
		Motorcycles	-	-	-	-	80					
		Auxiliary Vehicle	-	-	-	-	80					
0+104	10800	Total	-	749	292	104	-	none	-	-	PCC (Portland cement concrete	0.0
		Automobiles	-	717	281	96	80					
		Medium trucks	-	26	7	3	80					
		Heavy trucks	-	6	4	5	80					
		Buses	-	-	-	-	80					
		Motorcycles	-	-	-	-	80					
		Auxiliary Vehicle	-	-	-	-	80					
0+790	-							-	-	-	-	-
Pleasant (southbound)			Traffic direction: In entry direction									
0+000	9816	Total	-	680	240	104	-	Stop sign	0.0	50.0	PCC (Portland cement concrete	0.0
		Automobiles	-	636	227	94	80					
		Medium trucks	-	37	9	5	80					
		Heavy trucks	-	5	4	5	80					
		Buses	-	1	-	-	80					
		Motorcycles	-	1	-	-	80					
		Auxiliary Vehicle	-	-	-	-	80					
0+193	9816	Total	-	680	240	104	-	none	-	-	PCC (Portland cement concrete	0.0
		Automobiles	-	636	227	94	80					
		Medium trucks	-	37	9	5	80					
		Heavy trucks	-	5	4	5	80					
		Buses	-	1	-	-	80					
		Motorcycles	-	1	-	-	80					
		Auxiliary Vehicle	-	-	-	-	80					
0+701	-							-	-	-	-	-
Pleasant (westbound)			Traffic direction: In entry direction									
0+000	9048	Total	-	647	182	82	-	Traffic light	0.0	25.0	PCC (Portland cement concrete	0.0
		Automobiles	-	625	177	80	80					
		Medium trucks	-	19	4	1	80					
		Heavy trucks	-	1	1	1	80					
		Buses	-	1	-	-	80					
		Motorcycles	-	1	-	-	80					
		Auxiliary Vehicle	-	-	-	-	80					
0+075	9048	Total	-	647	182	82	-	none	-	-	PCC (Portland cement concrete	0.0
		Automobiles	-	625	177	80	80					
		Medium trucks	-	19	4	1	80					
		Heavy trucks	-	1	1	1	80					
		Buses	-	1	-	-	80					
		Motorcycles	-	1	-	-	80					
		Auxiliary Vehicle	-	-	-	-	80					
0+795	-							-	-	-	-	-
Pleasant (eastbound)			Traffic direction: In entry direction									
0+000	10062	Total	-	671	265	135	-	none	-	-	PCC (Portland cement concrete	0.0
		Automobiles	-	628	256	130	80					
		Medium trucks	-	37	7	4	80					
		Heavy trucks	-	4	1	1	80					
		Buses	-	1	-	-	80					
		Motorcycles	-	1	1	-	80					
		Auxiliary Vehicle	-	-	-	-	80					
0+800	-							-	-	-	-	-

Receiver List

No.	Receiver name	Coordinates X	Y	Buildir side	Floor	Heigl	Limit Day	Evenir	Night	Lden	Level Day	Evenir	Night	Lden	Conflict Day	Evenir	Night	Lden
		in meter				m	dB(A)				dB(A)				dB(A)			
1	R4	314595.9	3785170		1.Fl	1.50	-	-	-	-	50.0	48.5	48.3	55.2	-	-	-	-
2	R5-A	314626.8	3786889		1.Fl	1.50	-	-	-	-	59.1	55.2	53.1	61.1	-	-	-	-
3	R5-B	314822.7	3787273		1.Fl	1.50	-	-	-	-	59.7	55.6	53.1	61.4	-	-	-	-
4	R5-C	314409.7	3786799		1.Fl	1.50	-	-	-	-	60.6	55.8	52.9	61.6	-	-	-	-

Contribution Levels of the Receivers

Source name		Lane	Level Day dB(A)	Evening	Night	Lden
R3	1.Fl		50.0	48.5	48.3	55.2
Pancho (northbound)			48.5	47.0	46.8	53.7
Pancho (southbound)			44.6	43.2	43.1	50.0
Pleasant (eastbound)			23.2	18.7	15.6	24.3
Pleasant (northbound)			23.1	19.3	17.3	25.3
Pleasant (southbound)			23.0	18.8	17.4	25.2
Pleasant (westbound)			23.4	18.0	15.0	24.0
R4-A	1.Fl		59.1	55.2	53.1	61.1
Pancho (northbound)			38.6	37.1	36.9	43.8
Pancho (southbound)			38.7	37.0	37.0	43.9
Pleasant (eastbound)			46.4	42.0	39.1	47.7
Pleasant (northbound)			55.8	52.1	49.9	57.9
Pleasant (southbound)			55.2	51.0	49.1	57.1
Pleasant (westbound)			46.8	41.6	38.7	47.6
R4-B	1.Fl		59.7	55.6	53.1	61.4
Pancho (northbound)			30.8	29.4	29.3	36.1
Pancho (southbound)			28.7	27.0	27.0	33.9
Pleasant (eastbound)			34.3	29.6	26.9	35.5
Pleasant (northbound)			56.3	52.3	49.0	57.6
Pleasant (southbound)			56.9	52.8	50.8	58.9
Pleasant (westbound)			34.3	29.6	27.4	35.8
R4-C	1.Fl		60.6	55.8	52.9	61.6
Pancho (northbound)			35.7	34.4	34.3	41.2
Pancho (southbound)			34.4	32.8	32.8	39.6
Pleasant (eastbound)			57.3	52.9	50.1	58.6
Pleasant (northbound)			41.7	38.3	37.2	44.7
Pleasant (southbound)			40.5	36.9	36.0	43.5
Pleasant (westbound)			57.6	52.2	49.0	58.1

Spectra of the Receivers

No	Name	Floor	Time	50 H	63 H	80 H	100	125	160	200	250	315	400	500	630	800	1 kH	1 kH	2 kH	2 kH	2 kH	3 kH	4 kH	5 kH	6 kH	8 kH	10 k
1	R4	1.Fl	Day	23.5	29.3	33.7	36.5	38.2	39.5	40.2	39.8	37.0	34.0	35.1	35.9	37.1	38.0	37.0	36.5	36.0	37.0	37.0	35.0	32.1	31.5	28.0	24.5
			Even	19.7	26.5	31.5	34.0	36.5	38.0	38.8	38.0	35.4	31.5	32.7	33.3	35.0	36.4	36.3	34.8	34.4	35.7	35.9	33.9	31.1	30.5	27.0	23.5
			Night	19.1	26.1	31.2	34.4	36.3	37.9	38.7	38.5	35.2	31.1	32.2	32.8	35.4	36.3	36.1	34.0	34.2	35.0	35.8	33.9	31.1	30.5	27.5	23.4
			Lden	26.0	33.3	38.2	41.3	43.2	44.7	45.0	45.4	42.1	38.2	39.3	40.0	42.3	43.2	43.0	41.0	41.1	42.5	42.0	40.7	37.9	37.3	34.3	30.2
3	R5-B	1.Fl	Day	28.1	35.5	40.2	42.7	44.2	45.3	45.5	42.4	41.9	42.0	45.1	49.0	50.5	52.4	51.3	49.4	48.0	45.9	42.0	38.4	33.7	33.5	30.3	26.0
			Even	23.8	31.4	36.1	38.0	40.1	41.2	41.5	38.5	37.8	37.8	41.0	44.8	46.5	48.2	47.1	45.2	44.0	42.0	38.9	35.0	31.5	31.1	27.8	23.5
			Night	21.5	29.3	34.0	36.7	38.2	39.4	39.8	36.9	35.9	35.2	38.7	42.0	44.0	45.3	44.0	41.9	41.0	39.5	37.9	35.2	31.7	31.2	27.8	22.8
			Lden	29.8	37.4	42.1	44.7	46.3	47.4	47.7	44.8	44.0	43.0	46.9	50.4	52.3	53.8	52.0	50.0	49.5	47.7	45.3	42.4	38.0	38.2	34.8	30.2
2	R5-A	1.Fl	Day	29.3	36.5	41.2	43.8	45.3	46.3	46.4	43.1	42.1	41.2	43.7	47.2	48.9	51.1	50.0	49.5	47.2	45.2	42.7	38.5	34.7	34.3	31.0	26.9
			Even	25.0	32.3	37.1	39.8	41.4	42.4	42.0	39.5	38.4	37.3	39.8	43.0	44.9	47.0	46.5	45.2	43.2	41.7	39.7	35.9	32.0	32.1	28.7	24.2
			Night	22.2	30.1	35.1	38.0	39.7	40.8	41.1	38.4	37.2	35.5	38.2	40.7	42.7	44.4	43.7	42.0	40.0	40.2	39.1	35.9	33.0	32.5	29.0	24.0
			Lden	30.7	38.3	43.2	46.0	47.0	48.7	48.9	46.0	44.9	43.4	46.0	49.0	50.8	52.7	52.1	50.7	48.9	47.9	46.4	42.9	39.9	39.3	35.9	31.1
4	R5-C	1.Fl	Day	28.0	35.9	40.4	42.9	44.4	45.5	45.8	42.3	41.9	43.1	47.2	51.5	52.2	52.7	51.3	51.3	48.7	46.0	42.5	37.9	33.2	32.0	29.5	26.3
			Even	23.0	31.0	35.0	38.1	39.0	40.7	41.1	37.0	37.2	38.2	42.3	46.4	47.3	47.9	46.5	46.5	44.0	41.4	38.1	33.8	29.1	28.5	25.4	22.0
			Night	20.8	28.4	33.0	35.5	36.9	38.0	38.4	35.3	34.8	35.5	39.0	43.4	44.3	44.9	43.0	43.5	41.1	38.7	36.1	32.2	28.1	27.4	24.1	20.0
			Lden	29.0	37.0	41.0	44.1	45.0	46.7	47.0	43.7	43.2	44.2	48.3	52.3	53.1	53.7	52.3	52.3	49.8	47.3	44.3	40.1	35.8	35.1	31.9	28.2

APPENDIX F

BLASTING VIBRATION IMPACT DETERMINATION

Blasting Vibration Impacts

Blasting Vibration

Based on the 17th Edition ISEE *Blasters Handbook* (1998), Cleveland Ohio, for average ground response.

$$PPV = 160\left(\frac{D}{\sqrt{W}}\right)^{-1.6}$$

Receptor:	R1	R2-A	R2-B	R3-C	R3	
D = distance from blast to structure:	1,165	1,211	1,266	943	390	feet
W = maximum lbs explosives/delay:	110	110	110	110	110	lbs
PPV = peak particle velocity:	0.085	0.080	0.075	0.120	0.492	in/sec
Significance Threshold (PPV):	0.50	0.50	0.50	0.50	0.50	
Significant?	No	No	No	No	No	

Vibration Significance Thresholds

Vibration Structure Damage	
Category	**PPV (in/sec)**
Equivalent to jumping on the floor:	0.3
Equivalent to door slam:	0.5
Equivalent to nail driving:	0.9
No damaged to a residential structure:	< 2.0
Probable damage to a residential structure:	> 4.0

Human Response to Blasting Vibration	
Average Human Response	**PPV (in/sec)**
Barely to distinctly perceptible:	0.02 - 0.10
Distinctly to strongly perceptible:	0.1 - 0.5
Strongly perceptible to mildly unpleasant:	0.5 - 1.0
Mildly to distinctly unpleasant:	1.0 - 2.0
Distinctly unpleasant to intolerable:	2.0 - 1.0

Source: Caltrans *Transportation and Construction Vibration Guidance Manual* (September 2013)

Executive Summary

This Transportation Impact Study (TIS) has been prepared for the purpose of analyzing transportation-related impacts associated with the proposed Pacific Rock Quarry Expansion Project (Project) to support the County's preparation of an Environmental Impact Report (EIR) for the Project for compliance with the California Environmental Quality Act (CEQA).

Pacific Rock, Inc. (Applicant) is requesting an amendment to the existing conditional use permit (CUP) and approved reclamation plan to extend the life of the existing mining operation by an additional 30 years, expand the mining area, extend the operational days from 6 to 7 days per week (adding Sunday for material load out) with additional material load out hours and limited extended 24 hour operations (60 days maximum per year), extend the daily hours of operation (for materials hauling) from the currently permitted 7:00 AM to 4:00 PM to the proposed 5:30 AM to 10:00 PM, allow construction and mobile mining equipment in outdoor storage areas, allow concrete and asphalt recycling, allow for imported material to be used as reclamation fill, and replace an existing mobile home to be used as a 24-hour security trailer.

Although the Applicant does not propose a change in the daily number of permitted loads of aggregate that can be hauled from the site (60 loads), the Project would expand the permitted hours and days of operation and would permit other changes in operations that would create the potential for increased haul truck and worker trips as compared to existing/baseline conditions.

This TIS includes an evaluation of the Project effects on traffic delay on public roads. Traffic delay has been a traditional measure of project traffic impacts under CEQA for several decades, but recent changes to CEQA direct public agencies to no longer consider traffic delay as a CEQA impact. The CEQA Guidelines were amended in December 2018 as a result of amendments to the CEQA statute pursuant to Senate Bill 743 (SB 743) of 2013. Except as provided for certain transportation-related projects, Section 15064.3 of the CEQA Guidelines directs that a project's effect on automobile delay *shall not constitute a significant environmental impact*. CEQA Guidelines Section 15064.3 describes specific considerations for evaluating a project's transportation impacts and advises that vehicle miles traveled (VMT) is generally the most appropriate measure of transportation impacts. These amendments to CEQA and the CEQA Guidelines change the way that transportation studies must be conducted for environmental documents. Traffic delay-based metrics such as roadway capacity and level of service performance measures that have traditionally been used to assess transportation impacts of projects under CEQA must be replaced by new performance measures such as VMT or other similar measures. July 1, 2020 is the statewide date by which implementation of VMT or other similar metric must be used for transportation impact analysis, however, agencies may opt-in use of new metrics prior to that date.

Notwithstanding these recent changes to CEQA, the traffic operations analysis in this TIS uses the traditional practice of measuring delay, vehicle/capacity ratios, and levels of service for informational purposes. Ultimately, the County will determine the proper characterization of this information in the EIR for consideration by decisionmakers. For instance, the County may elect to use this analysis as a means of considering the Project consistency with local agency General Plan goals and objectives associated with traffic operations, but without correlating traffic congestion to a CEQA impact. Thus, although Project effects on traffic delay are presented in this TIS, these effects should not be interpreted as an environmental "impact" under CEQA.

At the time of preparation of this TIS, Ventura County is considering VMT analysis methodologies and significance thresholds for CEQA review of projects within the County; however, the County has not yet adopted, and is not yet required under CEQA to adopt or implement, a transportation impact evaluation approach using VMT or similar metric as an alternative to the congestion-based analysis discussed above. This TIS does not include an evaluation of VMT associated with the Project; however, it is anticipated that the County will prepare and include an estimate of Project-related VMT in the EIR for the purposes of disclosure and in consideration of the intent of SB 743 and CEQA Guidelines.

TRAFFIC OPERATIONS SUMMARY

Project Trip Generation

The Project would generate up to 30 truckloads (resulting in 60 one-way trips) per hour during AM peak hours and up to 15 truckloads per hour (resulting 30 one-way trips) during PM peak hours. This study evaluates the Project as if all trips associated with haul trucks during the AM peak-hour period would be new trips that do not currently occur under baseline conditions. A "Passenger Car Equivalent" (PCE) factor of 2.5 is applied to Project truck trips. The Project is also expected to generate up to 12 worker trips during the AM and PM peak hours. Supply and equipment delivery trips are anticipated to be minimal and would not be expected to have a measurable influence on traffic operations.

Study Area and Evaluation Scenarios

This TIS evaluates traffic operations within a study area that includes four signalized intersections along Pleasant Valley Road (Lewis Road, Pancho Road, US 101 southbound ramps, and US 101 northbound ramps) and five road segments including two segments on Pancho Road, two segments on Pleasant Valley Road, and one segment of Santa Rosa Road. Each study location is evaluated for potential effects on traffic operations during the AM peak period and the PM peak period. In consideration of level of service standards of jurisdiction agencies (including Ventura County, the City of Camarillo, and California Department of Transportation [Caltrans]), level of service (LOS) "C" is considered the lowest acceptable level of service.

The following three scenarios are evaluated, each for conditions without and with the Project:

- Existing Conditions

- Existing Plus Approved/Pending Projects
- Year 2030

Ventura County Traffic Impact Mitigation Fee Program and Ventura County-City of Camarillo Reciprocal Agreement

Ventura County has a Traffic Impact Mitigation Fee (TIMF) program established to collect fees from planned development projects for use in maintaining and improving County roads. The County also has a reciprocal agreement with the City of Camarillo through which the County and City have agreed to require development projects to pay traffic impact fees to the respective jurisdictions when projects would be located in one jurisdiction but would result in trips within the other jurisdiction. Because the study area roads are located within the City of Camarillo, it may be appropriate for the Project to provide funding toward both the County and the City of Camarillo's traffic mitigation fee programs. However, a determination of the specific traffic mitigation fee requirements of the Project is beyond the scope of this TIS.

Intersection Operations

Table E-1 summarizes the results of the traffic operations analysis at study area intersections for the evaluation scenarios. Results of the analysis show that the addition of Project-related trips to Existing Conditions would not cause or contribute to LOS D or worse conditions at study area intersections. However, the addition of Project-related trips to Existing Plus Approved/Pending Projects and Cumulative Year 2030 Without Project conditions on study area intersections would contribute to LOS D or worse conditions.

Table E-1
Intersection Operations

INTERSECTION	CONTROL	PEAK HOUR	EXISTING		EXISTING PLUS PROJECT		EXISTING PLUS APPROVED/ PENDING		EXISTING PLUS APPROVED/ PENDING PLUS PROJECT		CUMULATIVE YEAR 2030 WITHOUT PROJECT		CUMULATIVE YEAR 2030 PLUS PROJECT	
			ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
1. Lewis Road / Pleasant Valley Road	Signalized	AM	62.4	B	62.6	B	63.8	B	64.2	C	77.9	D	78.3	D
		PM	65.4	C	65.8	C	66.3	C	66.7	C	80.2	D	80.6	D
2. Pancho Road / Pleasant Valley Road	Signalized	AM	58.5	B	61.3	B	60.0	B	62.8	B	69.5	C	72.3	C
		PM	60.8	B	63.2	B	62.0	B	64.4	C	66.8	C	69.2	C
3. US Route 101 SB Ramps / Pleasant Valley Road	Signalized	AM	77.8	D *	77.8	D *	86.5	E	86.5	E	102.8	G	102.8	G
		PM	62.0	B	62.7	B	69.8	C	69.8	C	98.1	F	98.1	F
4. US Route 101 NB Off Ramp / Pleasant Valley Road	Signalized	AM	47.4	A	47.8	A	53.2	A	53.3	A	69.4	C	69.4	C
		PM	54.2	A	55.6	B	56.6	B	58.0	B	69.5	C	69.5	C

ICU = Intersection Capacity Utilization (expressed as a percentage)
For signalized controlled intersections, the LOS is based on the ICU method.
* Existing State highway facility is operating at less than the target LOS; the existing MOE shall be maintained.
Project contributes to LOS D or worse (excluding U.S. 101 SB Ramps)*

Queuing Analysis

Table E-2 provides a queue length summary for left and right turn lanes at the study intersections for various study scenarios. The queuing analysis presented in this TIS is provided for informational purposes only and does not represent a CEQA impact.

Segments

Results of the study area roadway segment analysis are reflected in Table E-3. The performance criteria used for evaluating volumes and capacities on the road and highway system for this study were estimated using the Modified Arterial Level of Service Tables included in Appendix A. Results of the analysis show that the Project would contribute to existing deficient levels of service (LOS D or worse) on two segments of Pleasant Valley Road, one segment of Santa Rosa Road, and one segment of Pancho Road, and the Project would cause a deficient level of service (LOS D) on the northbound segment of Pancho Road between Calle Quetzal and Pleasant Valley Road during the AM peak hour. The Project would also contribute to unacceptable levels of service on these road segments and the study area segment of Santa Rosa Road.

Table E-2
Queuing Operations

INTERSECTION	EXISTING QUEUE STORAGE LENGTH (ft)		EXISTING CONDITIONS		EXISTING PLUS PROJECT		EXISTING PLUS APPROVED/ PENDING		EXISTING PLUS APPROVED/ PENDING PLUS PROJECT		CUMULATIVE YEAR 2030 WITHOUT PROJECT		CUMULATIVE YEAR 2030 PLUS PROJECT	
			AM Queue	PM Queue	AM Queue	PM Queue	AM Queue	PM Queue	AM Queue	PM Queue	AM Queue	PM Queue	AM Queue	PM Queue
Lewis Road / Pleasant Valley Road	NB Left	600	42	74	42	74	42	74	42	74	53	89	53	89
	NB Right	600	214	378	218	379	217	380	220	382	303	540	306	542
	SB Left	150	109	101	113	103	109	101	113	103	**176**	111	**188**	113
	SB Right	275	170	224	170	224	203	239	203	239	208	262	208	262
	EB Left	2 @ 175	172	171	172	171	179	198	179	198	197	215	197	215
	EB Right	150	15	14	15	14	15	14	15	14	25	26	25	26
	WB Left	2 @ 200	333	266	337	268	345	282	348	283	**532**	308	**535**	310
	WB Left	175	**185**	**224**	**188**	**226**	**185**	**224**	**188**	**226**	**203**	**247**	**207**	**248**
Pancho Road / Pleasant Valley Road	NB Left	2 @ 50	62	**368**	71	**378**	73	**373**	82	**382**	**110**	**393**	**119**	**403**
	NB Right	200	62	**321**	115	**353**	70	**326**	123	**358**	97	**358**	150	**391**
	SB Left	100	22	8	22	8	22	8	22	8	27	12	27	12
	EB Left	225	9	22	9	22	9	22	9	22	14	28	14	28
	WB Left	2 @ 350	245	53	304	79	255	62	314	88	323	76	383	103
US 101 SB Ramps / Pleasant Valley Road	SB Left	125	14	8	14	8	14	8	14	8	18	21	18	21
	SB Right	1075	658	436	658	436	741	519	741	519	903	788	903	788
	EB Left	2 @ 100	**703**	**711**	**703**	**711**	**779**	**773**	**779**	**773**	**910**	**1023**	**910**	**1023**
	EB Right	125	**148**	82	**162**	88	**149**	88	**163**	95	**178**	97	**192**	103
	WB Left	50	3	9	3	9	3	9	3	9	3	10	3	10
US 101 NB Off Ramp / Pleasant Valley Road	WB Left	350	202	343	245	**363**	203	349	247	**370**	321	**383**	**364**	**404**
	WB Right	2 @ 200	350	**495**	350	**495**	**428**	**564**	**428**	**564**	**590**	**631**	**590**	**631**

Queue is measured in feet / **BOLD** denotes exceedance

Table E-3
Segment Operations

STREET SEGMENT	SEGMENT DESCRIPTION	PEAK HOUR	DIRECTION	EXISTING		EXISTING PLUS PROJECT		EXISTING PLUS APPROVED/ PENDING		EXISTING PLUS APPROVED/ PENDING PLUS PROJECT		CUMULATIVE YEAR 2030 WITHOUT PROJECT		CUMULATIVE YEAR 2030 PLUS PROJECT	
				VOLUME	LOS	VOLUME	LOS	VOLUME	LOS	VOLUME	LOS	VOLUME	LOS	VOLUME	LOS
Pleasant Valley Road															
Lewis Road to Pancho Road	2 Lanes Divided	AM	EB	1,070	C	1,089	C	1,101	C	1,117	C	**1,313**	**D**	**1,329**	**D**
		PM	EB	972	C	978	C	994	C	1,000	C	**1,238**	**D**	**1,244**	**D**
	2 Lanes Divided	AM	WB	966	C	977	C	1,003	C	1,014	C	**1,283**	**D**	**1,294**	**D**
		PM	WB	**1,365**	**D**	**1,376**	**D**	**1,410**	**D**	**1,421**	**D**	**1,517**	**D**	**1,528**	**D**
Pancho Road to US 101 SB Ramps	2 Lanes Divided	AM	NB	1,149	C	1,213	C	1,198	C	**1,262**	**D**	**1,266**	**D**	**1,330**	**D**
		PM	NB	**1,240**	**D**	**1,279**	**D**	**1,276**	**D**	**1,315**	**D**	**1,377**	**D**	**1,416**	**D**
	2 Lanes Divided	AM	SB	1,043	C	1,114	C	1,078	C	1,149	C	**1,249**	**D**	**1,320**	**D**
		PM	SB	1,085	C	1,117	C	1,137	C	1,169	C	**1,245**	**D**	**1,277**	**D**
Santa Rosa Road															
US 101 NB Ramps to Adolfo Road	3 Lanes Divided	AM	NB	1,819	C	1,823	C	**2,038**	**D**	**2,042**	**D**	**2,312**	**D**	**2,316**	**D**
		PM	NB	**2,069**	**D**	**2,073**	**D**	**2,254**	**D**	**2,258**	**D**	**2,612**	**F**	**2,616**	**F**
	3 Lanes Divided	AM	SB	**2,355**	**D**	**2,361**	**D**	**2,570**	**F**	**2,576**	**F**	**3,231**	**F**	**3,237**	**F**
		PM	SB	1,787	C	1,789	C	**2,017**	**D**	**2,019**	**D**	**2,886**	**F**	**2,888**	**F**
Pancho Road															
Pleasant Valley Road to Calle Quetzal	1 Lane Undivided	AM	NB	150	C	**225**	**D**	173	C	**248**	**D**	**250**	**D**	**325**	**D**
		PM	NB	**831**	**E**	**880**	**E**	**842**	**E**	**891**	**F**	**908**	**F**	**957**	**F**
	1 Lane Undivided	AM	SB	**450**	**D**	**537**	**D**	**465**	**D**	**552**	**D**	**668**	**E**	**755**	**E**
		PM	SB	140	C	178	C	161	C	**199**	**D**	**268**	**D**	**306**	**D**
Calle Quetzal to Howard Road	1 Lane Undivided	AM	NB	19	C	94	C	19	C	94	C	69	C	144	C
		PM	NB	75	C	125	C	75	C	125	C	114	C	164	C
	1 Lane Undivided	AM	SB	30	C	117	C	30	C	117	C	90	C	177	C
		PM	SB	24	C	62	C	24	C	62	C	88	C	126	C

BOLD denotes LOS standard has been exceeded.
Project causes LOS D.
Project contributes to LOS D or worse.

SUMMARY OF TRANSPORTATION IMPACTS

Appendix G of the CEQA Guidelines and the County's April 26, 2011, Initial Study Assessment Guidelines (ISAG) identify certain transportation-related topics for consideration during CEQA review. These issues include potential policy or land use plan conflicts, potential impacts associated with safety on public roads and private access driveways, potential impacts on bicycle and pedestrian circulation and safety, and potential impacts on transit operations.[3] Each of these is discussed the sections below and in Section 4.0 of this TIS. (As discussed in the introduction, CEQA and the CEQA Guidelines as amended in 2018 also required that by July 1, 2020, CEQA lead agencies must evaluate transportation impacts in consideration of vehicle miles traveled or similar metric. This TIS does not include an evaluation of VMT associated with the Project, and it is anticipated that the County will separately address Project-related VMT in the EIR in consideration of SB 743 and CEQA Guidelines.)

Potential Conflict with a Program, Plan, Ordinance or Policy Addressing the Circulation System

Notwithstanding the recent CEQA amendments discussed in the introduction above, Ventura County, the City of Camarillo, and Caltrans seek to maintain acceptable levels of service along the highway, street, and road network. These agencies adopt minimum levels of service in an attempt to control congestion that may result as new development occurs.[4] The traffic operations evaluation in this TIS as summarized above and discussed in detail in the main body of this TIS discusses the various level of service goals and policies of these agencies and evaluates predicted levels of service associated with various with-Project evaluation scenarios. An assessment of the Project's consistency with programs, plans, ordinances, and policies is beyond the scope of this TIS and it is anticipated that Project consistency will be addressed by the County in the EIR to be prepared for the Project.

Potential Impacts on Transit Services

Transit services within the City of Camarillo are served by Fixed Route, Dial-A-Ride and Ventura County Transportation Commission (VCTC) Intercity service. The Fixed Route service, provided by Camarillo Area Transit (CAT), does not include transit routes in the study area. The VCTC Intercity is a Countywide service, which connects Camarillo with Thousand Oaks, Oxnard and Ventura. The Oxnard/Camarillo/CSUCI route traverses Pleasant Valley Road along Lewis Road, with a stop located along Lewis Road just south of US 101. The additional Project trips would not interfere with these transit routes or stops and, thus, would not result in significant adverse effects on existing or planned transit facilities in the Project study area.

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3 The ISAG also identifies Transportation Level of Service as an issue to consider, and levels of service are evaluated in detail in this TIS. The ISAG also identifies other transportation items associated with railroads, airports, harbor facilities, and pipelines; however, addressing those items is outside the scope of this TIS.
4 At the time of preparation of this TIS, agencies including Ventura County and Caltrans, are considering amendments to policies pertaining to congestion in efforts to implement and comply with the requirements of amendments to CEQA and the CEQA Guidelines pursuant to SB 743.

Potential Impacts on Bicycle and Pedestrian Safety and Circulation

Bicycling is considered an effective alternative mode of transportation that can help to improve air quality and reduce the number of vehicles traveling along existing highways, especially within the cities and unincorporated communities. The City of Camarillo Bikeway Master Plan identifies existing Class II bike lanes along the study segments of Pleasant Valley Road and Santa Rosa Road and a planned Class II bike lane along Pancho Road, which would be designed in accordance with City of Camarillo standards. Sidewalks presently exist along the north/west side of the Pleasant Valley Road study segment, both sides of the Santa Rosa Road study segment, and along the east side of Pancho Road.

The existing Class II bike lanes and pedestrian facilities crossing Lewis Road, Pancho Road, and US 101 NB and SB ramps, do so at traffic-controlled intersections. All of the study intersections evaluated in this TIS are signalized and include pedestrian signal phasing which accommodates pedestrians utilizing the crosswalk. Though traffic within the study area is expected to increase over time, these traffic control devices will help maintain pedestrian and bicycle safety within the study area. Class II bike lanes are identified in the City of Camarillo's General Plan Circulation Element on all study roadway segments, and it is anticipated that the City will retain and add Class II bike lanes on these segments sufficient to accommodate bicycle and pedestrian safety and circulation. The additional Project trips would not adversely affect existing or planned bicycle or pedestrian facilities in the Project study area.

Potential Impacts Associated with Hazards on Public Roads or Private Access Roads due to Design or Incompatible Uses

The proposed Project will not create any new design features on or off the Project site. The existing on-site circulation pattern will remain the same as the currently approved surface mining permit. Although there will be an increase in the volume of vehicles accessing the site during peak-hour periods and some of the incoming haul trucks will be loaded for delivery of recycle materials or fill material, the same types of vehicles (heavy-duty haul trucks and personal vehicles) will continue to access the site. The existing site access/egress is located at a sufficient distance from any intersection to allow for safe vehicular access/egress to and from the site. Therefore, this impact is considered less than significant, and no mitigation is required.

Potential Impacts Related to Emergency Access

The Project site is currently accessed/egressed via an existing entrance road from Howard Road, a private road that provides access to the Project site and to the Conejo Mountain Memorial Cemetery. Emergency access to the site would be unaffected by the Project. Therefore, this impact is considered less than significant, and no mitigation is required.

1.0 Introduction

This Transportation Impact Study (TIS) has been prepared for the purpose of identifying traffic operations and analyzing potential transportation-related impacts of the proposed Pacific Rock Quarry Expansion Project (Project). Pacific Rock, Inc. (Applicant) is requesting a Conditional Use Permit Modification to extend the life of the existing permitted mining operation by an additional 30 years, expand the mining area, extend the operational days from 6 to 7 days per week (adding Sunday for material load out) with additional material load out hours and limited extended 24 hour operations (60 days maximum per year), extend the daily hours of operation (for materials hauling) from the currently permitted 7:00 AM to 4:00 PM to the proposed 5:30 AM to 10:00 PM, allow construction and mobile mining equipment in outdoor storage areas, allow concrete and asphalt recycling, allow for imported material to be used as reclamation fill, and replace an existing mobile home to be used as a 24-hour security trailer.

1.1 Description of the Region/Project

The Project is located approximately two miles south of U.S. Highway 101 (US 101) in unincorporated Ventura County. Figures 1-1 and 1-2 show the location of the Project, major roadways and highways in the Project area, and the road segments and intersections evaluated in this TIS.

1.1.1 *Project Access*

Access to the Project site is provided by a gated private access road from Howard Road. Under existing operations, trucks leaving the site travel down Howard Road to Pancho Road then to Pleasant Valley Road from where they travel either turn left (west) and travel toward to Lewis Road or turn right (north) and travel toward State Highway 101 for delivery of aggregate materials to various destinations. Trucks traveling to the site use these same roads. The existing permit limits the daily number of haul trucks from the site to 60 loads, but does not prescribe haul truck routes or destinations. Limited information pertaining to existing operations hauling, routes, and destinations; however, the applicant has advised the County that material is generally delivered within Ventura, Los Angeles and Santa Barbara counties.[3]

1.1.2 *Study Area*

The study area includes intersections and roadway segments nearest the site and on which most Project-related vehicle trips would occur. Project-related vehicle trips would extend to other various intersections and road segments depending on the specific material destination and source locations. The study area for this analysis focuses on the intersections and segments with

3 "Trucks leave the site and travel down Howard Road to Lewis Road; Lewis Road to State Highway 101 for delivery to Ventura, Los Angeles and Santa Barbara Counties." (Sespe Consulting, "Project Description-Pacific Rock Quarry Conditional Use Permit Modification Application LU10-0003", pg. 3. April 1, 2019.)

the highest anticipated and reasonably foreseeable potential for Project-related transportation effects, and is considered sufficient for the purposes of this TIS. The following intersections and roadway segments are evaluated in this TIS:

Intersections

1. Lewis Road / Pleasant Valley Road
2. Pancho Road / Pleasant Valley Road
3. US 101 SB Ramps / Pleasant Valley Road
4. US 101 NB Off Ramp / Pleasant Valley Road

Roadway Segments

1. Pleasant Valley Road
   - Between Lewis Road and Pancho Road
   - Between Pancho Road and US 101 SB Ramps

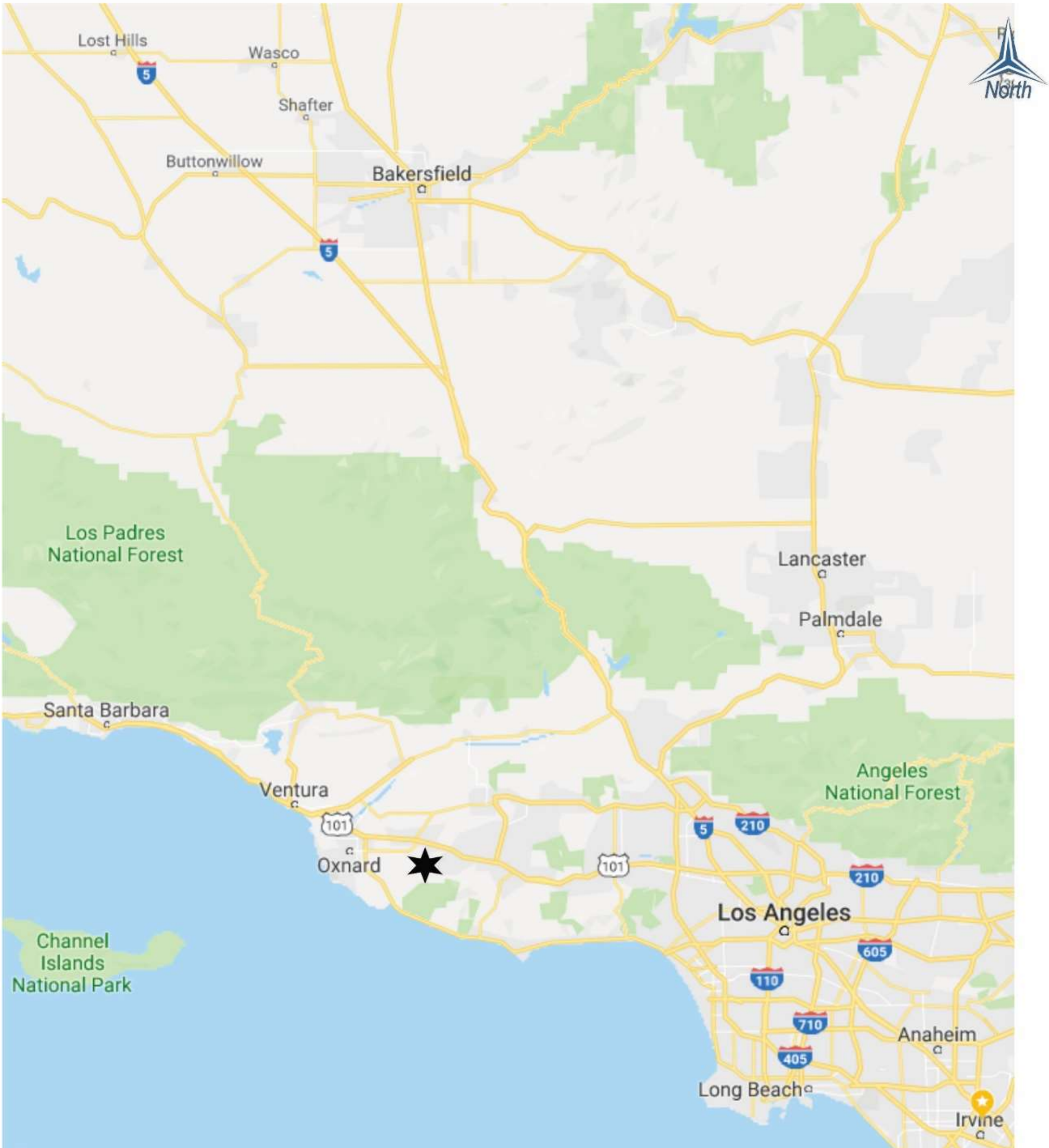
2. Santa Rosa Road
   - Between US 101 NB Ramps and Adolfo Road

3. Pancho Road
   - Between Pleasant Valley Road and Calle Quetzal
   - Between Calle Quetzal and Howard Road

As shown on Figure 1-2, Howard Road provides direct access between the Project site and the southern end of Pancho Road. Howard Road also provides access to the Conejo Mountain Memorial Cemetery and a small number of agricultural parcels in the immediate area. Traffic volumes on Howard Road are minimal (less than 100 trips in the AM and PM peak hours) based upon twenty-four (24) hour classification counts collected in the study area as noted in Section 2.0. As a result, the Project would not result in the potential to cause levels of service on this segment to decline below acceptable conditions. Therefore, Howard Road is not evaluated as a study area roadway segment in this TIS.

Pacific Rock Quarry Expansion Project
Regional Location

Figure 1-1

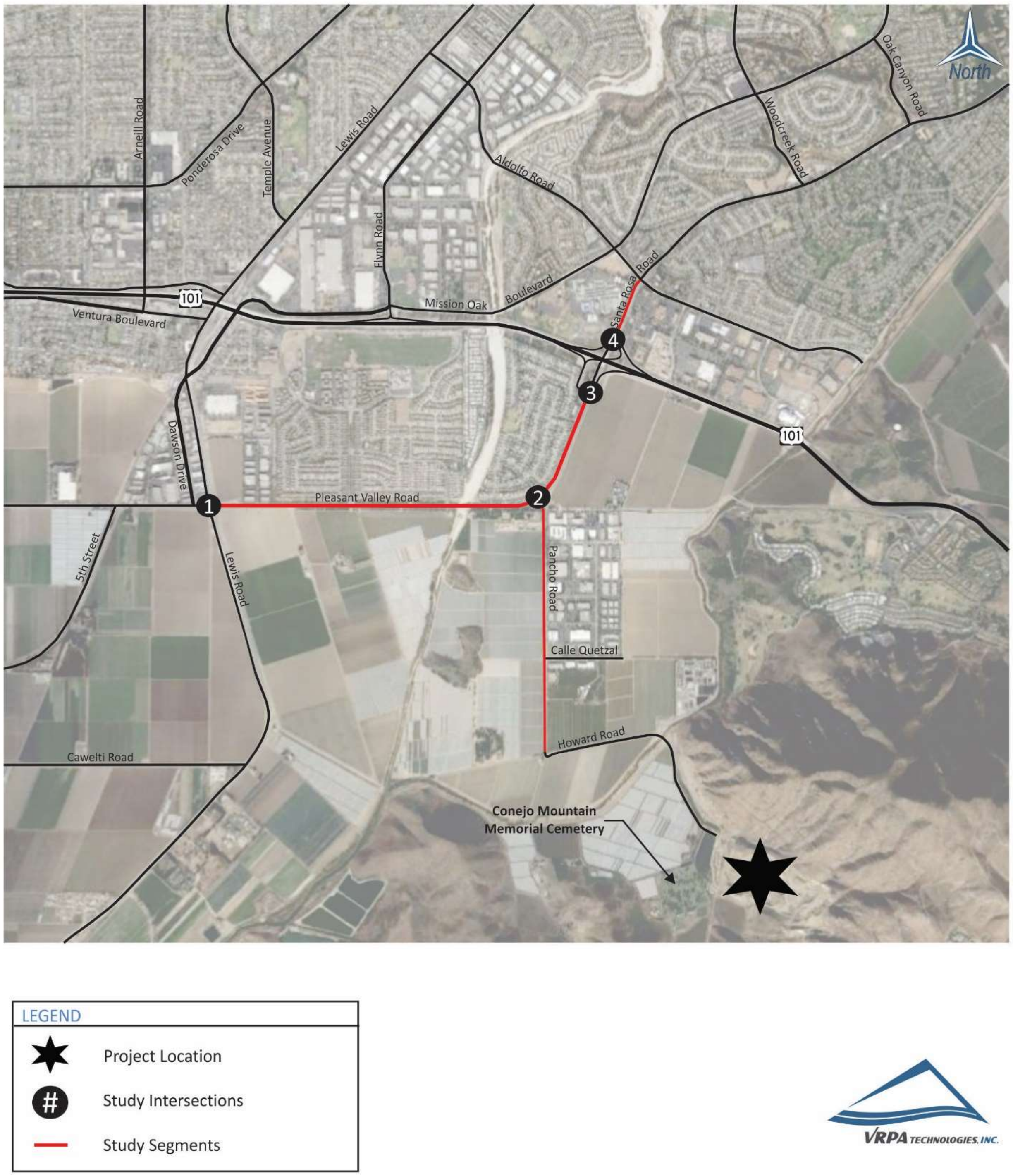


LEGEND

Project Location

Pacific Rock Quarry Expansion Project
Project Location

Figure 1-2



1.1.3 *Study Scenarios*

This TIS includes Level of Service (LOS) analyses for the following scenarios:

- Existing Conditions
- Existing Plus Project
- Existing Plus Approved/Pending
- Existing Plus Approved/Pending Plus Project
- Cumulative Year 2030 Without Project
- Cumulative Year 2030 Plus Project

1.2 Methodology

The sections below discuss the methods used in this TIS for analyzing street and intersection capacities and changes in levels of service for the study scenarios listed above. Intersection turning movement counts and roadway geometrics used for the analysis were obtained from field review findings and vehicle count data as described further in Section 2.1.

1.2.1 *Intersection Analysis*

Intersection analysis was conducted using Intersection Capacity Utilization (ICU) methodology to determine intersection levels of service for the study intersections under the various study scenarios. Thus, the 2003 ICU Worksheets for signalized intersections was used to determine the volume-to-capacity (V/C) ratio and the associated level of service (LOS) for each intersection. Traffic signal timing sheets for each of the study intersections were obtained from City of Camarillo and Caltrans staff and were incorporated into the 2003 ICU Worksheets accordingly.

Table 1-1 indicates the ICU LOS, which is based upon the critical flow ratio for the intersection. Associated levels of service ranging from LOS “A” to “H” are provided below with the corresponding Maximum ICU.

1.2.2 *Roadway Segment Analysis*

Roadway segment evaluation was performed for this TIS to assess the potential for the Project to cause or contribute to an exceedance of acceptable segment capacity under the various study scenarios. The Highway Capacity Manual (HCM)[4], categorizes roadway segment levels of service based on two parameters of traffic: uninterrupted and interrupted flow. Uninterrupted flow facilities do not have fixed elements such as traffic signals that cause interruptions in traffic flow. Interrupted flow facilities do have fixed elements that cause an interruption in the flow of traffic, such as stop signs and signalized intersections along arterial roads. A roadway segment is defined

4 “Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis” (Transportation Research Board, 2016)

as a stretch of roadway generally located between signalized or controlled intersections. The roads evaluated in this TIS are considered interrupted flow facilities, and each study roadway segment is located between two signalized intersections.

Table 1-2 provides a definition of segment LOS based on the HCM interrupted flow facilities criteria. Street segment capacity was determined using information shown in Table 1-3 which is based on the LOS Tables included in Appendix A. The tables consider the capacity of individual road segments based on numerous roadway variables (design speed, passing opportunities, signalized intersections per mile, number of lanes, saturation flow, etc.). These variables were identified and applied to study roadway segments to reflect segment LOS conditions.

Table 1-1
ICU LOS Thresholds

LEVEL OF SERVICE	MAXIMUM ICU
A	55%
B	64%
C	73%
D	82%
E	91%
F	100%
G	109%
H	over 109%

Table 1-2
Roadway Segment Level of Service Definitions
(Highway Capacity Manual)

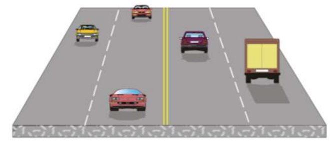
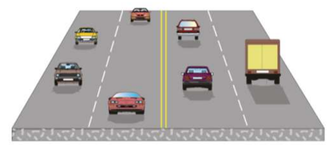
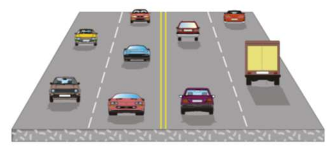
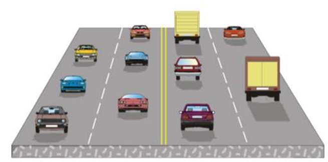
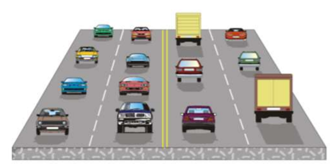
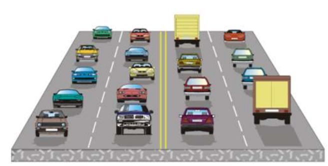
LEVEL OF SERVICE	DEFINITION	
A	Represents free flow. Individual vehicles are virtually unaffected by the presence of others in the traffic stream.	
B	Is in the range of stable flow, but the presence of other vehicles in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver.	
C	Is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual vehicles becomes significantly affected by interactions with other vehicles in the traffic stream.	
D	Is a crowded segment of roadway with a large number of vehicles restricting mobility and a stable flow. Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience.	
E	Represents operating conditions at or near the level capacity. All speeds are reduced to a low, but relatively uniform value. Small increases in flow will cause breakdowns in traffic movement.	
F	Is used to define forced or breakdown flow (stop-and-go gridlock). This condition exists when the amount of traffic approaches a point where the amount of traffic exceeds the amount that can travel to a destination. Operations within the queues are characterized by stop and go waves, and they are extremely unstable.	

Table 1-3
Peak Hour Directional Volumes – Urban

		Level of Service			
Lanes	Divided	B	C	D	E
State Roadways					
1	Undivided	*	200	690	930
1	Divided	*	210	725	977
2	Divided	50	1,350	1,790	1,870
3	Divided	80	2,040	2,690	2,820
Non-State Roadways					
1	Undivided	*	180	621	837
1	Divided	*	190	656	884
2	Divided	45	1,215	1,611	1,683
3	Divided	72	1,836	2,421	2,538

Source: 2018 FDOT Quality/Level Of Service Handbook Tables

* Cannot be achieved using table input value defaults

1.2.3 *Agency Level of Service Standards*

The intersections and roadway segments evaluated in this TIS are located either in the City of Camarillo or on the boundary of the City of Camarillo and unincorporated Ventura County, and the U.S. 101 ramps are under the jurisdiction of the California Department of Transportation (Caltrans). As a result of the combination of jurisdictional agencies, this TIS considers adopted level of service standards of these various agencies in assessing whether predicted operations with the Project would be within the range of levels of service considered acceptable to these agencies. The traffic operations analysis in this TIS uses the traditional practice of measuring delay, vehicle/capacity ratios, and levels of service for informational purposes. Ultimately, the County will determine the proper characterization of this information in the EIR for consideration by decisionmakers. Thus, although Project effects on traffic delay are presented in this TIS and measured against “acceptable” levels of service, these effects should not be interpreted as an environmental “impact” under CEQA.

Ventura County General Plan Goals, Policies & Programs (03-19-19 edition) Transportation and Circulation section specifies minimum acceptable levels of service for road segments and intersections that identifies, in relevant part, LOS “D” as the minimum acceptable level of service for County thoroughfares and Federal and State highways in unincorporated areas of the County and LOS “C” as the minimum acceptable level of service for all County maintained local roads. The City of Camarillo General Plan Circulation Element (2014), Policy 1.2.6 states, “The City should maintain a level of service (LOS) of “C” or better on all streets and intersections. Brief periods of LOS “D” during peak a.m. and p.m. traffic hours may be tolerated where improving to LOS “C” would be unreasonably costly.”

Caltrans, "A Guide For the Preparation of Traffic Impact Studies, 2002" identifies a minimum LOS of "C" as the minimum acceptable level of service for its facilities, except where the existing LOS is "D" or below, in which case Caltrans generally seeks to maintain the existing LOS.

Table 1-4 summarizes the minimum acceptable LOS for each intersection and roadway segment based upon its jurisdictional location. In consideration of these various agency level of service standards, this TIS uses LOS C as the minimum acceptable level of service for all study intersections and roadway segments, unless the existing condition (discussed further in Chapter 2) is worse than LOS C in which case the existing condition LOS is used as the minimum acceptable level of service.

Table 1-4
Minimum Acceptable LOS by Jurisdiction

INTERSECTION	JURISDICTION	MINIMUM ACCEPTABLE LOS
1. Lewis Road / Pleasant Valley Road	City of Camarillo	C
	Ventura County	D
2. Pancho Road / Pleasant Valley Road	City of Camarillo	C
3. US Route 101 SB Ramps / Pleasant Valley Road	Caltrans	LOS C or existing LOS if worse than C
4. US Route 101 NB Off Ramp / Pleasant Valley Road	Caltrans	LOS C or existing LOS if worse than C
ROADWAY SEGMENT	**JURISDICTION**	**MINIMUM ACCEPTABLE LOS**
Pleasant Valley Road		
Lewis Road to Pancho Road	City of Camarillo	C
	Ventura County	D
Pancho Road to US 101 SB Ramps	City of Camarillo	C
Santa Rosa Road		
US 101 NB Ramps to Adolfo Road	City of Camarillo	C
Pancho Road		
Pleasant Valley Road to Calle Quetzal	City of Camarillo	C
	Ventura County	D
Calle Quetzal to Howard Road	City of Camarillo	C
	Ventura County	D

Level of service standards for study area jurisdictional agencies

2.0 Existing Conditions

2.1 Existing Conditions Traffic Counts and Roadway Geometrics

To assess existing traffic conditions, AM and PM peak hour turning movements were collected at each study intersection by National Data and Surveying Services. Intersection turning movement counts were conducted for the periods of 7:00-9:00 AM and 4:00-6:00 PM for all study intersections on Tuesday, November 27, 2018. Traffic count data worksheets are provided in Appendix B. Twenty-four (24) hour classification counts were also collected on Tuesday, November 27, at three locations in within the study area to identify existing truck travel patterns in the study area. The days on which counts were taken are considered sufficiently representative of typical traffic volumes within the study area. Schools were in session and weather was mild.

The existing lane geometry at study area intersections is shown in Figure 2-1 and was determined through field reconnaissance. Figures 2-2 and 2-3 show existing traffic volumes for the AM and PM peak hours in the study area. The traffic volumes include all background trips (i.e., those trips not associated with existing Pacific Rock Quarry operations) as well as any trips associated with Pacific Rock Quarry operations on the days and during the period counts were taken. The Operator advised the County that on November 27, 2018 (the day traffic counts were taken) there were 3 worker trips to and 3 worker trips from the site (resulting in 6 total worker trips) and 9 haul loads from the site (resulting in 18 total trips when trips to the site by unloaded trucks are included). However, the time of day that these trips occurred was not provided by the Operator and it is undetermined whether these trips are within peak-hour counts. To more conservatively evaluate changes in levels of services associated with the Project (i.e., tending to overstate changes as opposed to understating changes), it is assumed for this TIS that any Project-related trips that occurred during the period when counts were taken did not occur during the AM or PM peak hour periods. The traffic counts taken in 2018 are considered representative of baseline peak-hour traffic conditions and are appropriate for this evaluation.

2.2 Existing Functional Roadway Classifications System

Functional roadway classification is the process by which streets and highways are grouped into classes, or systems, according to their design and the type of service they are intended to provide. Fundamental to this process is the recognition that individual streets and highways do not serve travel independently; rather, most travel involves movement through a network of roads. The following summarizes classifications relevant to this analysis and describes the study area roadways and their classifications based on the City of Camarillo General Plan Circulation Element.

- **Freeways** – Limited-access facilities designed for high speed regional mobility. Freeways may include up to eight lanes (four lanes in each direction). The one study segment freeway is:

- **US 101 (Ventura Freeway)** currently exists as a six-lane freeway with a posted speed limit of 65 miles per hour (mph) near the study area. According to the Caltrans website, the annual average daily trips (AADT) along US 101 in 2017 (most recent available year at the time of preparation of this TIS) was 132,000.

- **Arterial** – Streets which provide for the maximum movement of large volumes of traffic between major traffic generators. The City of Camarillo Circulation Element recognizes two classes of arterial streets: primary and secondary. The three study segments that are arterials:

  - **Lewis Road** is a four-lane divided roadway with bike lanes in the study area.
  - **Pleasant Valley Road** is a four-lane divided roadway with bike lanes in the study area both east and west of the Pancho Road intersection.
  - **Santa Rosa Road** is a 6-lane divided roadway with bike lanes in the study area north of US 101.

- **Collectors** – Streets which provide access and movement between residential, commercial, and industrial areas. The primary function of collector streets is to collect and distribute traffic between local streets and the arterial roadway system. The City of Camarillo Circulation Element recognizes three types of collector street: major, minor, and industrial. The one study segment that falls under the Collector classification is designated by the City of Camarillo Circulation Element as an Industrial Collector, as defined below.

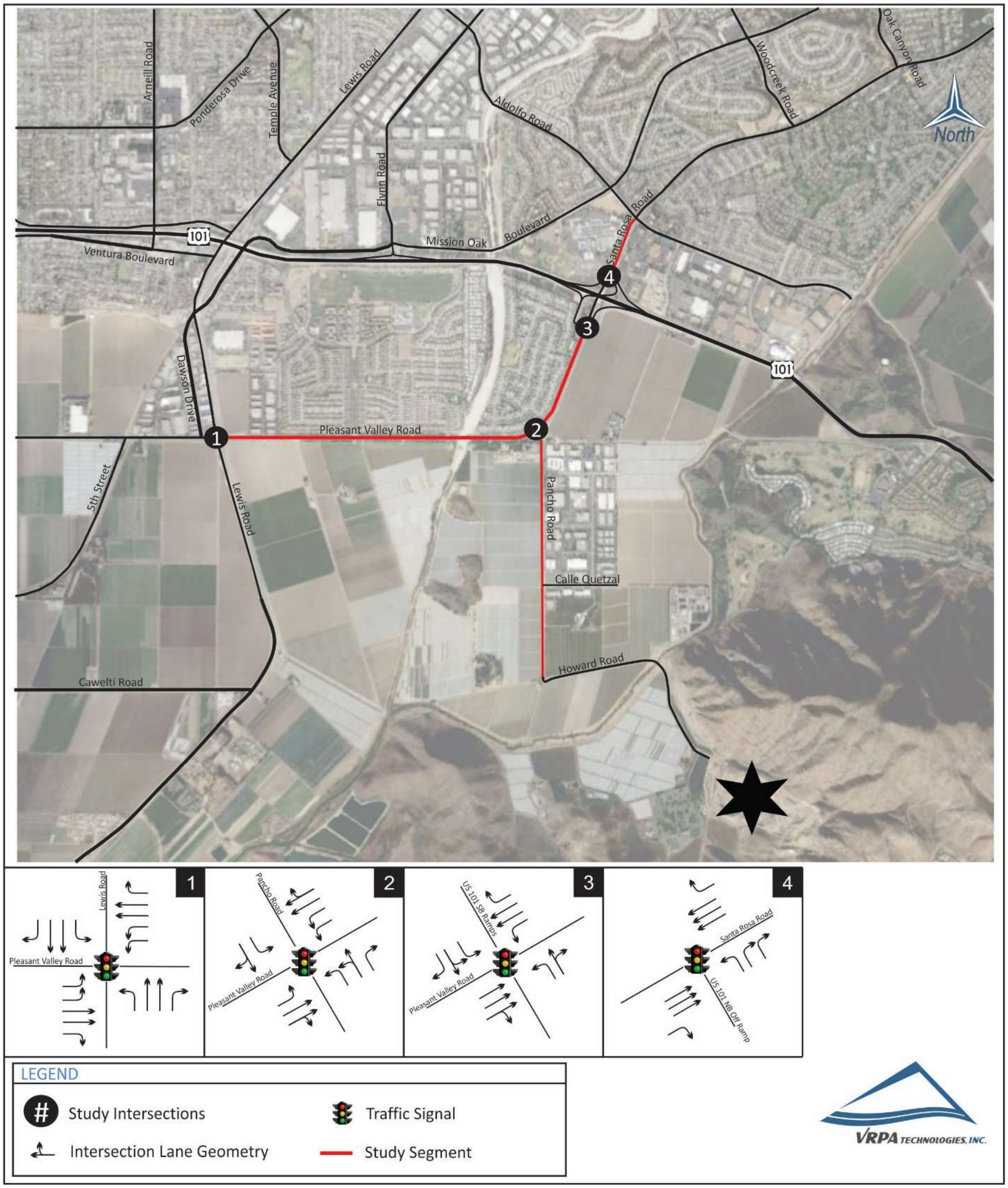
- **Industrial Collector** – Streets that are intended as the intermediate route to accommodate traffic between local industrial streets and arterial streets. This system includes those streets that provide for traffic movements within a relatively small area, such as a commercial or industrial zone. Individual streets are designed specifically to facilitate truck traffic, which is an element of the industrial district. The one study segment Industrial Collector is:

  - **Pancho Road** connects Howard Road and Pleasant Valley Road. Pancho Road is a four-lane undivided roadway from Pleasant Valley Road to just south of Adohr Lane. Pancho Road is a three-lane undivided roadway (Two-Way-Left-Turn-Lane) without bike lanes from just south of Adohr Lane to Calle Alto. Pancho Road is a two-lane undivided roadway (Two-Way-Left-Turn-Lane) with parallel parking on the eastside of the roadway from Calle Alto to Calle Quetzal. Finally, Pancho Road is a two-lane undivided roadway without bike lanes from Calle Quetzal to Howard Road. At its intersection with Pleasant Valley Road, Pancho Road includes two left-turn lanes, one of which is also a through lane, and a right-turn lane.

- **Local Streets** – Roadways which provide access to individual homes and businesses. Local streets should not carry through traffic or buses and heavy trucks, except in commercial and industrial districts. None of the study segments are local streets.

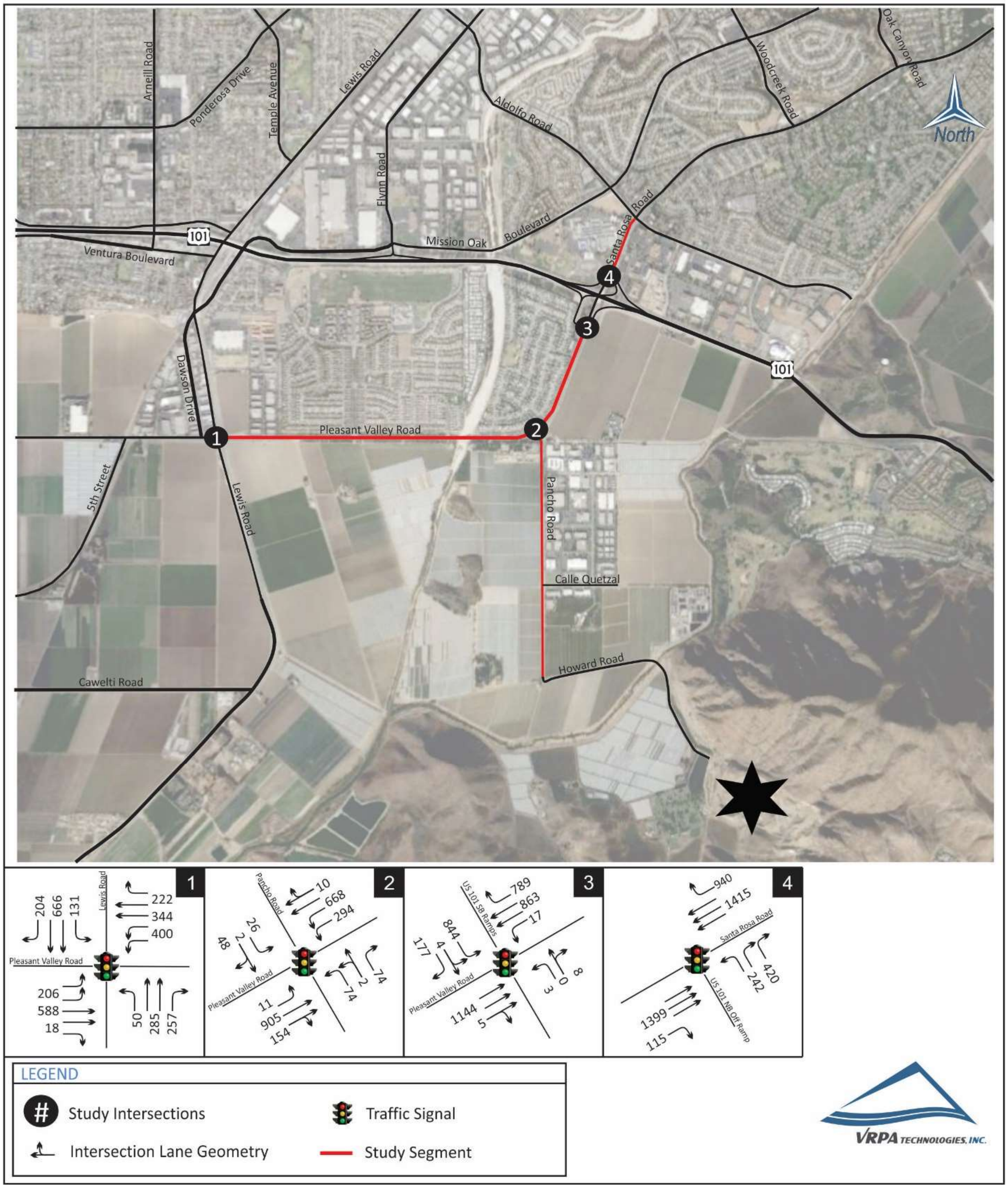
Pacific Rock Quarry Expansion Project
Existing Lane Geometry

Figure 2-1



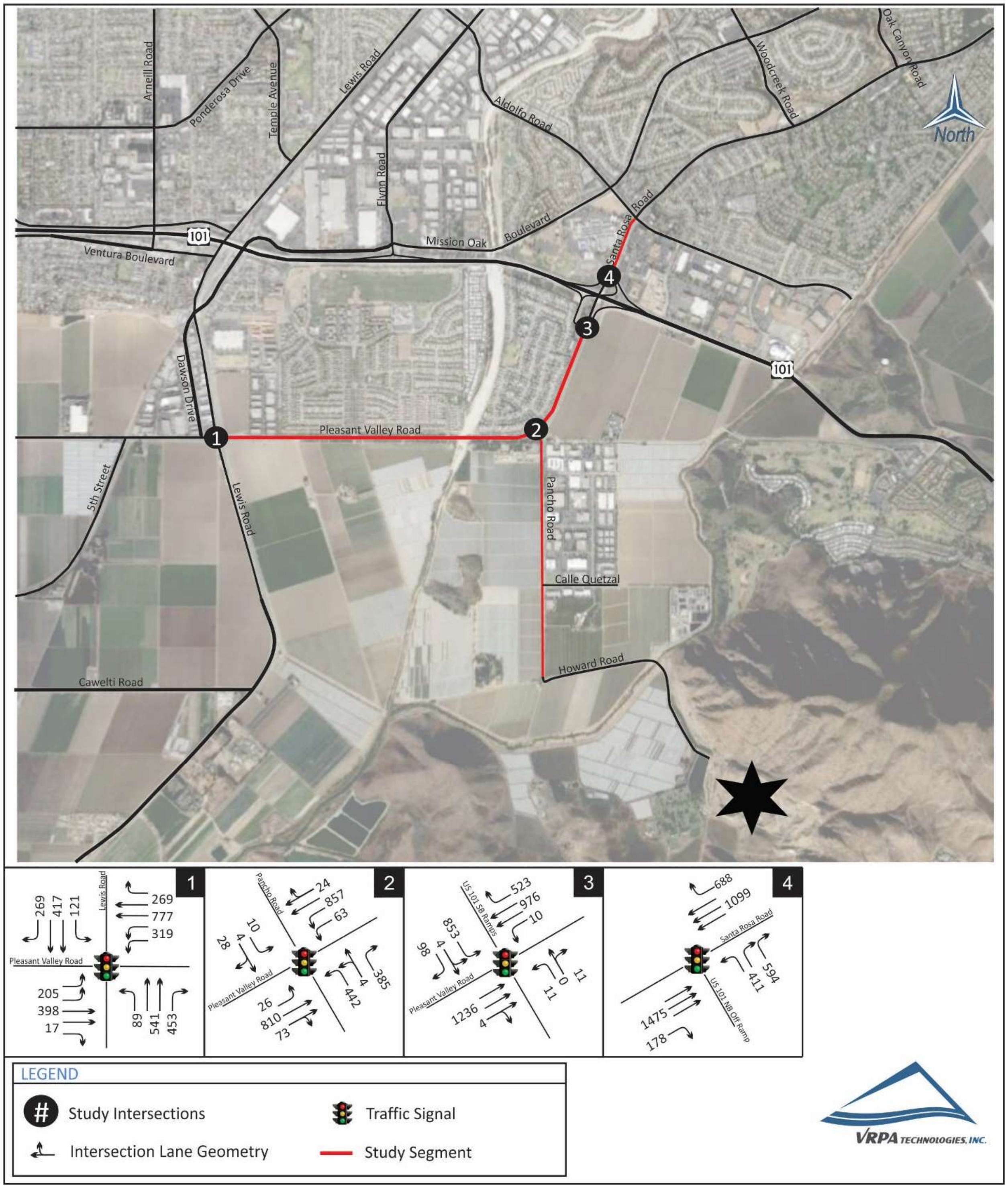
Pacific Rock Quarry Expansion Project
Existing AM Peak Hour Trips

Figure 2-2



Pacific Rock Quarry Expansion Project
Existing PM Peak Hour Trips

Figure 2-3



2.3 Affected Streets and Highways

Street and highway intersections and segments near and adjacent to the Project site were analyzed to determine levels of service using methodologies described previously. The study intersections and street and highway segments included in this TIS are listed below.

Intersections

1. Lewis Road / Pleasant Valley Road
2. Pancho Road / Pleasant Valley Road
3. US 101 SB Ramps / Pleasant Valley Road
4. US 101 NB Off Ramp / Pleasant Valley Road

Roadway Segments

1. Pleasant Valley Road
   - Lewis Road and Pancho Road
   - Pancho Road to US 101 SB Ramps

2. Santa Rosa Road
   - US 101 NB Ramps and Adolfo Road

3. Pancho Road
   - Pleasant Valley Road to Calle Quetzal
   - Calle Quetzal to Howard Road

2.4 Level of Service

2.4.1 *Intersection Capacity Analysis*

Study intersection LOS analyses were assessed using 2003 ICU methodology. The roadway geometrics, traffic volumes, and signal timing properties (lost time, minimum green time, etc.) of each intersection were input into the 2003 ICU Worksheets in order to determine the LOS for each study scenario. The intersection reported LOS represents the ICU methodology.

Results of the analysis show that under Existing Conditions all of the study intersections are LOS C or better and meet the minimum acceptable level of service criteria during both the AM and PM peak hour, with the exception of the US 101 SB Ramps / Pleasant Valley Road intersection during the AM peak hour. Based on this analysis, this intersection operates at LOS ”D” during the AM peak hour under Existing Conditions. Table 2-1 shows the intersection LOS for Existing Conditions. ICU Worksheets are provided in Appendix C.

2.4.2 *Queuing Analysis*

Table 2-2 provides a queue length summary for left and right turn lanes at the study intersections for Existing Conditions. Queuing analysis was completed using Section 400 of Caltrans' Highway Design Manual. The vehicular queue presented in Table 2-2 represents the approximate queue length requirements for the respective lane movements under Existing Conditions. As shown in Table 2-2, under Existing Conditions, the queue lengths for certain movements at each of the study intersections exceed the existing queue lane storage lengths. It should be noted that the queuing analysis presented in this traffic study is provided for informational purposes only.

2.4.3 *Roadway Segment Capacity Analysis*

Results of the segment analysis for Existing Conditions are presented in Table 2-3. The performance criteria used for evaluating volumes and capacities on the road and highway system for this study were estimated using the Arterial Level of Service Tables included in Table 1-3 and Appendix A. Results of the analysis show six instances in which LOS "C" is exceeded under Existing Conditions as summarized below:

- Pleasant Valley Road westbound from Pancho Road to Lewis Road during the PM peak hour (LOS D)
- Pleasant Valley Road northbound between Pancho Road and US 101 southbound ramps during the PM peak hour (LOS D)
- Santa Rosa Road northbound between US 101 northbound ramps and Adolfo Road during the PM peak hour (LOS D)
- Santa Rosa Road southbound between Adolfo Road and US 101 northbound ramps during the AM peak hour (LOS D)
- Pancho Road northbound between Calle Quetzal and Pleasant Valley Road during the PM peak hour (LOS E)
- Pancho Road southbound between Pleasant Valley Road during the AM peak hour (LOS D)

Table 2-1
Existing Intersection Operations

INTERSECTION	CONTROL	PEAK HOUR	EXISTING	
			ICU	LOS
1. Lewis Road / Pleasant Valley Road	Signalized	AM	62.4	B
		PM	65.4	C
2. Pancho Road / Pleasant Valley Road	Signalized	AM	58.5	B
		PM	60.8	B
3. US Route 101 SB Ramps / Pleasant Valley Road	Signalized	AM	**77.8**	**D ***
		PM	62.0	B
4. US Route 101 NB Off Ramp / Pleasant Valley Road	Signalized	AM	47.4	A
		PM	54.2	A

ICU = Intersection Capacity Utilization (expressed as a percentage) / **BOLD** denotes LOS has been exceeded
For signalized controlled intersections, the LOS is based on the ICU method.
* Existing State highway facility is operating at less than the target LOS; the existing MOE shall be maintained.

Table 2-2
Existing Queuing Operations

INTERSECTION	EXISTING QUEUE STORAGE LENGTH (ft)		EXISTING CONDITIONS AM Queue	EXISTING CONDITIONS PM Queue
Lewis Road / Pleasant Valley Road	NB Left	600	42	74
	NB Right	600	214	378
	SB Left	150	109	101
	SB Right	275	170	224
	EB Left	2 @ 175	172	171
	EB Right	150	15	14
	WB Left	2 @ 200	333	266
	WB Left	175	**185**	**224**
Pancho Road / Pleasant Valley Road	NB Left	2 @ 50	62	**368**
	NB Right	200	62	**321**
	SB Left	100	22	8
	EB Left	225	9	22
	WB Left	2 @ 350	245	53
US 101 EB Off Ramp / Pleasant Valley Road	SB Left	125	14	8
	SB Right	1075	658	436
	EB Left	2 @ 100	**703**	**711**
	EB Right	125	**148**	82
	WB Left	50	3	9
US 101 WB Off Ramp / Pleasant Valley Road	WB Left	350	202	343
	WB Right	2 @ 200	350	**495**

Queue is measured in feet / **BOLD** denotes exceedance

Table 2-3
Existing Segment Operations

STREET SEGMENT	SEGMENT DESCRIPTION	PEAK HOUR	DIRECTION	EXISTING	
				VOLUME	LOS
Pleasant Valley Road					
Lewis Road to Pancho Road	2 Lanes Divided	AM	EB	1,070	C
		PM	EB	972	C
	2 Lanes Divided	AM	WB	966	C
		PM	WB	**1,365**	**D**
Pancho Road to US 101 SB Ramps	2 Lanes Divided	AM	NB	1,149	C
		PM	NB	**1,240**	**D**
	2 Lanes Divided	AM	SB	1,043	C
		PM	SB	1,085	C
Santa Rosa Road					
US 101 NB Ramps to Adolfo Road	3 Lanes Divided	AM	NB	1,819	C
		PM	NB	**2,069**	**D**
	3 Lanes Divided	AM	SB	**2,355**	**D**
		PM	SB	1,787	C
Pancho Road					
Pleasant Valley Road to Calle Quetzal	1 Lane Undivided	AM	NB	150	C
		PM	NB	**831**	**E**
	1 Lane Undivided	AM	SB	**450**	**D**
		PM	SB	140	C
Calle Quetzal to Howard Road	1 Lane Undivided	AM	NB	19	C
		PM	NB	75	C
	1 Lane Undivided	AM	SB	30	C
		PM	SB	24	C

BOLD denotes LOS standard has been exceeded.

3.0 Traffic Operations

This chapter provides an assessment of the vehicle trips the Project is expected to generate and the resulting predicted changes in traffic operations levels of service at study area road segments and intersections.

3.1 Trip Generation

To assess Project changes in traffic operations, the first step is to determine Project trip generation. The Project's trip generation was estimated based on information in the CUP amendment application. The Project's estimated AM peak hour and PM peak hour trips are shown in Table 3-1.

Proposed modifications to the existing CUP include: extend the life of the existing permitted operations by an additional 30 years, expand the mining area, extend the operational days from 6 to 7 days per week (adding Sunday for material load out) with additional material load out hours and limited extended 24 hour operations (60 days maximum per year), extend the daily hours of operation (for materials hauling) from the currently permitted 7:00 AM to 4:00 PM to the proposed 5:30 AM to 10:00 PM, allow construction and mobile mining equipment in outdoor storage areas, allow concrete and asphalt recycling, allow for imported material to be used as reclamation fill, and replace an existing mobile home to be used as a 24-hour security trailer.

The operation is currently permitted to transport up to 60 daily loads from the site (resulting 120 one-way trips), and the Project would not change this permitted daily maximum. The applicant has advised the County that the existing operation can generate up to 30 loads per hour (resulting in 60 one-way trips) during morning operations and up to 15 loads per hour (resulting 30 one-way trips) during afternoon periods. The County does not have sufficient information documenting actual AM peak-hour trips associated with the existing operation to establish baseline AM peak-hour trips, therefore, this study evaluates the Project as if all trips associated with haul trucks during the AM peak-hour period would be new trips that do not currently occur under existing operations. This approach is conservative inasmuch as it will tend to overestimate changes in traffic operations associated with the Project during the AM peak-hour period. Further, because the existing operation is permitted for operations between 7:00 AM and 4:00 PM, there are no baseline haul trips during the PM peak-hour period of 4:00 PM to 6:00 PM under Existing Conditions. Thus, this study evaluates changes in traffic operations associated with the Project's 15 loads (30 one-way trips) during the PM peak-hour period. In addition to trucks that would be used for transporting aggregate from the site, the Project would also involve truck trips associated with the delivery of asphalt and concrete to the site for recycling and for the delivery of fill material that would be used for reclamation. The application advises that these recycle material and fill import truck trips would be included within the requested permitted maximum of 60 truck loads per day. Thus, this analysis assumes that no more than 120 daily one-way haul truck trips would occur each day, consisting of up to 60 loaded trucks exiting or entering the facility, and 60 empty trucks exiting or entering the facility. On an hourly basis, this evaluation assumes that no more than 60 AM peak-hour one-way truck trips (up to 30 loaded trucks entering or exiting the facility and 30 empty trucks entering or exiting the facility) and that no more than 30 PM peak-hour one-way truck trips (up to 15 loaded trucks entering or exiting the facility and 15 empty trucks entering or exiting the facility) would occur as a result of the Project.

Due to the size and weight of haul trucks, they operate more slowly than passenger vehicles. Therefore, a "Passenger Car Equivalent" (PCE) factor is applied to haul truck trips to account for the greater effect each truck has on traffic as compared to a passenger vehicle. For this evaluation, a PCE of 2.5 is used for Project-related haul truck trips. Thus, for the modeling, the truck trips shown in Table 3-1 are multiplied by 2.5, resulting in the total Project trips with PCE as also presented in the table.

Additional Project-related trips would be associated with ancillary delivery of supplies and equipment to the site periodically and worker trips. Supply and equipment delivery trips are anticipated to be minimal and would not be expected to substantively influence on traffic operations. Worker trips are accounted for and for this analysis assume up to 12 worker trips to the site during the AM peak hour and 12 worker trips from the site during the PM peak hour.

Table 3-1
Project Trip Generation

TRIP TYPE	AM PEAK HOUR				PM PEAK HOUR			
	IN:OUT SPLIT	VOLUME			IN:OUT SPLIT	VOLUME		
		IN	OUT	TOTAL		IN	OUT	TOTAL
Truck Trips	50:50	30	30	60	50:50	15	15	30
Employee Trips	100:0	12	0	12	0:100	0	12	12
TOTAL PROJECT TRIPS		**42**	**30**	**72**		**15**	**27**	**42**
TOTAL PROJECT TRIPS W/ PCE[1]		**87**	**75**	**162**		**38**	**50**	**88**

A "trip" is defined as a "one-way" trip
1 PCE of 2.5:1 was applied to truck trips

3.2 Trip Distribution

Project-related truck trip distribution is estimated based on consideration of the anticipated market for aggregate materials produced at the site and anticipated source locations for imported fill and recycle material (i.e., various locations primarily in Ventura, Los Angeles, and Santa Barbara counties), engineering judgement, prevailing traffic patterns in the study area, primary roads and travel routes, and population centers. Employee trip distribution is estimated considering population centers and local road system travel options. Thus, the employee trip distribution varies from the truck trip distribution, reflecting employee travel to and from the site.

The trip distribution estimates are intended to reflect anticipated typical travel patterns associated with Project-related vehicles. It is recognized that travel patterns will vary depending largely on market demand and the locations of aggregate deliveries to construction sites that cannot be presently determined. The distribution used here provides for a reasonable estimate of typical travel patterns appropriate for this TIS. Project trip distribution was assigned to the roadway system using the trip distribution percentages shown in Figure 3-1.

3.3 Project Trips and Distribution Summary

Project trips as shown in Table 3-1 were distributed to the roadway system using the trip distribution percentages shown in Figure 3-1. A graphical representation of the resulting AM and PM peak hour Project trips is shown in Figures 3-2 and 3-3. (Figures 3-2 and 3-3 include the PCE of 2.5 for Project truck trips, as discussed previously.)

3.4 Existing Plus Project Traffic Conditions

An Existing Plus Project scenario was analyzed to include existing traffic plus traffic generated by the Project. Existing Plus Project traffic conditions during the AM and PM peak hours are shown in Figures 3-4 and 3-5.

3.4.1 *Existing Plus Project Intersection Capacity Analysis*

Table 3-2 summarizes traffic operations under Existing Conditions without the Project and under Existing Conditions with the Project. As shown in the table, the addition of Project-related trips to Existing Conditions at study area intersections would not result in deficient levels of service. Results of the analysis show that all of the study intersections meet the minimum acceptable level of service criteria during both the AM and PM peak hour with the addition of Project related trips.

3.4.2 *Existing Plus Project Queuing Analysis*

Table 3-3 summarizes queuing operations under Existing Conditions without the Project and under Existing Conditions with the Project. Queuing analysis was completed using Section 400 of Caltrans' Highway Design Manual. As discussed in Section 2.0, the queuing analysis presented in this TIS is provided for informational purposes only. The City of Camarillo, Ventura County, and Caltrans have not established CEQA impact significance criteria related to the exceedance of left and right turn storage pockets.

3.4.3 *Existing Plus Project Roadway Segment Capacity Analysis*

Table 3-4 summarizes traffic operations under Existing Conditions without the Project and under Existing Conditions with the Project. As shown in the table, the addition of Project-related trips to Existing Conditions on study area roadway segments would contribute trips in six instances in which segment volumes already exceed LOS C and would result in one instance in which the addition of Project trips would cause LOS C to worsen to LOS D, as summarized below:

- Pleasant Valley Road westbound from Pancho Road to Lewis Road during the PM peak hour (worsen existing LOS D)
- Pleasant Valley Road northbound between Pancho Road and US 101 southbound ramps during the PM peak hour (worsen existing LOS D)
- Santa Rosa Road northbound between US 101 northbound ramps and Adolfo Road during the PM peak hour (worsen existing LOS D)
- Santa Rosa Road southbound between Adolfo Road and US 101 northbound ramps during the AM peak hour (worsen existing LOS D)
- Pancho Road northbound between Calle Quetzal and Pleasant Valley Road during the AM peak hour (degrade from LOS C to LOS D)
- Pancho Road northbound between Calle Quetzal and Pleasant Valley Road during the PM peak hour (worsen existing LOS E)
- Pancho Road southbound between Pleasant Valley Road during the AM peak hour (worsen existing LOS D)

Pacific Rock Quarry Expansion Project
Trip Distribution

Figure 3-1

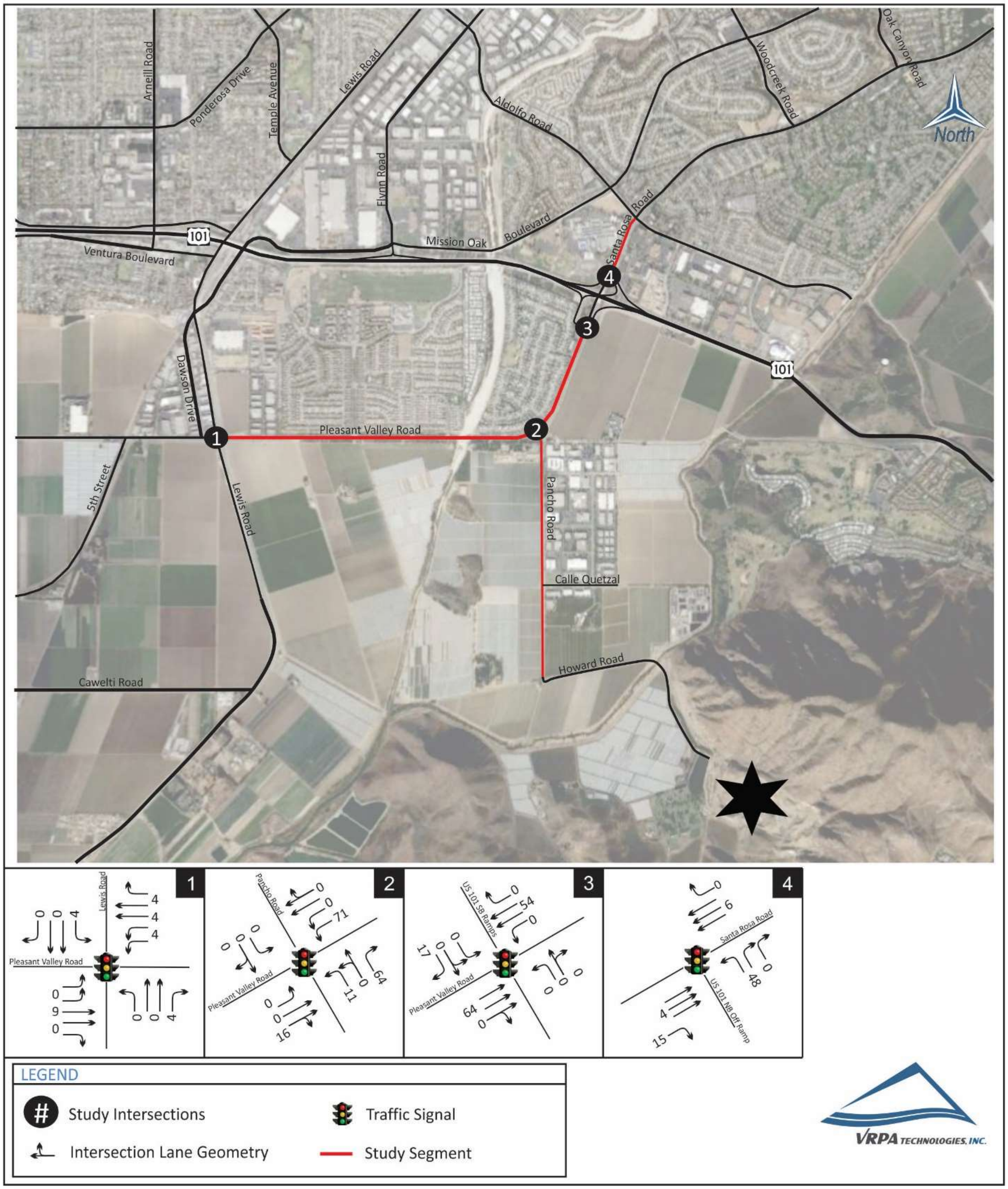
LEGEND

#	Study Intersections	##	Truck Distribution
—	Study Segment	(##)	Employee Distribution

VRPA TECHNOLOGIES, INC.

Pacific Rock Quarry Expansion Project
AM Peak Hour Project Trips

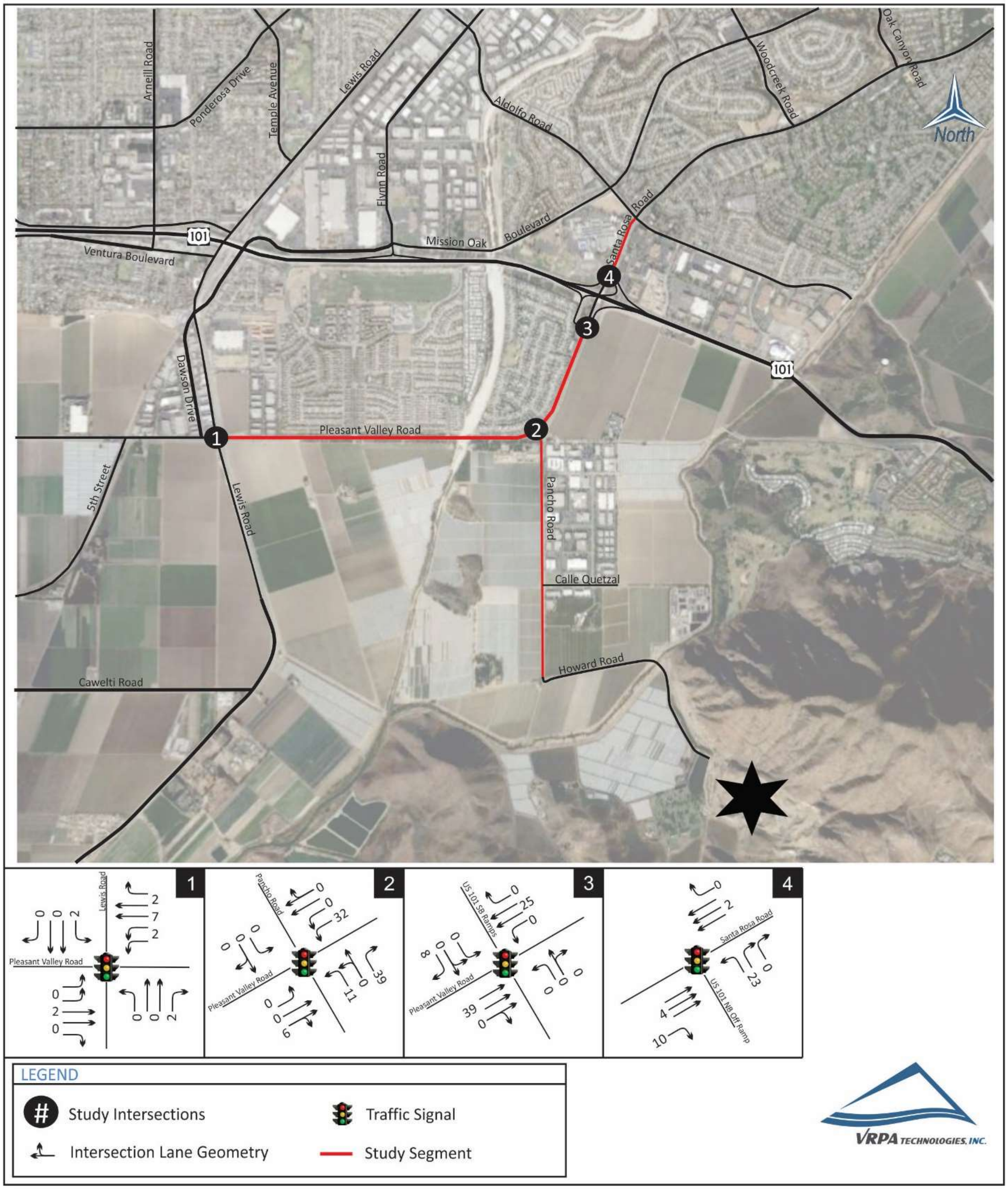
Figure 3-2



Note: A PCE of 2.5 is used for Project-related haul truck trips

Pacific Rock Quarry Expansion Project
PM Peak Hour Project Trips

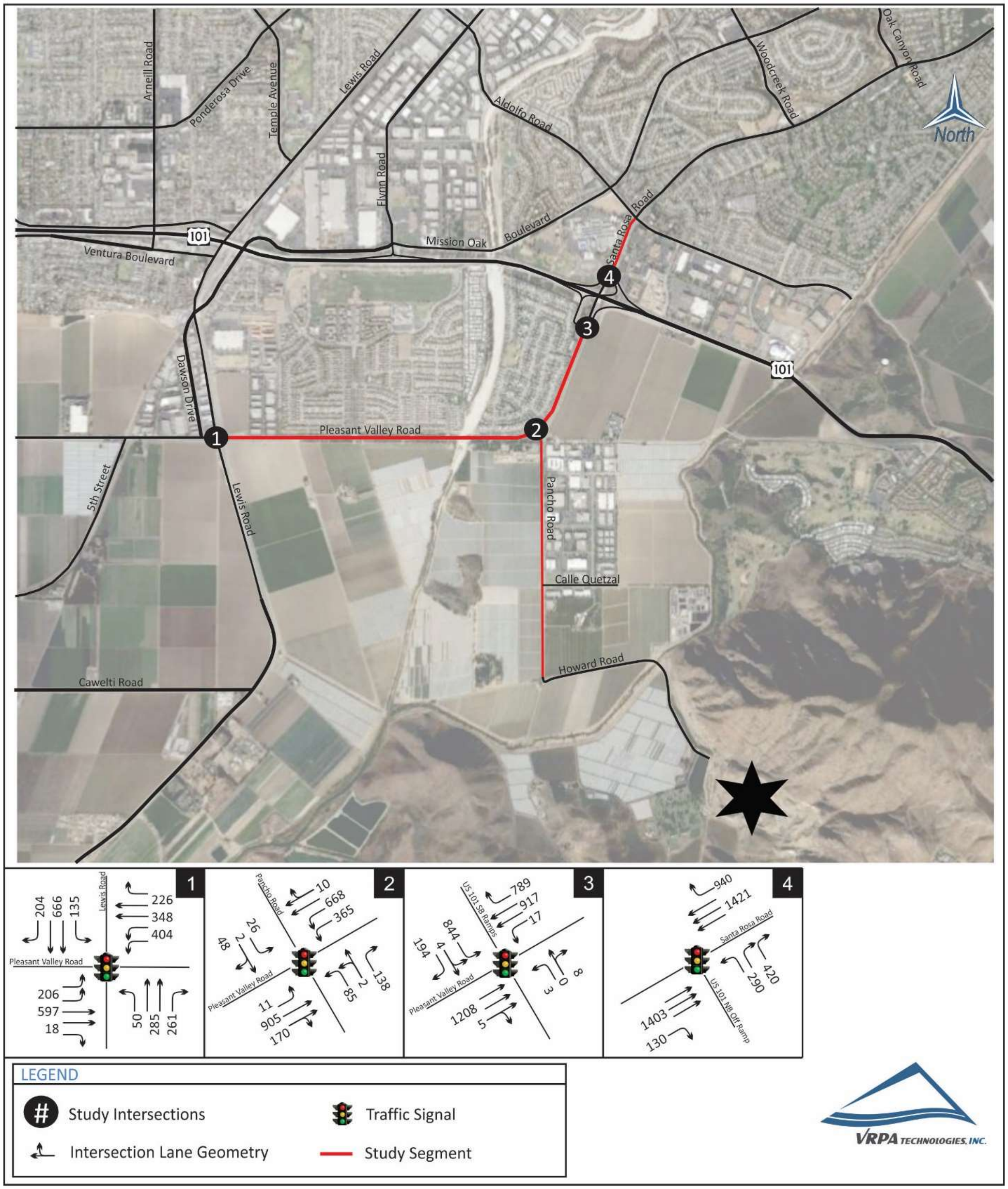
Figure 3-3



Note: A PCE of 2.5 is used for Project-related haul truck trips

Pacific Rock Quarry Expansion Project
Existing Plus Project AM Peak Hour Trips

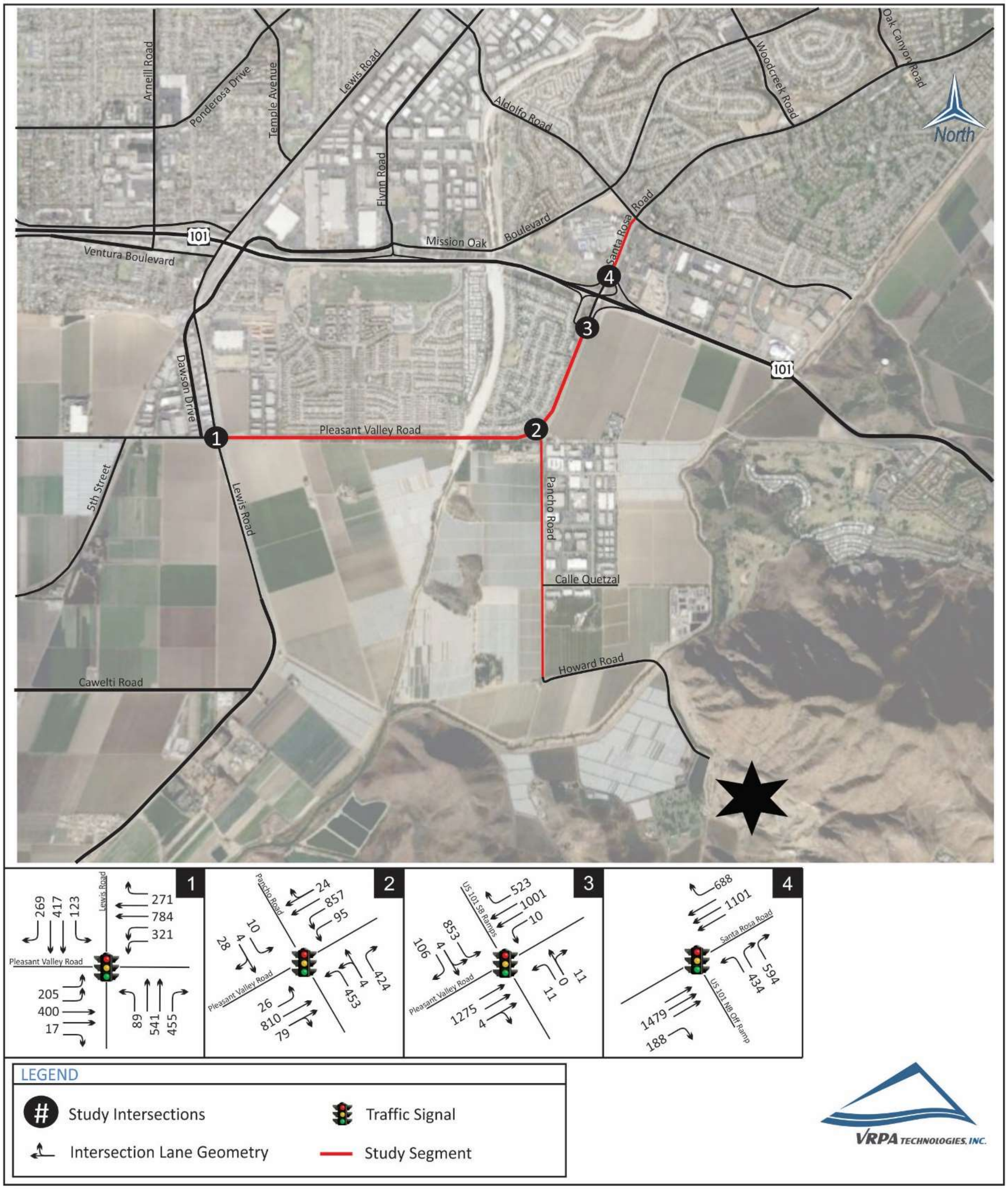
Figure 3-4



Note: A PCE of 2.5 is used for Project-related haul truck trips

Pacific Rock Quarry Expansion Project
Existing Plus Project PM Peak Hour Trips

Figure 3-5



Note: A PCE of 2.5 is used for Project-related haul truck trips

Table 3-2
Existing Plus Project Intersection Operations

INTERSECTION	CONTROL	PEAK HOUR	EXISTING		EXISTING PLUS PROJECT	
			ICU	LOS	ICU	LOS
1. Lewis Road / Pleasant Valley Road	Signalized	AM	62.4	B	62.6	B
		PM	65.4	C	65.8	C
2. Pancho Road / Pleasant Valley Road	Signalized	AM	58.5	B	61.3	B
		PM	60.8	B	63.2	B
3. US Route 101 SB Ramps / Pleasant Valley Road	Signalized	AM	77.8	D *	77.8	D *
		PM	62.0	B	62.7	B
4. US Route 101 NB Off Ramp / Pleasant Valley Road	Signalized	AM	47.4	A	47.8	A
		PM	54.2	A	55.6	B

ICU = Intersection Capacity Utilization (expressed as a percentage) / **BOLD** denotes LOS has been exceeded
For signalized controlled intersections, the LOS is based on the ICU method.
* Existing State highway facility is operating at less than the target LOS; the existing MOE shall be maintained.

Table 3-3
Existing Plus Project Queuing Operations

INTERSECTION	EXISTING QUEUE STORAGE LENGTH (ft)		EXISTING CONDITIONS		EXISTING PLUS PROJECT	
			AM Queue	PM Queue	AM Queue	PM Queue
Lewis Road / Pleasant Valley Road	NB Left	600	42	74	42	74
	NB Right	600	214	378	218	379
	SB Left	150	109	101	113	103
	SB Right	275	170	224	170	224
	EB Left	2 @ 175	172	171	172	171
	EB Right	150	15	14	15	14
	WB Left	2 @ 200	333	266	337	268
	WB Left	175	**185**	**224**	**188**	**226**
Pancho Road / Pleasant Valley Road	NB Left	2 @ 50	62	**368**	71	**378**
	NB Right	200	62	**321**	115	**353**
	SB Left	100	22	8	22	8
	EB Left	225	9	22	9	22
	WB Left	2 @ 350	245	53	304	79
US 101 SB Ramps / Pleasant Valley Road	SB Left	125	14	8	14	8
	SB Right	1075	658	436	658	436
	EB Left	2 @ 100	**703**	**711**	**703**	**711**
	EB Right	125	**148**	82	**162**	88
	WB Left	50	3	9	3	9
US 101 NB Off Ramp / Pleasant Valley Road	WB Left	350	202	343	245	**363**
	WB Right	2 @ 200	350	**495**	350	**495**

Queue is measured in feet / **BOLD** denotes exceedance

Table 3-4
Existing Plus Project Segment Operations

STREET SEGMENT	SEGMENT DESCRIPTION	PEAK HOUR	DIRECTION	EXISTING		EXISTING PLUS PROJECT	
				VOLUME	LOS	VOLUME	LOS
Pleasant Valley Road							
Lewis Road to Pancho Road	2 Lanes Divided	AM	EB	1,070	C	1,089	C
		PM	EB	972	C	978	C
	2 Lanes Divided	AM	WB	966	C	977	C
		PM	WB	**1,365**	**D**	**1,376**	**D**
Pancho Road to US 101 SB Ramps	2 Lanes Divided	AM	NB	1,149	C	1,213	C
		PM	NB	**1,240**	**D**	**1,279**	**D**
	2 Lanes Divided	AM	SB	1,043	C	1,114	C
		PM	SB	1,085	C	1,117	C
Santa Rosa Road							
US 101 NB Ramps to Adolfo Road	3 Lanes Divided	AM	NB	1,819	C	1,823	C
		PM	NB	**2,069**	**D**	**2,073**	**D**
	3 Lanes Divided	AM	SB	**2,355**	**D**	**2,361**	**D**
		PM	SB	1,787	C	1,789	C
Pancho Road							
Pleasant Valley Road to Calle Quetzal	1 Lane Undivided	AM	NB	150	C	**225**	**D**
		PM	NB	**831**	**E**	**880**	**E**
	1 Lane Undivided	AM	SB	**450**	**D**	**537**	**D**
		PM	SB	140	C	178	C
Calle Quetzal to Howard Road	1 Lane Undivided	AM	NB	19	C	94	C
		PM	NB	75	C	125	C
	1 Lane Undivided	AM	SB	30	C	117	C
		PM	SB	24	C	62	C

BOLD denotes LOS standard has been exceeded.
Project causes LOS D.
Project contributes to LOS D or worse.

3.5 Existing Plus Approved/Pending Projects and Existing Plus Approved/Pending Projects Plus Project Traffic Conditions

The Existing Plus Approved/Pending Traffic Conditions scenario considers approved or pending developments that have not yet been built in the vicinity of the Project but that are anticipated to add trips and affect traffic operation in the near-term. The Ventura County Planning Division's and City of Camarillo Community Development's approved/pending projects lists were consulted for recently approved or pending developments in the study area. The following developments were identified that are anticipated to add new trips to the study intersections and roadway segments:

- Camarillo Springs Golf Course – 300 (55+ Community) dwelling units (DUs)
- St. John's Seminary Residential Development – 281 single-family dwelling units (SFDUs)
- Camino Ruiz Residential Project – 386 multi-family dwelling units (MFDUs)
- Teso Robles Townhomes – 129 Townhomes
- Castle Building and Developments New Single-Family Development – 38 SFDUs
- Mission Oaks Business Park – 344,515 sq. ft. light industrial/office buildings
- Camarillo Village Homes – 309 Townhomes and 12,000 sq. ft. of retail
- Park West Town Homes – 87 Townhomes

An Existing Plus Approved/Pending Scenario was analyzed to include existing traffic plus traffic anticipated to be generated by the approved/pending projects in the study area. The resulting traffic operations during the AM and PM peak hour periods are shown in Figures 3-6 and 3-7.

To consider Project changes in levels of service associated with the near-term scenario, an Existing Plus Approved/Pending Projects Plus Project Scenario was analyzed to include existing traffic plus traffic generated by the approved/pending projects in the study area (as discussed above) and trips that would be generated by the Project (as discussed above in Sections 3.1 and 3.2). The resulting traffic operations during the AM and PM peak hour periods are shown in Figures 3-8 and 3-9.

3.5.1 *Existing Plus Approved/Pending Projects Plus Project Intersection Capacity Analysis*

Table 3-6 summarizes traffic operations under existing plus approved/pending projects conditions without the Project and under existing plus approved/pending projects conditions with the Project. As shown in the table, under existing plus approved/pending projects conditions without the Project, the US 101 SB Ramps/Pleasant Valley Road intersection is predicted to operate at LOS "E" with an ICU percentage of 86.5 during the AM peak hour. The addition of Project-related trips would not measurably change the ICU percentage or reduce the LOS at this intersection. All other intersections are predicted to operate at LOS "C" or better under existing plus approved/pending projects conditions both with and without the Project.

3.5.2 *Existing Plus Approved/Pending Projects Plus Project Queuing Analysis*

Table 3-8 summarizes queuing operations under existing plus approved/pending projects conditions without the Project and under existing plus approved/pending projects conditions with the Project. Queuing analysis was completed using Section 400 of Caltrans' Highway Design Manual. As discussed in Section 2.0, the queuing analysis presented in this TIS is provided for informational purposes only. The City of Camarillo, Ventura County, and Caltrans have not established CEQA impact significance criteria related to the exceedance of left and right turn storage pockets.

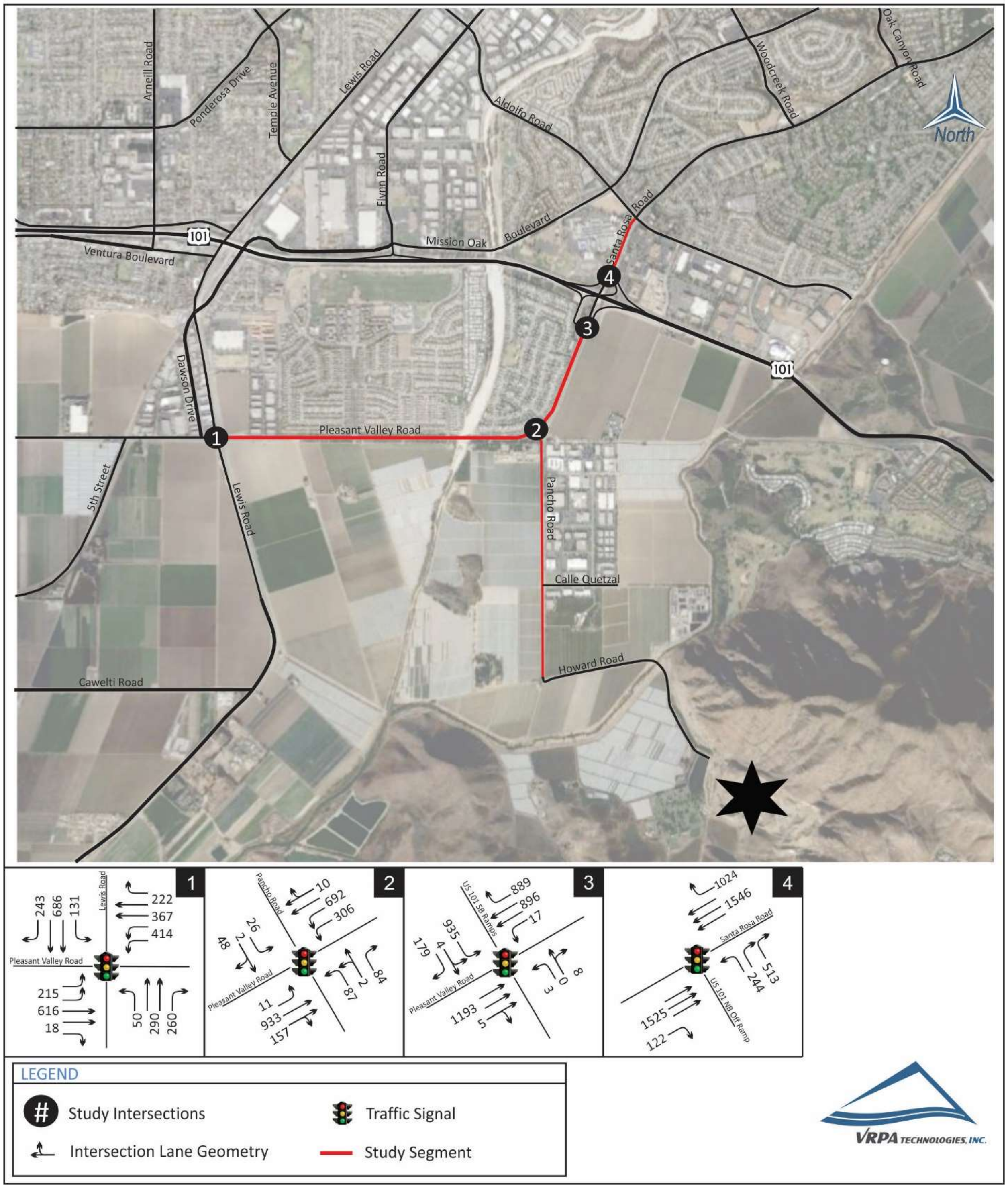
3.5.3 *Existing Plus Approved/Pending Projects Plus Project Roadway Segment Capacity Analysis*

Table 3-9 summarizes traffic operations under existing plus approved/pending projects conditions without the Project and under existing plus approved/pending projects conditions with the Project and assumes that the improvements needed to address Existing Plus Project conditions have not been installed. As shown in the table, the addition of Project-related trips to Existing Plus Approved/Pending Projects conditions on study area roadway segments would result in three instances in which the Project would degrade conditions from LOS C to LOS D, six instances in which the Project would worsen LOS D conditions, one instance in which the Project would degrade conditions from LOS E to LOS F, and one instance in which the Project would worsen LOS F conditions, as summarized below:

- Pleasant Valley Road westbound from Pancho Road to Lewis Road during the PM peak hour (worsen LOS D)
- Pleasant Valley Road northbound between Pancho Road and US 101 southbound ramps during the AM peak hour (degrade from LOS C to LOS D)
- Pleasant Valley Road northbound between Pancho Road and US 101 southbound ramps during the PM peak hour (worsen LOS D)
- Santa Rosa Road northbound between US 101 northbound ramps and Adolfo Road during the AM peak hour (worsen LOS D)
- Santa Rosa Road northbound between US 101 northbound ramps and Adolfo Road during the PM peak hour (worsen LOS D)
- Santa Rosa Road southbound between Adolfo Road and US 101 northbound ramps during the AM peak hour (worsen LOS F)
- Santa Rosa Road southbound between Adolfo Road and US 101 northbound ramps during the PM peak hour (worsen LOS D)
- Pancho Road northbound between Calle Quetzal and Pleasant Valley Road during the AM peak hour (degrade from LOS C to LOS D)
- Pancho Road northbound between Calle Quetzal and Pleasant Valley Road during the PM peak hour (degrade from LOS E to LOS F)
- Pancho Road southbound between Pleasant Valley Road and Calle Quetzal during the AM peak hour (worsen existing LOS D)
- Pancho Road southbound between Pleasant Valley Road and Calle Quetzal during the PM peak hour (degrade from LOS C to LOS D)

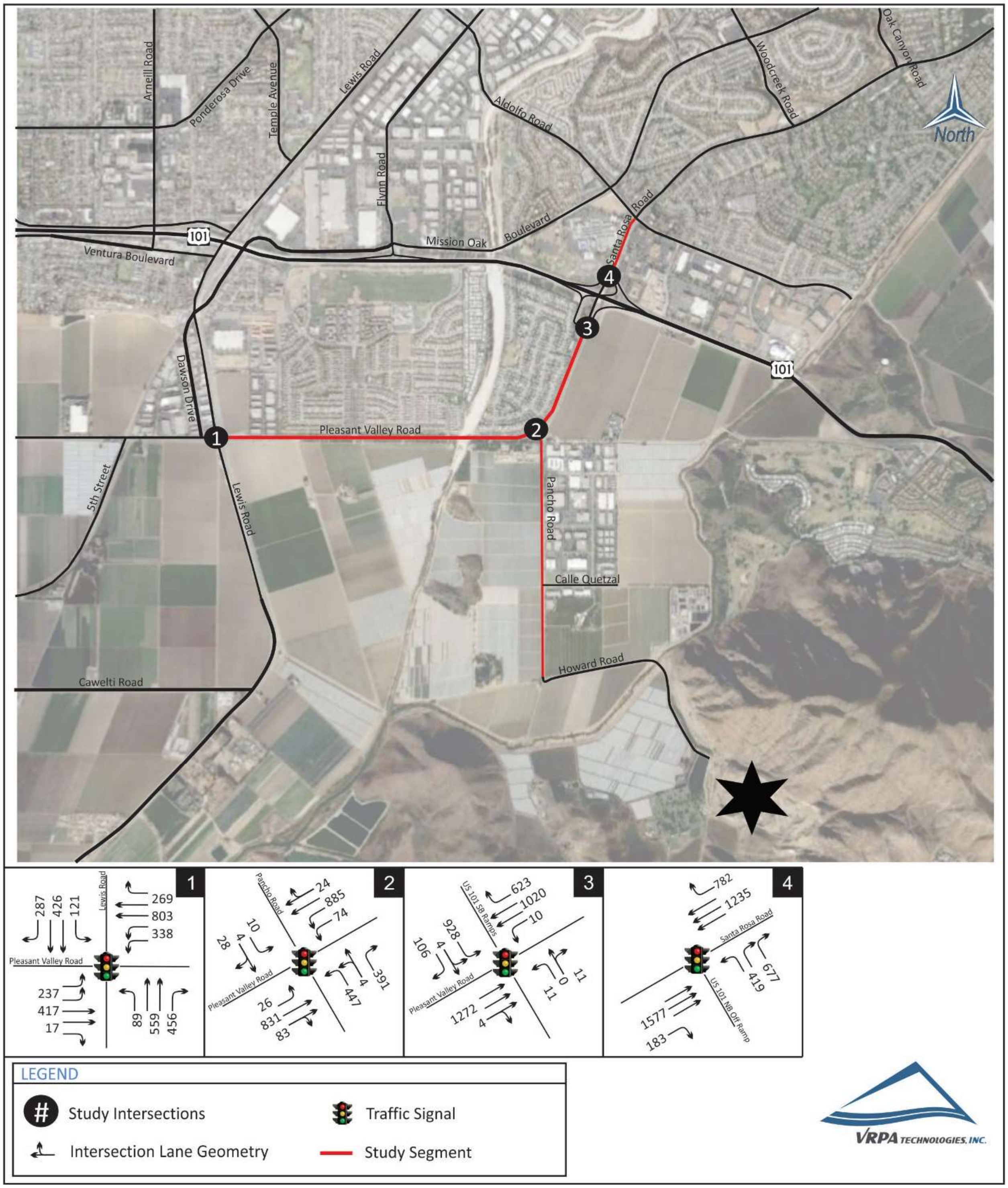
Pacific Rock Quarry Expansion Project
Existing Plus Approved/Pending AM Peak Hour Trips

Figure 3-6



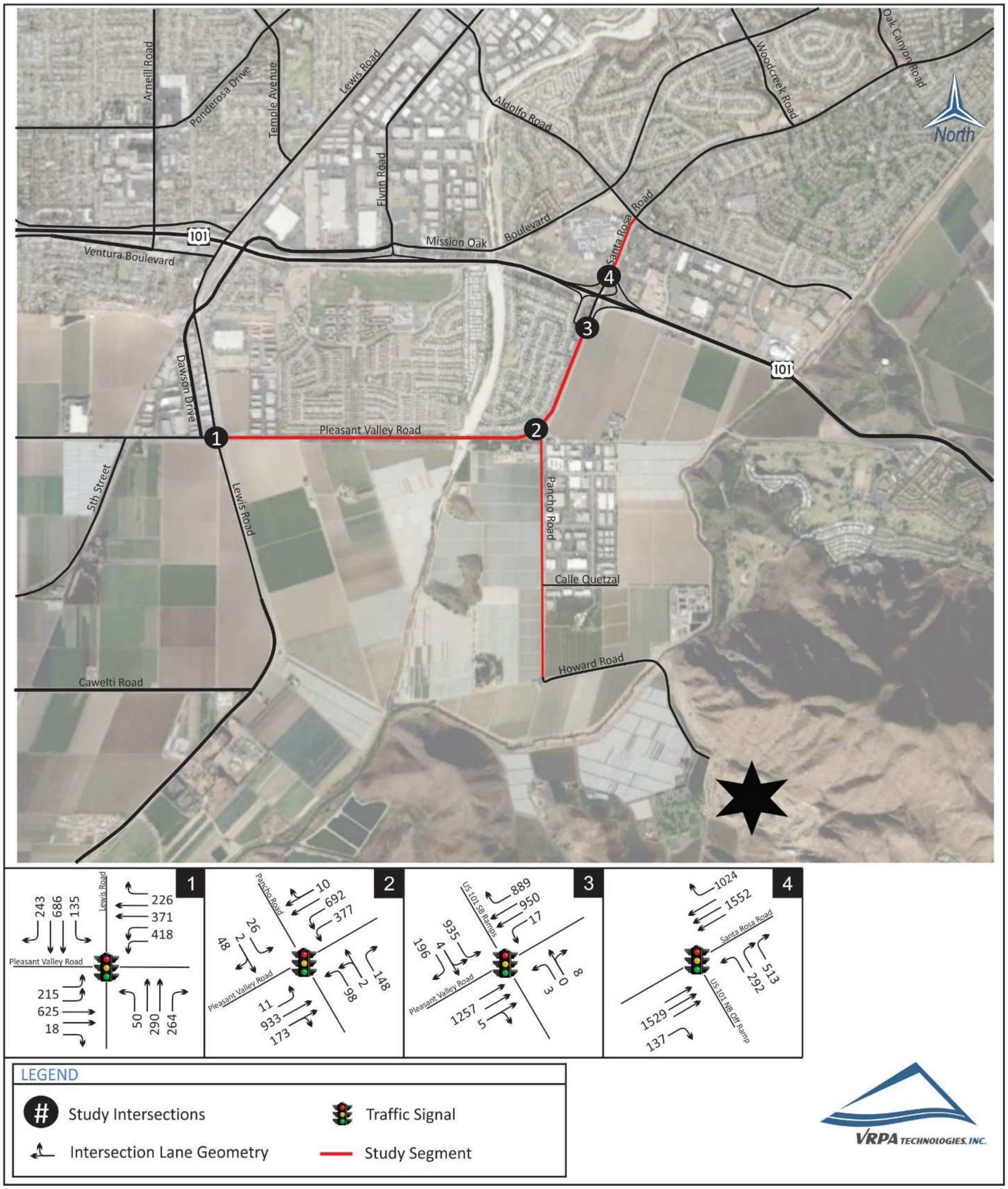
Pacific Rock Quarry Expansion Project
Existing Plus Approved/Pending PM Peak Hour Trips

Figure 3-7



Pacific Rock Quarry Expansion Project
Existing Plus Approved/Pending Plus Project AM Peak Hour Trips

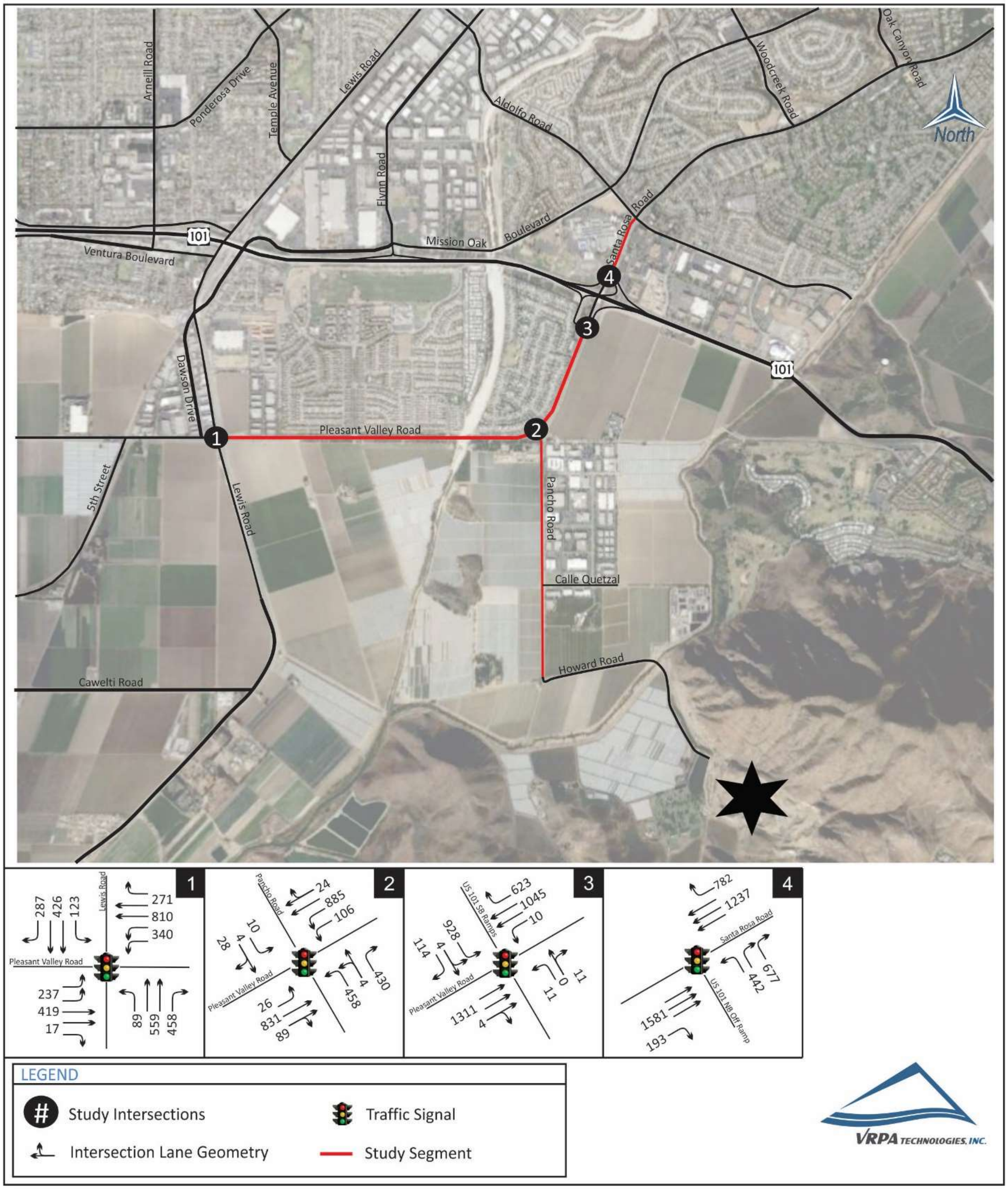
Figure 3-8



Note: A PCE of 2.5 is used for Project-related haul truck trips

Pacific Rock Quarry Expansion Project
Existing Plus Approved/Pending Plus Project PM Peak Hour Trips

Figure 3-9



Note: A PCE of 2.5 is used for Project-related haul truck trips

Table 3-5
Existing Plus Approved/Pending and Existing Plus Approved/Pending Plus Project Intersection Operations

INTERSECTION	CONTROL	PEAK HOUR	EXISTING PLUS APPROVED/ PENDING		EXISTING PLUS APPROVED/ PENDING PLUS PROJECT	
			ICU	LOS	ICU	LOS
1. Lewis Road / Pleasant Valley Road	Signalized	AM	63.8	B	64.2	C
		PM	66.3	C	66.7	C
2. Pancho Road / Pleasant Valley Road	Signalized	AM	60.0	B	62.8	B
		PM	62.0	B	64.4	C
3. US Route 101 SB Ramps / Pleasant Valley Road	Signalized	AM	**86.5**	**E**	**86.5**	**E**
		PM	69.8	C	69.8	C
4. US Route 101 NB Off Ramp / Pleasant Valley Road	Signalized	AM	53.2	A	53.3	A
		PM	56.6	B	58.0	B

ICU = Intersection Capacity Utilization (expressed as a percentage) / **BOLD** denotes LOS has been exceeded
For signalized controlled intersections, the LOS is based on the ICU method.
Project contributes to LOS D or worse.

Table 3-6
Existing Plus Approved/Pending and Existing Plus Approved/Pending Plus Project Queuing Operations

INTERSECTION	EXISTING QUEUE STORAGE LENGTH (ft)		EXISTING PLUS APPROVED/ PENDING		EXISTING PLUS APPROVED/ PENDING PLUS PROJECT	
			AM Queue	PM Queue	AM Queue	PM Queue
Lewis Road / Pleasant Valley Road	NB Left	600	42	74	42	74
	NB Right	600	217	380	220	382
	SB Left	150	109	101	113	103
	SB Right	275	203	239	203	239
	EB Left	2 @ 175	179	198	179	198
	EB Right	150	15	14	15	14
	WB Left	2 @ 200	345	282	348	283
	WB Left	175	**185**	**224**	**188**	**226**
Pancho Road / Pleasant Valley Road	NB Left	2 @ 50	73	**373**	82	**382**
	NB Right	200	70	**326**	123	**358**
	SB Left	100	22	8	22	8
	EB Left	225	9	22	9	22
	WB Left	2 @ 350	255	62	314	88
US 101 SB Ramps / Pleasant Valley Road	SB Left	125	14	8	14	8
	SB Right	1075	741	519	741	519
	EB Left	2 @ 100	**779**	**773**	**779**	**773**
	EB Right	125	**149**	88	**163**	95
	WB Left	50	3	9	3	9
US 101 NB Off Ramp / Pleasant Valley Road	WB Left	350	203	349	247	**370**
	WB Right	2 @ 200	**428**	**564**	**428**	**564**

Queue is measured in feet / **BOLD** denotes exceedance

Table 3-7
Existing Plus Approved/Pending and Existing Plus Approved/Pending Plus Project Segment Operations

STREET SEGMENT	SEGMENT DESCRIPTION	PEAK HOUR	DIRECTION	EXISTING PLUS APPROVED/ PENDING		EXISTING PLUS APPROVED/ PENDING PLUS PROJECT	
				VOLUME	LOS	VOLUME	LOS
Pleasant Valley Road							
Lewis Road to Pancho Road	2 Lanes Divided	AM	EB	1,101	C	1,117	C
		PM	EB	994	C	1,000	C
	2 Lanes Divided	AM	WB	1,003	C	1,014	C
		PM	WB	**1,410**	**D**	**1,421**	**D**
Pancho Road to US 101 SB Ramps	2 Lanes Divided	AM	NB	1,198	C	**1,262**	**D**
		PM	NB	**1,276**	**D**	**1,315**	**D**
	2 Lanes Divided	AM	SB	1,078	C	1,149	C
		PM	SB	1,137	C	1,169	C
Santa Rosa Road							
US 101 NB Ramps to Adolfo Road	3 Lanes Divided	AM	NB	**2,038**	**D**	**2,042**	**D**
		PM	NB	**2,254**	**D**	**2,258**	**D**
	3 Lanes Divided	AM	SB	**2,570**	**F**	**2,576**	**F**
		PM	SB	**2,017**	**D**	**2,019**	**D**
Pancho Road							
Pleasant Valley Road to Calle Quetzal	1 Lane Undivided	AM	NB	173	C	**248**	**D**
		PM	NB	**842**	**E**	**891**	**F**
	1 Lane Undivided	AM	SB	**465**	**D**	**552**	**D**
		PM	SB	161	C	**199**	**D**
Calle Quetzal to Howard Road	1 Lane Undivided	AM	NB	19	C	94	C
		PM	NB	75	C	125	C
	1 Lane Undivided	AM	SB	30	C	117	C
		PM	SB	24	C	62	C

BOLD denotes LOS standard has been exceeded.
Project causes or contributes to LOS D or worse.

3.6 Cumulative Year 2030 Traffic Conditions

Traffic volumes expected in 2030 consider existing traffic and increases in traffic over time resulting from development projected in the General Plans of local agencies, including the County of Ventura and City of Camarillo. Changes in traffic operations resulting from the Project were analyzed considering the long-range buildout under the City of Camarillo General Plan which considers future development in the City of Camarillo and surrounding region (Ventura County) through the year 2030. Use of the City of Camarillo General Plan is appropriate for this TIS since all study are intersections are within the City of Camarillo's sphere of influence. The buildout traffic volumes for the study area intersections and roadway segments were derived from the City of Camarillo's Traffic Analysis Model (CTAM) as noted in the TIS prepared for the Camino Ruiz Residential Project (Stantec December 7, 2019). The CTAM was prepared and is maintained by VCTC and is a sub-area derivation of the Ventura Countywide Traffic Model (VCTM). Updated in the year 2010, the CTAM is based upon the latest VCTM projections and the latest land use projections and roadway improvement plans for the City of Camarillo and the surrounding region. Forecast adjustments were applied accordingly and were based on engineering judgment. In a few cases, the traffic volumes derived from CTAM were slightly lower than the Existing Plus Approved/Pending trips discussed in Section 3.5. Adjustments were made to eliminate any decreases in traffic volumes between the Existing scenario and the Cumulative Year 2030 Without Project scenario. Traffic operations during the AM and PM peak hour periods under the Year 2030 scenario without the Project are shown in Figures 3-10 and 3-11.

To consider changes in traffic operations resulting from the Project associated with the Year 2030 scenario, trips that would be generated by the Project (as discussed above in Sections 3.1 and 3.2) were added to the Cumulative Year 2030 without Project scenario. Traffic operations during the AM and PM peak hour periods under the Cumulative Year 2030 Plus Project scenario are shown in Figures 3-12 and 3-13.

3.6.1 *Cumulative Year 2030 Intersection Capacity Analysis*

Table 3-11 summarizes traffic operations under Cumulative Year 2030 conditions without the Project and under Cumulative Year 2030 conditions with the Project. As shown in the table, the addition of Project-related trips to Cumulative Year 2030 Without Project conditions on study area intersections would contribute to trips and increase delay at two intersections predicted to be below LOS "C" under Year 2030 conditions without the Project: Lewis Road at Pleasant Valley Road and US Route 101 SB Ramps at Pleasant Valley Road contributing to LOS "D" at the Lewis Road/Pleasant Valley Road intersection and contributing to LOS "F" (PM) and LOS "G" (AM) conditions at the US Route 101 SB Ramps/Pleasant Valley Road intersection.

3.6.2 *Cumulative Year 2030 Queuing Analysis*

Table 3-13 summarizes queuing operations under Cumulative Year 2030 conditions without the Project and under Cumulative Year 2030 conditions with the Project. Queuing analysis was completed using Section 400 of Caltrans' Highway Design Manual. As discussed in Section 2.0, the queuing analysis presented in this TIS is provided for informational purposes only. The City of Camarillo, Ventura County, and Caltrans have not established CEQA impact significance criteria related to the exceedance of left and right turn storage pockets.

Table 3-14 identifies left turn and right turn lane pocket lengths required for the Cumulative Year 2030 scenario. Although the need for extended turn lane pockets would occur at some locations prior to the Cumulative Year 2030 scenario, this scenario provides the maximum length needed and therefore these lengths would also provide for projected traffic volumes under the Existing Plus Project and Existing Plus Approved/Pending Project Plus Project scenarios. The storage length required to provide sufficient capacity for projected traffic volumes under each evaluation scenario was determined by the queuing analysis and recommendations of storage lengths found in Chapter 400 of Caltrans' Highway Design Manual. The left turn and right turn pocket length do not include deceleration lengths.

A queuing assessment of the US 101 NB Off Ramp and US 101 SB Off Ramp to Pleasant Valley Road was also conducted to determine the adequacy of the existing ramp lengths. The Cumulative Year 2030 Plus Project traffic volume at the US 101 NB Off Ramp to Pleasant Valley Road will yield a combined storage requirement of 1,025 feet. The existing total ramp length of the US 101 SB Off Ramp is approximately 1,300 feet. The Cumulative Year 2030 Plus Project traffic volume at the US 101 SB Off Ramp to Pleasant Valley Road will yield a combined storage requirement of 1,125 feet. The existing total ramp length of the US 101 NB Off Ramp is approximately 1,225 feet. The existing ramp lengths are sufficient to accommodate Cumulative Year 2030 Plus Project traffic. It should be noted that Caltrans recommended auxiliary lane improvements between Village Park Drive and Pleasant Valley Road in the southbound direction of US 101 in the VCTC US 101 HOT Lanes Financial Feasibility Study. The auxiliary lane would provide drivers with additional space to accelerate or decelerate when entering or exiting the freeway which enhances the traffic flow along the freeway.

3.6.3 *Cumulative Year 2030 Roadway Segment Capacity Analysis*

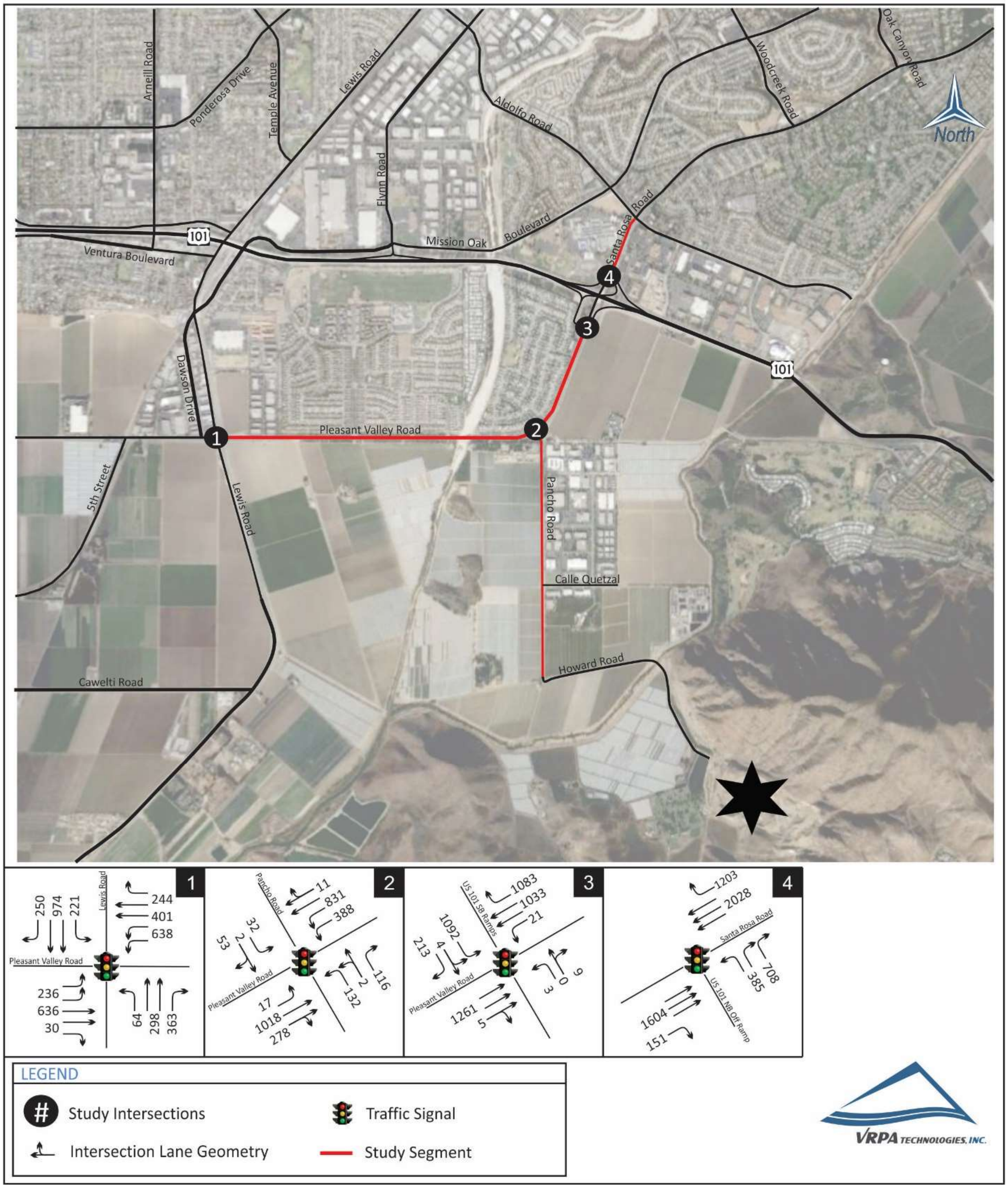
Table 3-15 summarizes traffic operations under Cumulative Year 2030 conditions without the Project and under Cumulative Year 2030 conditions with the Project, and assumes existing road and intersection configurations. As shown in the table, the addition of Project-related trips to Cumulative Year 2030 Without Project conditions on study area roadway segments would result in eleven instances in which the Project would worsen LOS D conditions, one instance in which the Project would worsen LOS E conditions, and four instances in which the Project would worsen LOS F conditions, as summarized below:

- Pleasant Valley Road eastbound from Lewis Road to Pancho Road during the AM peak hour (worsen LOS D)
- Pleasant Valley Road eastbound from Lewis Road to Pancho Road during the PM peak hour (worsen LOS D)
- Pleasant Valley Road westbound from Pancho Road to Lewis Road during the AM peak hour (worsen LOS D)

- Pleasant Valley Road westbound from Pancho Road to Lewis Road during the PM peak hour (worsen LOS D)
- Pleasant Valley Road northbound between Pancho Road and US 101 southbound ramps during the AM peak hour (worsen LOS D)
- Pleasant Valley Road northbound between Pancho Road and US 101 southbound ramps during the PM peak hour (worsen LOS D)
- Pleasant Valley Road southbound between US 101 southbound ramps and Pancho Road during the AM peak hour (worsen LOS D)
- Pleasant Valley Road southbound between US 101 southbound ramps and Pancho Road during the PM peak hour (worsen LOS D)
- Santa Rosa Road northbound between US 101 northbound ramps and Adolfo Road during the AM peak hour (worsen LOS D)
- Santa Rosa Road northbound between US 101 northbound ramps and Adolfo Road during the PM peak hour (worsen LOS F)
- Santa Rosa Road southbound between Adolfo Road and US 101 northbound ramps during the AM peak hour (worsen LOS F)
- Santa Rosa Road southbound between Adolfo Road and US 101 northbound ramps during the PM peak hour (worsen LOS F)
- Pancho Road northbound between Calle Quetzal and Pleasant Valley Road during the AM peak hour (worsen LOS D)
- Pancho Road northbound between Calle Quetzal and Pleasant Valley Road during the PM peak hour (worsen LOS F)
- Pancho Road southbound between Pleasant Valley Road and Calle Quetzal during the AM peak hour (worsen LOS E)
- Pancho Road southbound between Pleasant Valley Road and Calle Quetzal during the PM peak hour (worsen LOS D)

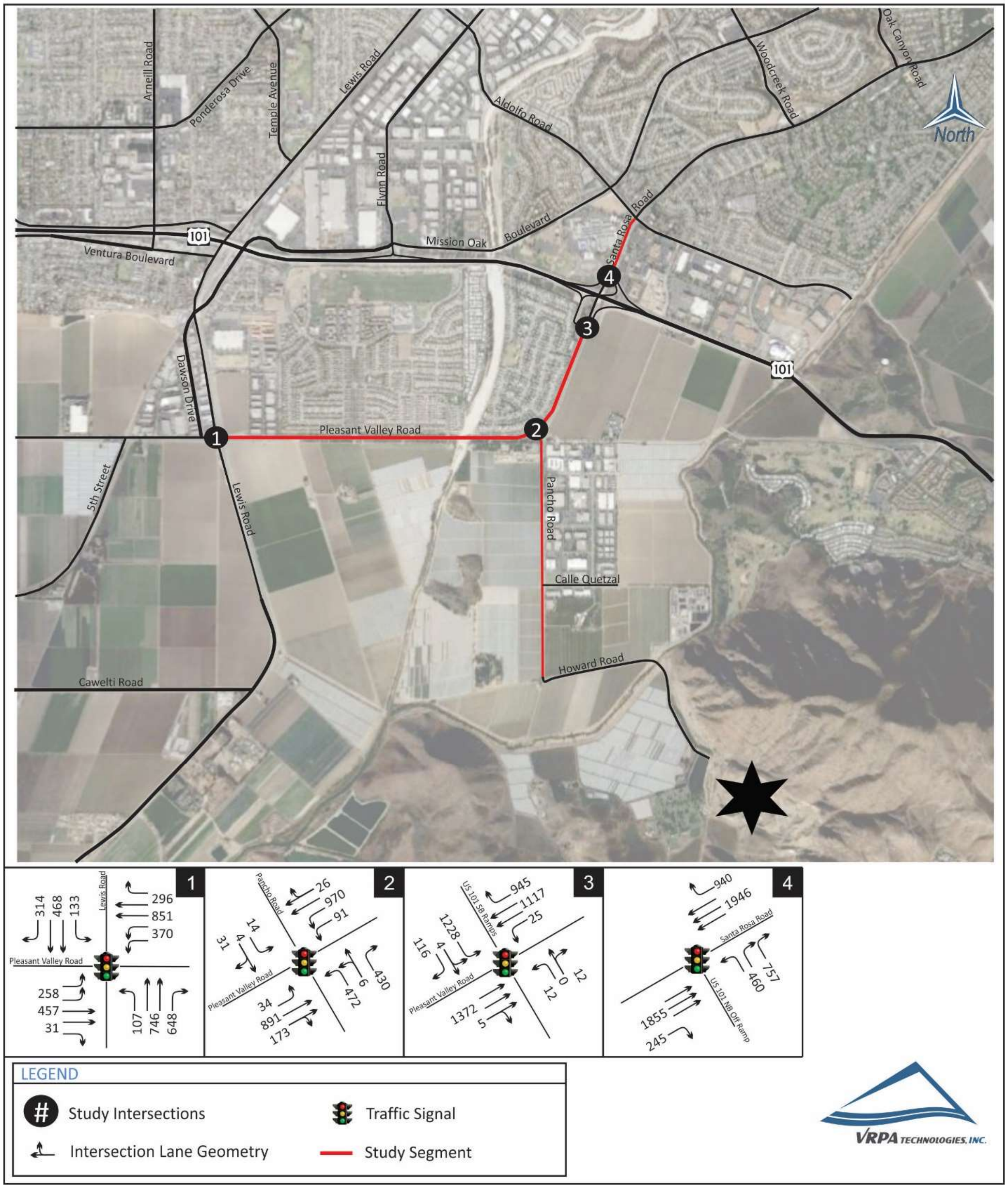
Pacific Rock Quarry Expansion Project
Cumulative Year 2030 Without Project AM Peak Hour Trips

Figure 3-10



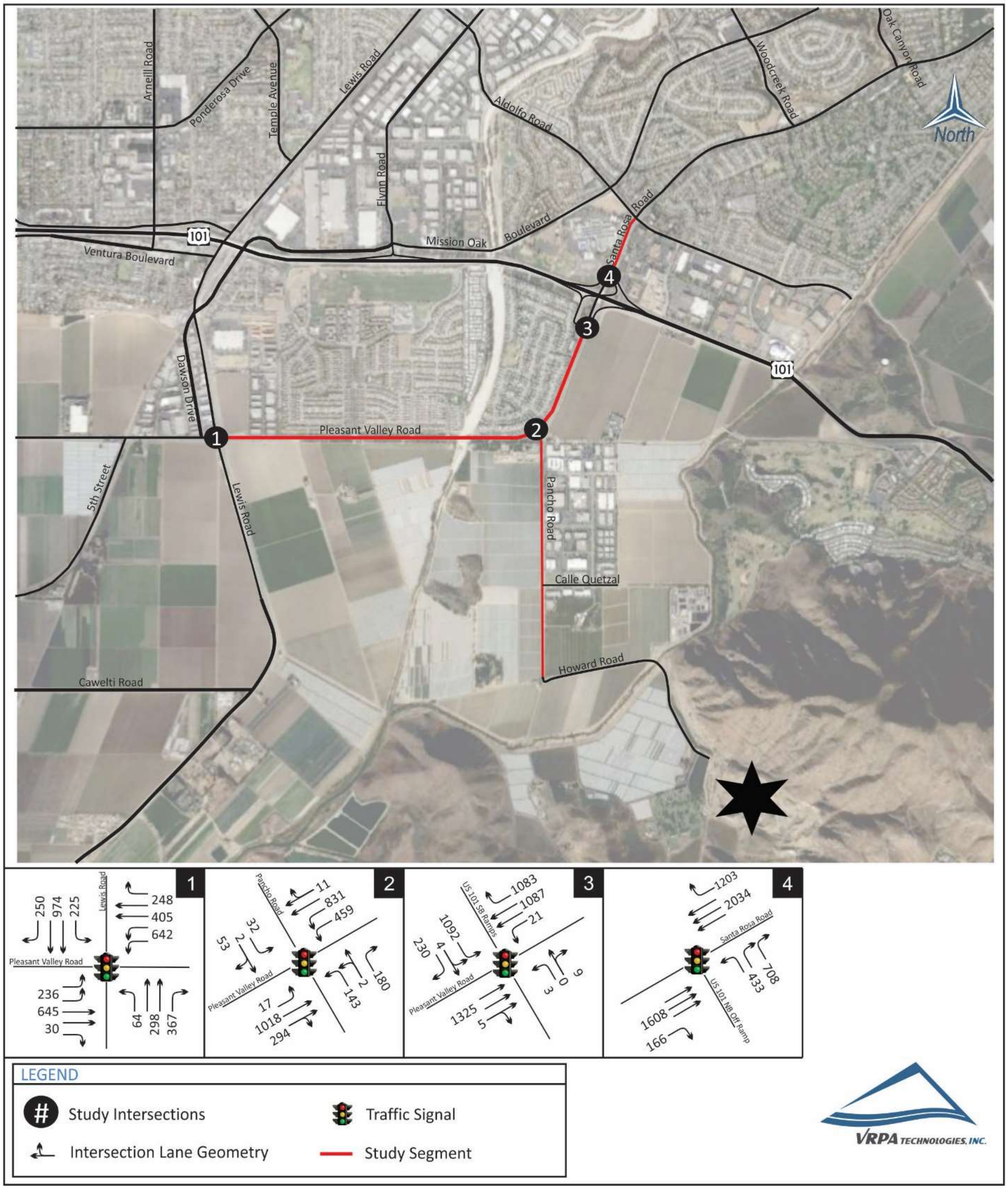
Pacific Rock Quarry Expansion Project
Cumulative Year 2030 Without Project PM Peak Hour Trips

Figure 3-11



Pacific Rock Quarry Expansion Project
Cumulative Year 2030 Plus Project AM Peak Hour Trips

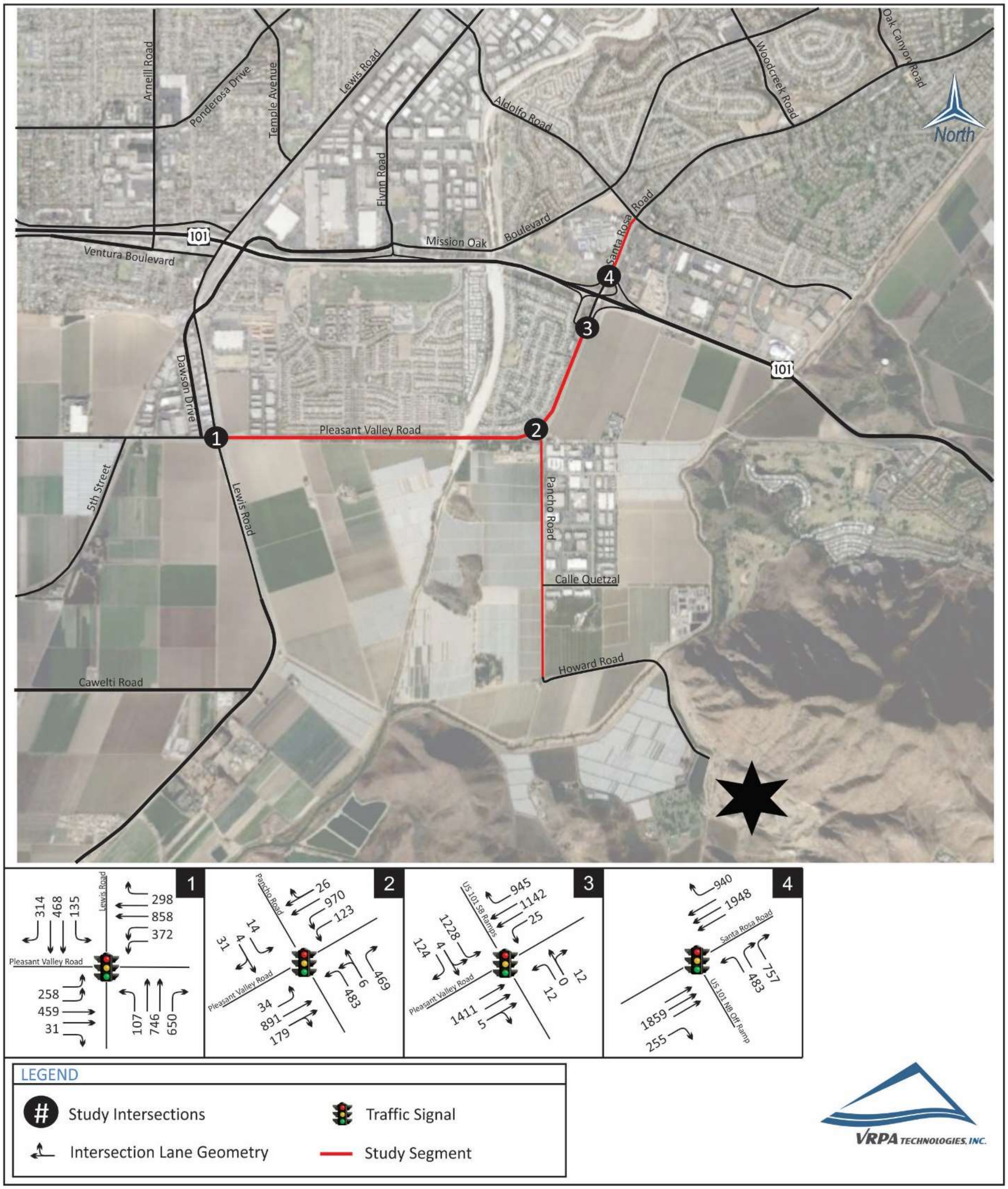
Figure 3-12



Note: A PCE of 2.5 is used for Project-related haul truck trips

Pacific Rock Quarry Expansion Project
Cumulative Year 2030 Plus Project PM Peak Hour Trips

Figure
3-13



Note: A PCE of 2.5 is used for Project-related haul truck trips

Table 3-8
Cumulative Year 2030 Intersection Operations

INTERSECTION	CONTROL	PEAK HOUR	CUMULATIVE YEAR 2030 WITHOUT PROJECT		CUMULATIVE YEAR 2030 PLUS PROJECT	
			ICU	LOS	ICU	LOS
1. Lewis Road / Pleasant Valley Road	Signalized	AM	**77.9**	**D**	**78.3**	**D**
		PM	**80.2**	**D**	**80.6**	**D**
2. Pancho Road / Pleasant Valley Road	Signalized	AM	69.5	C	72.3	C
		PM	66.8	C	69.2	C
3. US Route 101 SB Ramps / Pleasant Valley Road	Signalized	AM	**102.8**	**G**	**102.8**	**G**
		PM	**98.1**	**F**	**98.1**	**F**
4. US Route 101 NB Off Ramp / Pleasant Valley Road	Signalized	AM	69.4	C	69.4	C
		PM	69.5	C	69.5	C

ICU = Intersection Capacity Utilization (expressed as a percentage) / **BOLD** denotes LOS has been exceeded
For signalized controlled intersections, the LOS is based on the ICU method.
Project contributes to LOS D or worse.

Table 3-9
Cumulative Year 2030 Queuing Operations

INTERSECTION	EXISTING QUEUE STORAGE LENGTH (ft)		CUMULATIVE YEAR 2030 WITHOUT PROJECT		CUMULATIVE YEAR 2030 PLUS PROJECT	
			AM Queue	PM Queue	AM Queue	PM Queue
Lewis Road / Pleasant Valley Road	NB Left	600	53	89	53	89
	NB Right	600	303	540	306	542
	SB Left	150	**176**	111	**188**	113
	SB Right	275	208	262	208	262
	EB Left	2 @ 175	197	215	197	215
	EB Right	150	25	26	25	26
	WB Left	2 @ 200	**532**	308	**535**	310
	WB Left	175	**203**	**247**	**207**	**248**
Pancho Road / Pleasant Valley Road	NB Left	2 @ 50	**110**	**393**	**119**	**403**
	NB Right	200	97	**358**	150	**391**
	SB Left	100	27	12	27	12
	EB Left	225	14	28	14	28
	WB Left	2 @ 350	323	76	383	103
US 101 SB Ramps / Pleasant Valley Road	SB Left	125	18	21	18	21
	SB Right	1075	903	788	903	788
	EB Left	2 @ 100	**910**	**1023**	**910**	**1023**
	EB Right	125	**178**	97	**192**	103
	WB Left	50	3	10	3	10
US 101 NB Off Ramp / Pleasant Valley Road	WB Left	350	321	**383**	**364**	**404**
	WB Right	2 @ 200	**590**	**631**	**590**	**631**

Queue is measured in feet / **BOLD** denotes exceedance

Table 3-10
Left Turn and Right Turn Storage Requirements

INTERSECTION	EXISTING QUEUE STORAGE LENGTH (ft)		CUMULATIVE YEAR 2030 PLUS PROJECT RECOMMENDED STORAGE LENGTH (ft)	
Lewis Road / Pleasant Valley Road	NB Left	600	NB Left	600
	NB Right	600	NB Right	600
	SB Left	150	SB Left	**200**
	SB Right	275	SB Right	275
	EB Left	2 @ 175	EB Left	2 @ 175
	EB Right	150	EB Right	150
	WB Left	2 @ 200	WB Left	**2 @ 275**
	WB Left	175	WB Left	**250**
Pancho Road / Pleasant Valley Road	NB Left	2 @ 50	NB Left	2 @ 50
	NB Right	200	NB Right	200
	SB Left	100	SB Left	100
	EB Left	225	EB Left	225
	WB Left	2 @ 350	WB Left	2 @ 350
US 101 SB Ramps / Pleasant Valley Road	SB Left	125	SB Left	125
	SB Right	1075	SB Right	1075
	EB Left	2 @ 100	EB Left	**2 @ 700**
	EB Right	125	EB Right	**200**
	WB Left	50	WB Left	50
US 101 NB Off Ramp / Pleasant Valley Road	WB Left	350	WB Left	**400**
	WB Right	2 @ 200	WB Right	**2 @ 325**

BOLD denotes change in storage length

Table 3-11
Cumulative Year 2030 Segment Operations

STREET SEGMENT	SEGMENT DESCRIPTION	PEAK HOUR	DIRECTION	CUMULATIVE YEAR 2030 WITHOUT PROJECT		CUMULATIVE YEAR 2030 PLUS PROJECT	
				VOLUME	LOS	VOLUME	LOS
Pleasant Valley Road							
Lewis Road to Pancho Road	2 Lanes Divided	AM	EB	**1,313**	**D**	**1,329**	**D**
		PM	EB	**1,238**	**D**	**1,244**	**D**
	2 Lanes Divided	AM	WB	**1,283**	**D**	**1,294**	**D**
		PM	WB	**1,517**	**D**	**1,528**	**D**
Pancho Road to US 101 SB Ramps	2 Lanes Divided	AM	NB	**1,266**	**D**	**1,330**	**D**
		PM	NB	**1,377**	**D**	**1,416**	**D**
	2 Lanes Divided	AM	SB	**1,249**	**D**	**1,320**	**D**
		PM	SB	**1,245**	**D**	**1,277**	**D**
Santa Rosa Road							
US 101 NB Ramps to Adolfo Road	3 Lanes Divided	AM	NB	**2,312**	**D**	**2,316**	**D**
		PM	NB	**2,612**	**F**	**2,616**	**F**
	3 Lanes Divided	AM	SB	**3,231**	**F**	**3,237**	**F**
		PM	SB	**2,886**	**F**	**2,888**	**F**
Pancho Road							
Pleasant Valley Road to Calle Quetzal	1 Lane Undivided	AM	NB	**250**	**D**	**325**	**D**
		PM	NB	**908**	**F**	**957**	**F**
	1 Lane Undivided	AM	SB	**668**	**E**	**755**	**E**
		PM	SB	**268**	**D**	**306**	**D**
Calle Quetzal to Howard Road	1 Lane Undivided	AM	NB	69	C	144	C
		PM	NB	114	C	164	C
	1 Lane Undivided	AM	SB	90	C	177	C
		PM	SB	88	C	126	C

BOLD denotes LOS standard has been exceeded.
Project contributes to LOS D or worse.

4.0 Impact Determinations

Appendix G of the CEQA Guidelines and the County's April 26, 2011, Initial Study Assessment Guidelines (ISAG) identify certain transportation-related topics for consideration during CEQA review. These issues include potential policy or land use plan conflicts, potential impacts associated with safety on public roads and private access driveways, potential impacts on bicycle and pedestrian circulation and safety, and potential impacts on transit operations.[3] Each of these is discussed the following sections. (As discussed in the introduction, CEQA and the CEQA Guidelines as amended in 2018 also required that by July 1, 2020, CEQA lead agencies must evaluate transportation impacts in consideration of vehicle miles traveled or similar metric. This TIS does not include an evaluation of VMT associated with the Project, and it is anticipated that the County will separately address Project-related VMT in the EIR in consideration of SB 743 and CEQA Guidelines.)

Potential Conflict with a Program, Plan, Ordinance or Policy Addressing the Circulation System

Ventura County, the City of Camarillo, and Caltrans seek to maintain acceptable levels of service along the highway, street, and road network. These agencies adopt minimum levels of service in an attempt to control congestion that may result as new development occurs.4 The traffic operations evaluation in this TIS discusses the various level of service goals and policies of these agencies and evaluates predicted levels of service associated with various with-Project evaluation scenarios. As assessment of the Project's consistency with programs, plans, ordinances, and policies is beyond the scope of this TIS and it is anticipated that Project consistency will be addressed by the County in the EIR to the prepared for the Project.

Potential Impacts on Transit Services

Transit services within the City of Camarillo are served by Fixed Route, Dial-A-Ride and Ventura County Transportation Commission (VCTC) Intercity service. The Fixed Route service, provided by Camarillo Area Transit (CAT), does not include transit routes in the study area. The VCTC Intercity is a Countywide service, which connects Camarillo with Thousand Oaks, Oxnard and Ventura. The Oxnard/Camarillo/CSUCI route traverses Pleasant Valley Road along Lewis Road, with a stop located along Lewis Road just south of US-101. The additional Project trips would not interfere with these transit routes or stops and, thus, would not result in significant adverse effects on existing or planned transit facilities in the Project study area.

Potential Impacts on Bicycle and Pedestrian Safety and Circulation

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3 The ISAG also identifies Transportation Level of Service as an issue to consider, and levels of service are evaluated in detail in this TIS. The ISAG also identifies transportation items associated with railroads, airports, harbor facilities, and pipelines; however, addressing those items is outside the scope of this TIS.

4 At the time of preparation of this TIS, agencies including Ventura County and Caltrans, are considering amendments to policies pertaining to congestion in efforts to implement and comply with the requirements of amendments to CEQA and the CEQA Guidelines pursuant to SB 743.

Bicycling is considered an effective alternative mode of transportation that can help to improve air quality and reduce the number of vehicles traveling along existing highways, especially within the cities and unincorporated communities. The City of Camarillo Bikeway Master Plan identifies existing Class II bike lanes along the study segments of Pleasant Valley Road and Santa Rosa Road and a planned Class II bike lane along Pancho Road, which would be designed in accordance with City of Camarillo standards. Sidewalks presently exist along the north/west side of Pleasant Valley Road study segment, both sides of the Santa Rosa Road study segment, and along the east side of Pancho Road.

The existing Class II bike lanes and pedestrian facilities crossing Lewis Road, Pancho Road, and US 101 NB and SB ramps, do so at traffic-controlled intersections. All of the study intersections evaluated in this TIS are signalized and include pedestrian signal phasing which accommodates pedestrians utilizing the crosswalk. Though traffic within the study area is expected to increase over time, these traffic control devices will help maintain pedestrian and bicycle safety within the study area. Class II bike lanes are identified in the City of Camarillo's General Plan Circulation Element on all study roadway segments, and it is anticipated that the City will retain and add Class II bike lanes on these segments sufficient to accommodate bicycle and pedestrian safety and circulation. The additional Project trips would not adversely affect existing or planned bicycle or pedestrian facilities in the Project study area.

Potential Impacts Associated with Hazards on Public Roads or Private Access Roads due to Design or Incompatible Uses

The proposed Project will not create any new design features on or off the Project site. The existing on-site circulation pattern will remain the same as the currently approved surface mining permit. Although there will be an increase in the volume of vehicles accessing the site during peak-hour periods and some of the incoming haul trucks will be loaded for delivery of recycle materials or fill material, the same types of vehicles (heavy-duty haul trucks and personal vehicles) will continue to access the site. The existing site access/egress is located at a sufficient distance from any intersection to allow for safe vehicular access/egress to and from the site. Therefore, this impact is considered less than significant, and no mitigation is required.

Potential Impacts Related to Emergency Access

The Project site is currently accessed/egressed via an existing entrance road from Howard Road, a private road that provides access to the Project site and to the Conejo Mountain Memorial Cemetery. Emergency access to the site would be unaffected by the Project. Therefore, this impact is considered less than significant, and no mitigation is required.

APPENDIX A

HCM-Based LOS Tables (Florida Tables)

TABLE 7

Generalized **Peak Hour Directional** Volumes for Florida's **Urbanized Areas**[1]

03/14/2018

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Principal (1 signal per half mile)

Lanes	Median	B	C	D	E
1	Undivided	*	200	690	930
2	Divided	50	1,350	1,790	1,870
3	Divided	80	2,040	2,690	2,820

Minor (1 signal per quarter mile)

Lanes	Median	B	C	D	E
1	Undivided	*	*	210	710
2	Divided	*	470	1,390	1,840
3	Divided	*	880	2,190	2,780

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
1	Divided	Yes	No	+5%
1	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding directional volumes in this table by 1.2

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
2	2,510	3,410	4,230	4,330
3	3,660	5,030	6,240	6,500
4	4,820	6,670	8,310	8,670
5	6,580	9,240	10,840	**
6	8,150	10,990	13,000	**

Freeway Adjustments

Auxiliary Lane	Ramp Metering
+ 1,000	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
1	Undivided	610	930	1,260	1,690
2	Divided	1,840	2,660	3,350	3,760
3	Divided	2,770	3,990	5,020	5,640

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
1	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	150	390	1,000
50-84%	110	340	1,000	>1,000
85-100%	470	1,000	>1,000	**

PEDESTRIAN MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	140	480
50-84%	*	80	440	800
85-100%	200	540	880	>1,000

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

[1]Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Planning Office
www.dot.state.fl.us/planning/systems/sm/los/default.shtm

TABLE 7
(continued)

Generalized **Peak Hour Directional** Volumes for Florida's **Urbanized Areas**

03/14/2018

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities			Interrupted Flow Facilities					
	Freeways	Highways		Principal Arterials		Minor Arterials		Bicycle	Pedestrian
ROADWAY CHARACTERISTICS									
Area type (urban, rural)	urban								
Number of through lanes (both dir.)	4-12	2	4-6	2-4	6	2-4	6	4	4
Posted speed (mph)	70	50	50	50	50	40	40	45	45
Free flow speed (mph)	75	55	55	55	55	45	45	50	50
Auxiliary Lanes (n, y)	n								
Median (d, u, twlt)			d						
Terrain (l,r)	l	l	l	l	l	l	l	l	l
% no passing zone		80							
Exclusive left turn lane impact (n, y)		[n]	y	y	y	y	y	y	y
Exclusive right turn lanes (n, y)				n	y	n	y		
Facility length (mi)	3	5	5	2	2	2	2	2	2
Interchange Density (intch/mi)	1								
TRAFFIC CHARACTERISTICS									
Planning analysis hour factor (K)	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.565	0.565
Peak hour factor (PHF)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Base saturation flow rate (pcphpl)	2,400	1,700	2,100	1,950	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	4.0	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.0
Speed Adjustment Factor (SAF)	0.950		0.950						
Capacity Adjustment Factor (CAF)	0.939		0.939						
% left turns				12	12	12	12	12	12
% right turns				12	12	12	12	12	12
CONTROL CHARACTERISTICS									
Number of signals				5	5	9	9	4	6
Arrival type (1-6)				3	3	3	3	4	4
Signal type (a, c, p)				c	c	c	c	c	c
Cycle length (C)				150	150	120	120	120	120
Effective green ratio (g/C)				0.44	0.44	0.44	0.44	0.44	0.44
MULTIMODAL CHARACTERISTICS									
Paved shoulder/bicycle lane (n, y)								n, 50%, y	n
Outside lane width								t	t
Pavement condition								t	
On-street parking								n	n
Sidewalk (n, y)									n, 50%, y
Sidewalk/roadway separation (a, t, w)									t
Sidewalk protective barrier (n, y)									n

LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways	Highways		Arterials	Bicycle	Ped	Bus
		Two-Lane	Multilane	Principal & Minor			
	Density pc/mi/ln	%ffs	Density pc/mi/ln	%bffs	Score	Score	Buses/hr.
B	≤ 18	> 83.3	≤ 18	> 67	≤ 2.75	≤ 2.75	≤ 6
C	≤ 26	> 75.0	≤ 26	> 50	≤ 3.50	≤ 3.50	≤ 4
D	≤ 35	> 66.7	≤ 35	> 40	≤ 4.25	≤ 4.25	< 3
E	≤ 45	≤ 66.7	≤ 45	> 30	≤ 5.00	≤ 5.00	< 2

pc/mi/ln = passenger cars per mile per lane %ffs = percent free flow speed %bffs = percent base free flow speed

APPENDIX B

Traffic Count Data Worksheets

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Lewis Rd & Pleasant Valley Rd
City: Camarillo
Control: Siganlized

Project ID: 18-05719-001
Date: 11/27/2018

Total

NS/EW Streets:	S Lewis Rd				S Lewis Rd				Pleasant Valley Rd				Pleasant Valley Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	2	2	1	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	9	45	40	0	27	136	40	0	45	100	4	0	94	62	28	0	630
7:15 AM	10	58	63	0	26	147	42	0	37	164	4	0	86	75	43	0	755
7:30 AM	17	83	68	0	35	165	60	0	60	137	7	0	109	75	56	0	872
7:45 AM	17	76	68	0	34	171	54	0	57	171	5	0	89	121	69	0	932
8:00 AM	6	68	58	0	36	183	48	0	52	116	2	0	116	73	54	0	812
8:15 AM	10	42	41	0	32	168	37	0	30	110	1	0	98	70	46	0	685
8:30 AM	9	41	38	0	22	224	39	0	21	82	4	0	116	57	24	0	677
8:45 AM	9	66	43	0	37	182	40	0	34	70	7	0	89	63	30	0	670
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	87	479	419	0	249	1376	360	0	336	950	34	0	797	596	350	0	6033
APPROACH %'s :	8.83%	48.63%	42.54%	0.00%	12.54%	69.32%	18.14%	0.00%	25.45%	71.97%	2.58%	0.00%	45.73%	34.19%	20.08%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	50	285	257	0	131	666	204	0	206	588	18	0	400	344	222	0	3371
PEAK HR FACTOR :	0.735	0.858	0.945	0.000	0.910	0.910	0.850	0.000	0.858	0.860	0.643	0.000	0.862	0.711	0.804	0.000	0.904
	0.881				0.937				0.871				0.866				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	2	2	1	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	18	109	116	0	26	123	62	0	47	83	5	0	63	160	50	0	862
4:15 PM	26	169	68	0	28	93	47	0	50	83	7	0	103	172	33	0	879
4:30 PM	32	156	113	0	22	101	77	0	45	82	4	0	77	225	75	0	1009
4:45 PM	14	125	100	0	36	105	70	0	59	97	4	0	93	183	61	0	947
5:00 PM	24	135	118	0	31	107	69	0	50	113	5	0	81	198	71	0	1002
5:15 PM	19	125	122	0	32	104	53	0	51	106	4	0	68	171	62	0	917
5:30 PM	24	122	91	0	21	134	71	0	65	100	1	0	76	180	41	0	926
5:45 PM	11	141	118	0	31	106	41	0	45	98	4	0	37	170	45	0	847
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	168	1082	846	0	227	873	490	0	412	762	34	0	598	1459	438	0	7389
APPROACH %'s :	8.02%	51.62%	40.36%	0.00%	14.28%	54.91%	30.82%	0.00%	34.11%	63.08%	2.81%	0.00%	23.97%	58.48%	17.56%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	89	541	453	0	121	417	269	0	205	398	17	0	319	777	269	0	3875
PEAK HR FACTOR :	0.695	0.867	0.928	0.000	0.840	0.974	0.873	0.000	0.869	0.881	0.850	0.000	0.858	0.863	0.897	0.000	0.960
	0.900				0.956				0.923				0.905				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Pleasant Valley Rd & Pancho Rd
City: Camarillo
Control: Siganlized

Project ID: 18-05719-002
Date: 11/27/2018

Total

NS/EW Streets:	Pleasant Valley Rd				Pleasant Valley Rd				Pancho Rd				Pancho Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	2	2	0	0	1	0.5	0.5	0	1.5	0.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	3	158	38	0	64	131	2	0	4	0	4	0	12	0	18	0	434
7:15 AM	2	246	25	0	71	147	1	0	7	0	10	0	14	0	25	0	548
7:30 AM	1	238	34	0	50	166	2	0	5	0	17	0	16	1	22	0	552
7:45 AM	3	223	56	0	88	226	3	0	8	2	14	0	23	1	16	0	663
8:00 AM	4	198	39	1	85	129	4	0	6	0	7	0	21	0	11	0	505
8:15 AM	1	158	27	0	72	161	3	0	1	1	6	0	12	0	20	0	462
8:30 AM	1	129	24	0	53	174	1	0	6	0	3	0	18	0	13	0	422
8:45 AM	7	122	34	0	58	129	1	0	7	1	7	0	17	0	25	0	408
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	22	1472	277	1	541	1263	17	0	44	4	68	0	133	2	150	0	3994
APPROACH %'s :	1.24%	83.07%	15.63%	0.06%	29.71%	69.36%	0.93%	0.00%	37.93%	3.45%	58.62%	0.00%	46.67%	0.70%	52.63%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	10	905	154	1	294	668	10	0	26	2	48	0	74	2	74	0	2268
PEAK HR FACTOR :	0.625	0.920	0.688	0.250	0.835	0.739	0.625	0.000	0.813	0.250	0.706	0.000	0.804	0.500	0.740	0.000	0.855
	0.949				0.767				0.792				0.938				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	2	2	0	0	1	0.5	0.5	0	1.5	0.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	8	200	16	0	22	186	3	0	4	0	5	0	79	0	103	0	626
4:15 PM	2	179	21	0	12	199	3	0	1	1	2	0	77	1	65	0	563
4:30 PM	7	184	14	0	26	213	7	0	4	2	7	0	144	1	129	0	738
4:45 PM	8	202	26	0	13	221	5	0	3	0	5	0	78	1	60	0	622
5:00 PM	5	201	14	0	17	234	8	0	0	2	8	0	129	1	110	0	729
5:15 PM	6	223	19	0	7	189	4	0	3	0	8	0	91	1	86	0	637
5:30 PM	3	193	15	0	14	224	3	0	2	0	3	0	109	3	43	0	612
5:45 PM	4	191	13	0	3	199	8	0	0	0	4	0	94	1	52	0	569
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	43	1573	138	0	114	1665	41	0	17	5	42	0	801	9	648	0	5096
APPROACH %'s :	2.45%	89.68%	7.87%	0.00%	6.26%	91.48%	2.25%	0.00%	26.56%	7.81%	65.63%	0.00%	54.94%	0.62%	44.44%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	26	810	73	0	63	857	24	0	10	4	28	0	442	4	385	0	2726
PEAK HR FACTOR :	0.813	0.908	0.702	0.000	0.606	0.916	0.750	0.000	0.625	0.500	0.875	0.000	0.767	1.000	0.746	0.000	0.923
	0.916				0.911				0.808				0.758				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Pleasant Valley Rd & SR-101 EB Ramps
City: Camarillo
Control: Signalized

Project ID: 18-05719-003
Date: 11/27/2018

Total

NS/EW Streets:	Pleasant Valley Rd					Pleasant Valley Rd					SR-101 EB Ramps					SR-101 EB Ramps											
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					SOUTHBOUND2						
	0	4	0	0	0	1	2	1	0	0	1.5	0.5	1	0	0	1	1	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	S2L	S2U	S2L2	S2T2	S2R2	S2U2	TOTAL
7:00 AM	0	103	2	0	100	3	182	162	0	1	129	5	35	0	3	2	0	5	0	1		0	0	0	0	0	733
7:15 AM	0	127	1	0	138	2	165	206	0	1	202	1	45	0	5	1	0	2	0	1		0	0	0	0	0	897
7:30 AM	0	215	0	0	134	0	218	223	2	2	203	0	37	0	5	0	0	2	0	0		0	0	0	0	0	1041
7:45 AM	0	179	3	0	88	1	265	187	4	0	235	0	42	0	4	0	0	1	0	0		0	0	0	0	0	1009
8:00 AM	0	162	1	0	101	3	215	173	0	2	189	3	53	0	1	2	0	2	0	0		0	0	0	0	0	907
8:15 AM	0	117	1	0	84	0	193	155	0	0	192	0	28	0	4	0	0	3	0	1		0	0	0	0	0	778
8:30 AM	0	113	0	0	68	0	222	144	0	0	161	1	31	0	0	1	0	1	0	0		0	0	0	0	0	742
8:45 AM	0	103	2	0	66	4	170	142	1	2	187	0	28	0	6	0	0	0	0	0		0	0	0	0	0	711
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	S2L	S2U	S2L2	S2T2	S2R2	S2U2	TOTAL
TOTAL VOLUMES :	0	1119	10	0	779	13	1630	1392	7	8	1498	10	299	0	28	6	0	16	0	3	0	0	0	0	0	0	6818
APPROACH %'s :	0.00%	58.65%	0.52%	0.00%	40.83%	0.43%	53.44%	45.64%	0.23%	0.26%	81.63%	0.54%	16.29%	0.00%	1.53%	24.00%	0.00%	64.00%	0.00%	12.00%							
PEAK HR :	07:15 AM - 08:15 AM																										TOTAL
PEAK HR VOL :	0	683	5	0	461	6	863	789	6	5	829	4	177	0	15	3	0	7	0	1	0	0	0	0	0	0	3854
PEAK HR FACTOR :	0.000	0.794	0.417	0.000	0.835	0.500	0.814	0.885	0.375	0.625	0.882	0.333	0.835	0.000	0.750	0.375	0.000	0.875	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.926
			0.823					0.913					0.912					0.688									

	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					SOUTHBOUND2						
PM	0	4	0	0	0	1	2	1	0	0	1.5	0.5	1	0	0	1	1	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	S2L	S2U	S2L2	S2T2	S2R2	S2U2	TOTAL
4:00 PM	0	199	2	0	112	4	210	144	1	0	229	0	26	0	2	1	0	7	0	0		0	0	0	0	0	937
4:15 PM	0	163	2	0	95	0	217	130	2	0	230	1	22	0	1	0	0	3	0	0		0	0	0	0	0	866
4:30 PM	0	231	1	0	103	2	259	134	0	0	194	1	28	0	0	2	0	4	0	2		0	0	0	0	0	961
4:45 PM	0	197	1	0	91	1	229	114	1	1	131	2	19	0	2	2	0	3	0	2		0	0	0	0	0	796
5:00 PM	0	205	1	0	98	2	272	159	2	0	269	1	27	0	3	1	0	3	0	0		0	0	0	0	0	1043
5:15 PM	0	181	1	0	130	1	216	116	0	0	250	0	24	0	4	2	0	1	0	0		0	0	0	0	0	926
5:30 PM	0	163	1	0	101	1	243	144	0	0	216	1	18	0	3	2	0	2	0	1		0	0	0	0	0	896
5:45 PM	0	156	0	0	98	3	228	109	1	0	178	0	19	0	1	1	0	6	0	1		0	0	0	0	0	801
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	S2L	S2U	S2L2	S2T2	S2R2	S2U2	TOTAL
TOTAL VOLUMES :	0	1495	9	0	828	14	1874	1050	7	1	1697	6	183	0	16	11	0	29	0	6	0	0	0	0	0	0	7226
APPROACH %'s :	0.00%	64.11%	0.39%	0.00%	35.51%	0.48%	63.61%	35.64%	0.24%	0.03%	89.22%	0.32%	9.62%	0.00%	0.84%	23.91%	0.00%	63.04%	0.00%	13.04%							
PEAK HR :	04:30 PM - 05:30 PM																										TOTAL
PEAK HR VOL :	0	814	4	0	422	6	976	523	3	1	844	4	98	0	9	7	0	11	0	4	0	0	0	0	0	0	3726
PEAK HR FACTOR :	0.000	0.881	1.000	0.000	0.812	0.750	0.897	0.822	0.375	0.250	0.784	0.500	0.875	0.000	0.563	0.875	0.000	0.688	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.893
			0.925					0.867					0.796					0.688									

National Data & Surveying Services

Intersection Turning Movement Count

Location: Pleasant Valley Rd & SR-101 WB Ramps
City: Camarillo
Control: Siganlized

Project ID: 18-05719-004
Date: 11/27/2018

Total

NS/EW Streets:	Pleasant Valley Rd				Pleasant Valley Rd				SR-101 WB Ramps				SR-101 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	1	0	0	3	2	0	0	0	0	0	1	0	2	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	217	27	0	0	278	176	0	0	0	0	0	48	0	61	0	807
7:15 AM	0	291	28	0	0	325	220	0	0	0	0	0	69	0	85	0	1018
7:30 AM	0	380	30	0	0	380	238	0	0	0	0	0	48	0	90	0	1166
7:45 AM	0	393	37	0	0	387	277	0	0	0	0	0	73	0	135	0	1302
8:00 AM	0	335	20	0	0	323	205	0	0	0	0	0	52	0	110	0	1045
8:15 AM	0	286	19	0	0	300	232	0	0	0	0	0	58	0	96	0	991
8:30 AM	0	251	25	0	0	270	248	0	0	0	0	0	79	0	79	0	952
8:45 AM	0	256	30	0	0	261	217	0	0	0	0	0	52	0	83	0	899
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2409	216	0	0	2524	1813	0	0	0	0	0	479	0	739	0	8180
APPROACH %'s :	0.00%	91.77%	8.23%	0.00%	0.00%	58.20%	41.80%	0.00%					39.33%	0.00%	60.67%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	1399	115	0	0	1415	940	0	0	0	0	0	242	0	420	0	4531
PEAK HR FACTOR :	0.000	0.890	0.777	0.000	0.000	0.914	0.848	0.000	0.000	0.000	0.000	0.000	0.829	0.000	0.778	0.000	0.870
	0.880				0.887								0.796				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	1	0	0	3	2	0	0	0	0	0	1	0	2	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	377	60	0	0	293	216	0	0	0	0	0	76	0	122	0	1144
4:15 PM	0	375	33	0	0	251	171	0	0	0	0	0	87	0	140	0	1057
4:30 PM	0	354	64	0	0	311	200	0	0	0	0	0	88	0	145	0	1162
4:45 PM	0	274	30	0	0	228	140	0	0	0	0	0	101	0	158	0	931
5:00 PM	0	440	50	0	0	335	201	0	0	0	0	0	109	0	137	0	1272
5:15 PM	0	407	34	0	0	225	147	0	0	0	0	0	113	0	154	0	1080
5:30 PM	0	366	23	0	0	270	125	0	0	0	0	0	101	0	188	0	1073
5:45 PM	0	329	25	0	0	235	140	0	0	0	0	0	105	0	143	0	977
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2922	319	0	0	2148	1340	0	0	0	0	0	780	0	1187	0	8696
APPROACH %'s :	0.00%	90.16%	9.84%	0.00%	0.00%	61.58%	38.42%	0.00%					39.65%	0.00%	60.35%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	1475	178	0	0	1099	688	0	0	0	0	0	411	0	594	0	4445
PEAK HR FACTOR :	0.000	0.838	0.695	0.000	0.000	0.820	0.856	0.000	0.000	0.000	0.000	0.000	0.909	0.000	0.940	0.000	0.874
	0.843				0.833								0.941				

Prepared by National Data & Surveying Services

CLASSIFICATION

Pleasant Valley Rd Bet. Lewis Rd & Pancho Rd

Day: Tuesday
Date: 11/27/2018

City: Camarillo
Project #: CA18_5720_001e

East Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	23	2	0	2	0	0	0	0	0	0	0	0	27
01:00	0	24	5	0	0	0	0	0	0	0	0	0	0	29
02:00	0	14	1	0	1	0	0	0	0	0	0	0	0	16
03:00	0	40	5	0	2	0	0	0	0	0	0	0	0	47
04:00	0	217	32	0	8	0	0	0	0	0	0	0	0	257
05:00	0	470	64	0	18	0	0	0	0	0	0	0	0	552
06:00	1	638	115	0	36	1	0	3	0	0	0	0	0	794
07:00	2	744	128	3	49	1	0	1	1	0	0	0	0	929
08:00	2	527	88	2	37	1	0	2	5	0	0	0	0	664
09:00	1	373	59	2	34	1	0	0	0	0	0	0	0	470
10:00	0	304	69	0	33	0	0	0	2	0	0	0	0	408
11:00	1	340	58	1	25	1	0	4	0	0	0	0	0	430
12:00 PM	1	461	74	2	38	3	0	3	3	0	0	0	0	585
13:00	0	446	81	4	38	0	0	1	1	0	0	0	0	571
14:00	1	491	77	2	40	1	0	2	1	0	0	0	0	615
15:00	2	761	127	1	41	3	1	1	0	0	0	0	0	937
16:00	3	779	98	0	35	0	0	3	0	0	0	0	0	918
17:00	1	640	96	2	32	0	0	2	1	0	0	0	0	774
18:00	3	525	60	0	27	0	0	1	0	0	0	0	0	616
19:00	2	271	34	0	10	0	0	0	0	0	0	0	0	317
20:00	0	235	26	0	7	0	0	0	0	0	0	0	0	268
21:00	0	183	20	0	4	0	0	0	0	0	0	0	0	207
22:00	0	81	7	0	0	0	0	0	0	0	0	0	0	88
23:00	0	50	4	0	1	0	0	0	0	0	0	0	0	55
Totals	20	8637	1330	19	518	12	1	23	14					10574
% of Totals	0%	82%	13%	0%	5%	0%	0%	0%	0%					100%

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
AM Volumes	7	3714	626	8	245	5	0	10	8	0	0	0	0	4623
% AM	0%	35%	6%	0%	2%	0%		0%	0%					44%
AM Peak Hour	07:00	07:00	07:00	07:00	07:00	06:00		11:00	08:00					07:00
Volume	2	744	128	3	49	1		4	5					929
PM Volumes	13	4923	704	11	273	7	1	13	6	0	0	0	0	5951
% PM	0%	47%	7%	0%	3%	0%	0%	0%	0%					56%
PM Peak Hour	16:00	16:00	15:00	13:00	15:00	12:00	15:00	12:00	12:00					15:00
Volume	3	779	127	4	41	3	1	3	3					937

Directional Peak Periods All Classes	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
	Volume		%	Volume		%	Volume		%	Volume		%
	1593	⟷	15%	1156	⟷	11%	1692	⟷	16%	6133	⟷	58%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Pleasant Valley Rd Bet. Lewis Rd & Pancho Rd

Day: Tuesday
Date: 11/27/2018

City: Camarillo
Project #: CA18_5720_001w

West Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	79	5	1	1	0	0	0	0	0	0	0	0	86
01:00	0	60	4	0	0	0	0	0	0	0	0	0	0	64
02:00	0	50	4	0	0	0	0	0	0	0	0	0	0	54
03:00	0	13	1	0	0	0	0	0	0	0	0	0	0	14
04:00	0	35	8	0	1	0	0	0	0	0	0	0	0	44
05:00	0	156	20	0	6	0	0	2	0	0	0	0	0	184
06:00	3	386	54	0	12	0	0	0	0	0	0	0	0	455
07:00	1	627	74	1	21	0	0	0	0	0	0	0	0	724
08:00	1	599	64	0	18	1	0	0	0	0	0	0	0	683
09:00	1	375	35	0	13	0	0	1	0	0	0	0	0	425
10:00	0	288	46	0	10	0	0	0	2	0	0	0	0	346
11:00	2	313	48	0	13	0	0	1	0	0	0	0	0	377
12:00 PM	1	357	54	0	13	0	0	0	0	0	0	0	0	425
13:00	1	389	55	1	15	0	0	0	1	0	0	0	0	462
14:00	1	516	73	1	21	0	0	1	1	0	0	0	0	614
15:00	4	875	120	2	33	0	0	0	1	0	0	0	0	1035
16:00	2	956	143	4	34	1	0	0	0	0	0	0	0	1140
17:00	2	986	117	2	26	0	0	0	0	0	0	0	0	1133
18:00	0	529	52	1	14	0	0	0	0	0	0	0	0	596
19:00	0	203	20	0	7	0	0	0	0	0	0	0	0	230
20:00	0	144	17	0	3	0	0	0	0	0	0	0	0	164
21:00	0	136	10	0	1	0	0	0	0	0	0	0	0	147
22:00	0	107	12	0	1	0	0	0	0	0	0	0	0	120
23:00	0	78	5	0	1	0	0	0	0	0	0	0	0	84
Totals	19	8257	1041	13	264	2		5	5					9606
% of Totals	0%	86%	11%	0%	3%	0%		0%	0%					100%

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
AM Volumes	8	2981	363	2	95	1	0	4	2	0	0	0	0	3456
% AM	0%	31%	4%	0%	1%	0%		0%	0%					36%
AM Peak Hour	06:00	07:00	07:00		07:00	08:00		05:00	10:00					07:00
Volume	3	627	74	1	21	1		2	2					724
PM Volumes	11	5276	678	11	169	1	0	1	3	0	0	0	0	6150
% PM	0%	55%	7%	0%	2%	0%		0%	0%					64%
PM Peak Hour	15:00	17:00	16:00	16:00	16:00	16:00		14:00	13:00					16:00
Volume	4	986	143	4	34	1		1	1					1140

Directional Peak Periods All Classes	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
	Volume	%	Volume	%	Volume	%	Volume	%
	1407 ⟷	15%	887 ⟷	9%	2273 ⟷	24%	5039 ⟷	52%

Classification Definitions

1 Motorcycles
2 Passenger Cars
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4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Pleasant Valley Rd Bet. Pancho Rd & SR-101 EB Ramps

Day: Tuesday
Date: 11/27/2018

City: Camarillo
Project #: CA18_5720_002n

North Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	47	2	0	1	0	0	1	0	0	0	0	0	51
01:00	0	35	2	0	0	0	0	0	0	0	0	0	0	37
02:00	0	53	1	0	2	0	0	0	0	0	0	0	0	56
03:00	0	24	3	0	0	0	0	1	0	0	0	0	0	28
04:00	0	89	14	0	4	0	0	0	0	0	0	0	0	107
05:00	0	289	50	1	12	0	0	0	0	0	0	0	0	352
06:00	0	469	64	0	18	0	0	3	0	0	0	0	0	554
07:00	0	822	94	1	28	0	0	0	0	0	0	0	0	945
08:00	0	584	80	0	25	0	0	1	0	0	0	0	0	690
09:00	0	408	54	1	26	3	0	1	0	0	0	0	0	493
10:00	0	423	43	3	31	0	0	3	1	0	0	0	0	504
11:00	0	478	62	1	23	0	0	0	1	0	0	0	0	565
12:00 PM	0	591	60	0	29	0	0	3	1	0	0	0	0	684
13:00	0	530	68	0	26	1	0	2	0	0	0	0	0	627
14:00	0	654	68	0	28	0	0	1	0	0	0	0	0	751
15:00	1	853	98	0	31	0	0	0	0	0	0	0	0	983
16:00	1	987	88	0	27	0	0	0	1	0	0	0	0	1104
17:00	1	958	98	0	20	0	0	1	0	0	0	0	0	1078
18:00	0	645	43	0	28	0	0	2	0	0	0	0	0	718
19:00	0	380	27	0	9	0	0	0	0	0	0	0	0	416
20:00	0	226	10	0	7	0	0	0	0	0	0	0	0	243
21:00	0	193	7	0	6	0	0	0	0	0	0	0	0	206
22:00	0	103	1	0	1	0	0	0	1	0	0	0	0	106
23:00	0	54	3	0	2	0	0	0	0	0	0	0	0	59
Totals	3	9895	1040	7	384	4		19	5					11357
% of Totals	0%	87%	9%	0%	3%	0%		0%	0%					100%

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
AM Volumes	0	3721	469	7	170	3	0	10	2	0	0	0	0	4382
% AM		33%	4%	0%	1%	0%		0%	0%					39%
AM Peak Hour		07:00	07:00	10:00	10:00	09:00		06:00	10:00					07:00
Volume		822	94	3	31	3		3	1					945
PM Volumes	3	6174	571	0	214	1	0	9	3	0	0	0	0	6975
% PM	0%	54%	5%		2%	0%		0%	0%					61%
PM Peak Hour	15:00	16:00	15:00		15:00	13:00		12:00	12:00					16:00
Volume	1	987	98		31	1		3	1					1104

Directional Peak Periods All Classes	AM 7-9 Volume	AM 7-9 %	NOON 12-2 Volume	NOON 12-2 %	PM 4-6 Volume	PM 4-6 %	Off Peak Volumes Volume	Off Peak Volumes %
	1635	14%	1311	12%	2182	19%	6229	55%

Classification Definitions

1 Motorcycles
2 Passenger Cars
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6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Pleasant Valley Rd Bet. Pancho Rd & SR-101 EB Ramps

Day: Tuesday
Date: 11/27/2018

City: Camarillo
Project #: CA18_5720_002s

South Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	30	1	0	2	0	0	1	0	0	0	0	0	34
01:00	0	18	4	0	1	0	0	0	0	0	0	0	0	23
02:00	0	16	4	0	4	0	0	0	0	0	0	0	0	24
03:00	0	15	2	0	0	0	0	0	0	0	0	0	0	17
04:00	0	123	18	0	6	0	0	0	0	0	0	0	0	147
05:00	0	276	33	0	18	1	0	1	1	0	0	0	0	330
06:00	1	540	80	0	33	0	0	0	0	0	0	0	0	654
07:00	2	747	113	3	59	1	0	2	0	0	0	0	0	927
08:00	1	706	99	1	39	4	1	2	0	0	0	0	0	853
09:00	1	425	68	1	24	0	1	1	0	0	0	0	0	521
10:00	1	328	49	0	23	2	1	1	0	0	0	0	0	405
11:00	1	367	67	1	21	1	0	0	1	0	0	0	0	459
12:00 PM	1	476	78	2	33	0	0	0	0	0	0	0	0	590
13:00	1	456	82	2	28	2	0	1	1	0	0	0	0	573
14:00	0	496	78	1	40	1	0	2	0	0	0	0	0	618
15:00	1	650	100	1	40	1	0	0	0	0	0	0	0	793
16:00	1	728	107	3	59	0	0	0	0	0	0	0	0	898
17:00	0	723	120	1	37	0	0	1	1	0	0	0	0	883
18:00	0	516	64	0	24	0	0	0	0	0	0	0	0	604
19:00	0	251	26	0	12	0	0	0	0	0	0	0	0	289
20:00	0	178	25	0	8	0	0	0	0	0	0	0	0	211
21:00	0	174	26	0	7	0	0	0	0	0	0	0	0	207
22:00	0	120	18	0	5	0	0	0	0	0	0	0	0	143
23:00	0	73	3	0	3	0	0	0	0	0	0	0	0	79
Totals	11	8432	1265	16	526	13	3	12	4					10282
% of Totals	0%	82%	12%	0%	5%	0%	0%	0%	0%					100%

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
AM Volumes	7	3591	538	6	230	9	3	8	2	0	0	0	0	4394
% AM	0%	35%	5%	0%	2%	0%	0%	0%	0%					43%
AM Peak Hour	07:00	07:00	07:00	07:00	07:00	08:00	08:00	07:00	05:00					07:00
Volume	2	747	113	3	59	4	1	2	1					927
PM Volumes	4	4841	727	10	296	4	0	4	2	0	0	0	0	5888
% PM	0%	47%	7%	0%	3%	0%		0%	0%					57%
PM Peak Hour	12:00	16:00	17:00	16:00	16:00	13:00		14:00	13:00					16:00
Volume	1	728	120	3	59	2		2	1					898

Directional Peak Periods All Classes	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
	Volume	%	Volume	%	Volume	%	Volume	%
	1780 ⟷	17%	1163 ⟷	11%	1781 ⟷	17%	5558 ⟷	54%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Pancho Rd Bet. Calle Quetzal & Howard Rd

Day: Tuesday
Date: 11/27/2018

City: Camarillo
Project #: CA18_5720_003n

North Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	1	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	1	0	2	0	0	0	0	0	0	0	0	4
06:00	0	5	1	1	3	0	0	0	0	0	0	0	0	10
07:00	0	10	2	0	5	0	0	1	1	0	0	0	0	19
08:00	0	11	1	0	4	0	0	0	1	0	0	0	0	17
09:00	0	8	5	0	6	0	0	2	1	0	0	0	0	22
10:00	0	9	2	0	3	1	0	0	2	0	0	0	0	17
11:00	1	26	4	1	5	0	1	0	2	0	0	0	0	40
12:00 PM	1	32	11	0	2	0	0	0	2	0	0	0	0	48
13:00	0	20	5	0	4	0	0	0	0	0	0	0	0	29
14:00	0	43	10	1	6	2	0	0	0	0	0	0	0	62
15:00	0	55	13	0	10	0	0	0	0	0	0	0	0	78
16:00	0	56	11	1	7	0	0	0	0	0	0	0	0	75
17:00	0	19	6	0	4	0	0	0	0	0	0	0	0	29
18:00	0	4	1	0	2	0	0	0	0	0	0	0	0	7
19:00	0	8	1	0	1	0	0	0	0	0	0	0	0	10
20:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
21:00	0	0	0	0	2	0	0	0	0	0	0	0	0	2
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Totals	2	311	74	4	66	3	1	4	9					474
% of Totals	0%	66%	16%	1%	14%	1%	0%	1%	2%					100%

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
AM Volumes	1	70	16	2	28	1	1	4	7	0	0	0	0	130
% AM	0%	15%	3%	0%	6%	0%	0%	1%	1%					27%
AM Peak Hour	11:00	11:00	09:00	06:00	09:00	10:00	11:00	09:00	10:00					11:00
Volume	1	26	5	1	6	1	1	2	2					40
PM Volumes	1	241	58	2	38	2	0	0	2	0	0	0	0	344
% PM	0%	51%	12%	0%	8%	0%			0%					73%
PM Peak Hour	12:00	16:00	15:00	14:00	15:00	14:00			12:00					15:00
Volume	1	56	13	1	10	2			2					78

Directional Peak Periods All Classes	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
	Volume		%	Volume		%	Volume		%	Volume		%
	36	⟷	8%	77	⟷	16%	104	⟷	22%	257	⟷	54%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Pancho Rd Bet. Calle Quetzal & Howard Rd

Day: Tuesday
Date: 11/27/2018

City: Camarillo
Project #: CA18_5720_003s

South Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	5	2	0	0	0	0	0	0	0	0	0	0	7
06:00	0	89	14	1	8	0	0	0	1	0	0	0	0	113
07:00	0	17	5	0	3	0	0	1	0	0	0	0	0	26
08:00	1	16	5	0	7	1	0	0	0	0	0	0	0	30
09:00	2	13	2	0	5	1	0	0	1	0	0	0	0	24
10:00	0	19	1	0	3	1	0	0	2	0	0	0	0	26
11:00	1	27	5	0	6	0	0	0	1	0	0	0	0	40
12:00 PM	1	32	9	0	3	1	0	0	1	0	0	0	0	47
13:00	0	19	5	0	7	1	0	0	0	0	0	0	0	32
14:00	0	21	3	1	2	0	0	0	0	0	0	0	0	27
15:00	0	26	3	0	3	0	0	0	0	0	0	0	0	32
16:00	0	17	3	0	4	0	0	0	0	0	0	0	0	24
17:00	0	11	4	0	2	0	0	0	0	0	0	0	0	17
18:00	0	11	2	0	0	0	0	0	0	0	0	0	0	13
19:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
20:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
21:00	0	2	0	0	0	0	0	1	0	0	0	0	0	3
22:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	5	335	64	2	53	5		2	6					472
% of Totals	1%	71%	14%	0%	11%	1%		0%	1%					100%

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
AM Volumes	4	187	34	1	32	3	0	1	5	0	0	0	0	267
% AM	1%	40%	7%	0%	7%	1%		0%	1%					57%
AM Peak Hour	09:00	06:00	06:00	06:00	06:00	08:00		07:00	10:00					06:00
Volume	2	89	14	1	8	1		1	2					113
PM Volumes	1	148	30	1	21	2	0	1	1	0	0	0	0	205
% PM	0%	31%	6%	0%	4%	0%		0%	0%					43%
PM Peak Hour	12:00	12:00	12:00	14:00	13:00	12:00		21:00	12:00					12:00
Volume	1	32	9	1	7	1		1	1					47

Directional Peak Periods All Classes	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
	Volume	%	Volume	%	Volume	%	Volume	%
	56	12%	79	17%	41	9%	296	63%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

APPENDIX C

ICU 2003 Worksheets

EXISTING WORKSHEETS

Intersection Capacity Utilization Worksheet

Intersection Location:	Pleasant Valley / Lewis Road	**City:**	Ventura County
Analyzed by:	VRPA Technologies, Inc	**Alternative:**	Existing
Date and Time of Data:	AM Peak	**Project:**	Pacific Rock

		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	2	2	1	2	2	1	1	2	1	1	2	1
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	206	588	18	400	344	222	50	285	257	131	666	204
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		20			17			28			27	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	3	4	4	3	4	4
11	Minimum Green	4	10	10	4	10	10	4	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	206.0	588.0	18.0	400.0	344.0	222.0	50.0	285.0	257.0	131.0	666.0	204.0
14	Volume Separate Left	206.0	588.0		400.0	344.0		50.0	285.0		131.0	666.0	
15	Lane Utilization Factor	0.971	0.952	1.000	0.971	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	3505.3	3617.6	1615.0	3505.3	3617.6	1615.0	1805.0	3617.6	1615.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3505.3	3617.6		3505.3	3617.6		1805.0	3617.6		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		0.0	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			28.3%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	7.1	19.5	1.3	13.7	11.4	16.5	3.3	9.5	19.1	8.7	22.1	15.2
23	Adjusted Reference Time	10.1	23.6	14.0	16.7	17.0	20.5	7.0	19.1	23.1	11.7	27.5	19.2
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	103	294		200	172		50	143		131	333	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	116.8	1808.8		116.8	1808.8		120.3	1808.8		1925.3	1808.8	
30	Reference Time A	105.8	19.5		205.4	11.4		49.9	9.5		8.7	22.1	
31	Adjusted Saturation B		3617.6			3617.6			3617.6			3617.6	
32	Reference Time B		NA			NA			NA			NA	
33	Reference Time Lefts	NA			NA			NA			NA		
34	Reference Time		105.8			205.4			49.9			22.1	
35	Adjusted Reference Time		109.8			209.4			53.9			27.5	
	Split Timing												
36	Ref Time Combined		19.5			11.4			9.5			22.1	
37	Ref Time By Movement	7.1	19.5		13.7	11.4		3.3	9.5		8.7	22.1	
38	Reference Time		19.5			13.7			9.5			22.1	
39	Adjusted Reference Time	23.6	23.6		18.6	18.6		19.1	19.1		27.5	27.5	

#	**Summary**	**East West**	**North South**
40	Protected Option	40.3	34.5
41	Permitted Option	209.4	53.9
42	Split Option	42.3	46.6
43	Minimum	40.3	34.5
44	Combined	74.8	

#	**Right Turns**	**EBR**	**WBR**	**NBR**	**SBR**
45	Adjusted Reference Time	14.0	20.5	23.1	19.2
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	19.1	27.5	17.0	23.6
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	16.7	10.1	11.7	7.0
50	Combined	49.8	58.0	51.8	49.8

#		
51	**Intersection Capacity Utilization**	**62.4%**
52	**Level Of Service**	**B**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / Lewis Road
City: Ventura County
Analyzed by: VRPA Technologies, Inc
Alternative: Existing
Date and Time of Data: PM Peak
Project: Pacific Rock

		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	2	2	1	2	2	1	1	2	1	1	2	1
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	205	398	17	319	777	269	89	541	453	121	417	269
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		20			17			28			27	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	3	4	4	3	4	4
11	Minimum Green	4	10	10	4	10	10	4	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	205.0	398.0	17.0	319.0	777.0	269.0	89.0	541.0	453.0	121.0	417.0	269.0
14	Volume Separate Left	205.0	398.0		319.0	777.0		89.0	541.0		121.0	417.0	
15	Lane Utilization Factor	0.971	0.952	1.000	0.971	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	3505.3	3617.6	1615.0	3505.3	3617.6	1615.0	1805.0	3617.6	1615.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3505.3	3617.6		3505.3	3617.6		1805.0	3617.6		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		0.0	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			28.3%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	7.0	13.2	1.3	10.9	25.8	20.0	5.9	17.9	33.7	8.0	13.8	20.0
23	Adjusted Reference Time	10.0	19.1	14.0	13.9	29.8	24.0	8.9	24.8	37.7	11.0	21.6	24.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	102.5	199		159.5	389		89	271		121	209	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	116.8	1808.8		116.8	1808.8		120.3	1808.8		1925.3	1808.8	
30	Reference Time A	105.3	13.2		163.8	25.8		88.8	17.9		8.0	13.8	
31	Adjusted Saturation B		3617.6			3617.6			3617.6			3617.6	
32	Reference Time B		NA			NA			NA			NA	
33	Reference Time Lefts	NA			NA			NA			NA		
34	Reference Time		105.3			163.8			88.8			13.8	
35	Adjusted Reference Time		109.3			167.8			92.8			21.6	
	Split Timing												
36	Ref Time Combined		13.2			25.8			17.9			13.8	
37	Ref Time By Movement	7.0	13.2		10.9	25.8		5.9	17.9		8.0	13.8	
38	Reference Time		13.2			25.8			17.9			13.8	
39	Adjusted Reference Time	19.1	19.1		29.8	29.8		24.8	24.8		21.6	21.6	

#	**Summary**	East West	North South
40	Protected Option	39.8	35.8
41	Permitted Option	167.8	92.8
42	Split Option	48.9	46.4
43	Minimum	39.8	35.8
44	Combined	75.6	

#	**Right Turns**	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	14.0	24.0	37.7	24.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	24.8	21.6	29.8	19.1
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	13.9	10.0	11.0	8.9
50	Combined	52.7	55.6	78.5	52.0

51	**Intersection Capacity Utilization**	**65.4%**
52	**Level Of Service**	**C**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / Pancho
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: AM Peak
City: Ventura County
Alternative: Existing
Project: Pacific Rock

		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	2	0	2	2	0	1	1	1	1	1	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☑ Yes			☐ Yes		
4	Volume	11	905	154	294	668	10	74	2	74	26	2	48
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☐ Yes	
7	Pedestrian Timing Required		17			17			23			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	2	3	3	2	3	3
11	Minimum Green	2	5	5	2	5	5	3	5	5	3	5	5
12	Reference Cycle Length	120											
13	Volume Combined	11.0	1059.0	0.0	294.0	678.0	0.0	0.0	76.0	74.0	26.0	50.0	0.0
14	Volume Separate Left	11.0	1059.0		294.0	678.0		74.0	2.0		26.0	50.0	
15	Lane Utilization Factor	1.000	0.952	1.000	0.971	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
16	Turning Factor Adjust	0.950	0.978	0.850	0.950	0.998	0.850	0.950	0.951	0.850	0.950	0.856	0.850
17	Saturated Flow Combined	1805.0	3538.7	0.0	3505.3	3609.6	0.0	0.0	3615.0	1615.0	1805.0	1626.4	0.0
18	Saturated Flow Separate	1805.0	3538.7		3505.3	3609.6		3610.0	1900.0		1805.0	1626.4	
19	Pedestrian Interference Time		0.2	1.2		0.0	1.2		0.0	1.2		1.2	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			100.0%	
21	**Protected Option Allowed**		TRUE			TRUE			FALSE			FALSE	
22	Reference Time	0.7	36.1	0.0	10.1	22.6	0.0	NA	NA	5.5	NA	NA	0.0
23	Adjusted Reference Time	5.0	40.1	9.0	13.1	26.6	9.0	NA	NA	8.5	NA	NA	8.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.97		1	0.00	
25	Volume Left Lane	11	530		147	339		0	76		26	50	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.97		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.1		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	0.07		1.07	1.00	
29	Permitted Sat Flow	120.3	1769.3		116.8	1804.8		0.0	245.2		1925.3	1626.4	
30	Reference Time A	11.0	36.1		151.0	22.6		0.0	37.2		1.7	4.9	
31	Adjusted Saturation B		3538.7			3609.6			0.0			1626.4	
32	Reference Time B		NA			NA			10.5			4.9	
33	Reference Time Lefts	NA			NA			10.5			9.7		
34	Reference Time		36.1			151.0			10.5			4.9	
35	Adjusted Reference Time		40.1			155.0			17.1			8.0	
	Split Timing												
36	Ref Time Combined		36.1			22.6			2.5			4.9	
37	Ref Time By Movement	0.7	36.1		10.1	22.6		2.5	0.1		1.7	4.9	
38	Reference Time		36.1			22.6			2.5			4.9	
39	Adjusted Reference Time	40.1	40.1		26.6	26.6		13.1	13.1		8.0	8.0	

	Summary	**East West**	**North South**
40	Protected Option	53.2	NA
41	Permitted Option	155.0	17.1
42	Split Option	66.7	21.1
43	Minimum	53.2	17.1
44	Combined	70.2	

	Right Turns	**EBR**	**WBR**	**NBR**	**SBR**
45	Adjusted Reference Time	9.0	9.0	8.5	8.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	13.1	8.0	26.6	40.1
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	13.1	5.0	8.0	13.1
50	Combined	35.2	22.0	43.1	61.2

51	**Intersection Capacity Utilization**	**58.5%**
52	**Level Of Service**	**B**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / Pancho
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: AM Peak
City: Ventura County
Alternative: Existing
Project: Pacific Rock

#	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	2	0	2	2	0	1	1	1	1	1	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☑ Yes			☐ Yes		
4	Volume	26	810	73	63	857	24	442	4	385	10	4	28
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☐ Yes	
7	Pedestrian Timing Required		17			17			23			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	2	3	3	2	3	3
11	Minimum Green	2	5	5	2	5	5	3	5	5	3	5	5
12	Reference Cycle Length	120											
13	Volume Combined	26.0	883.0	0.0	63.0	881.0	0.0	0.0	446.0	385.0	10.0	32.0	0.0
14	Volume Separate Left	26.0	883.0		63.0	881.0		442.0	4.0		10.0	32.0	
15	Lane Utilization Factor	1.000	0.952	1.000	0.971	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
16	Turning Factor Adjust	0.950	0.988	0.850	0.950	0.996	0.850	0.950	0.950	0.850	0.950	0.869	0.850
17	Saturated Flow Combined	1805.0	3572.7	0.0	3505.3	3602.8	0.0	0.0	3611.7	1615.0	1805.0	1650.6	0.0
18	Saturated Flow Separate	1805.0	3572.7		3505.3	3602.8		3610.0	1900.0		1805.0	1650.6	
19	Pedestrian Interference Time		0.1	1.2		0.0	1.2		0.0	1.2		1.1	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			100.0%	
21	**Protected Option Allowed**		TRUE			TRUE			FALSE			FALSE	
22	Reference Time	1.7	29.8	0.0	2.2	29.4	0.0	NA	NA	28.6	NA	NA	0.0
23	Adjusted Reference Time	5.0	33.8	9.0	5.2	33.4	9.0	NA	NA	31.6	NA	NA	8.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.99		1	0.00	
25	Volume Left Lane	26	442		31.5	441		0	446		10	32	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.99		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	0.07		1.07	1.00	
29	Permitted Sat Flow	120.3	1786.4		116.8	1801.4		0.0	242.2		1925.3	1650.6	
30	Reference Time A	25.9	29.8		32.4	29.4		0.0	221.0		0.7	3.4	
31	Adjusted Saturation B		3572.7			3602.8			0.0			1650.6	
32	Reference Time B		NA			NA			22.8			3.4	
33	Reference Time Lefts	NA			NA			22.7			8.7		
34	Reference Time		29.8			32.4			22.8			3.4	
35	Adjusted Reference Time		33.8			36.4			25.9			8.0	
	Split Timing												
36	Ref Time Combined		29.8			29.4			14.8			3.4	
37	Ref Time By Movement	1.7	29.8		2.2	29.4		14.7	0.3		0.7	3.4	
38	Reference Time		29.8			29.4			14.8			3.4	
39	Adjusted Reference Time	33.8	33.8		33.4	33.4		20.1	20.1		8.0	8.0	

#	Summary	East West	North South
40	Protected Option	38.9	NA
41	Permitted Option	36.4	25.9
42	Split Option	67.1	28.1
43	Minimum	36.4	25.9
44	Combined	62.2	

#	Right Turns	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	9.0	9.0	31.6	8.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	20.1	8.0	33.4	33.8
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	5.2	5.0	8.0	20.1
50	Combined	34.3	22.0	73.0	61.9

#		
51	**Intersection Capacity Utilization**	**60.8%**
52	**Level Of Service**	**B**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / US 101 SB Ramps
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: AM Peak
City: Ventura County
Alternative: Existing
Project: Pacific Rock

#	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	1	1	1	1	0	0	3	0	1	2	1
3	Shared LT Lane (y/n)	☑ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	844	4	177	3	0	8	0	1144	5	17	863	789
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☐ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		14			0			14			14	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	3	3	3	3	3	0	3.5	3.5	3	3.5	3.5
11	Minimum Green	4	4	4	4	4	4	0	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	0.0	848.0	177.0	3.0	8.0	0.0	0.0	1149.0	0.0	17.0	863.0	789.0
14	Volume Separate Left	844.0	4.0		3.0	8.0		0.0	1149.0		17.0	863.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.908	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	0.950	0.850	0.950	0.850	0.850	0.950	0.999	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	3610.9	1615.0	1805.0	1615.0	0.0	0.0	5172.2	0.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3610.0	1900.0		1805.0	1615.0		0.0	5172.2		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		1.2	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			100.0%			28.3%			28.3%	
21	**Protected Option Allowed**		FALSE			FALSE			TRUE			TRUE	
22	Reference Time	NA	NA	13.2	NA	NA	0.0	0.0	26.7	0.0	1.1	28.6	58.6
23	Adjusted Reference Time	NA	NA	16.2	NA	NA	7.0	0.0	30.2	13.5	7.0	32.1	62.1
	Permitted Option												
24	Proportion Lefts	1	1.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	848		3	8		0	383		17	432	
26	Proportion Lefts Left	1	1.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	0.07		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	0.0	241.5		120.3	1615.0		0.0	1724.1		1925.3	1808.8	
30	Reference Time A	0.0	421.5		3.0	1.8		0.0	26.7		1.1	28.6	
31	Adjusted Saturation B		0.0			1615.0			5172.2			3617.6	
32	Reference Time B		36.2			1.8			NA			NA	
33	Reference Time Lefts	36.1			8.2			NA			NA		
34	Reference Time		36.2			3.0			26.7			28.6	
35	Adjusted Reference Time		39.2			7.0			30.2			32.1	
	Split Timing												
36	Ref Time Combined		28.2			1.8			26.7			28.6	
37	Ref Time By Movement	28.1	0.3		0.2	1.8		0.0	26.7		1.1	28.6	
38	Reference Time		28.2			1.8			26.7			28.6	
39	Adjusted Reference Time	31.2	31.2		7.0	7.0		30.2	30.2		32.1	32.1	

#	**Summary**	East West	North South
40	Protected Option	NA	37.2
41	Permitted Option	39.2	32.1
42	Split Option	38.2	62.3
43	Minimum	38.2	32.1
44	Combined	70.3	

#	**Right Turns**	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	16.2	7.0	13.5	62.1
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	30.2	32.1	7.0	31.2
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	7.0	31.2	7.0	0.0
50	Combined	53.3	70.3	27.5	93.3

#		
51	**Intersection Capacity Utilization**	**77.8%**
52	**Level Of Service**	**D**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / US 101 SB Ramps
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: PM Peak
City: Ventura County
Alternative: Existing
Project: Pacific Rock

		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	1	1	1	1	0	0	3	0	1	2	1
3	Shared LT Lane (y/n)	☑ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	853	4	98	11	0	11	0	1236	4	10	976	523
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☐ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		14			0			14			14	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	3	3	3	3	3	0	3.5	3.5	3	3.5	3.5
11	Minimum Green	4	4	4	4	4	4	0	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	0.0	857.0	98.0	11.0	11.0	0.0	0.0	1240.0	0.0	10.0	976.0	523.0
14	Volume Separate Left	853.0	4.0		11.0	11.0		0.0	1240.0		10.0	976.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.908	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	0.950	0.850	0.950	0.850	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	3610.9	1615.0	1805.0	1615.0	0.0	0.0	5173.1	0.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3610.0	1900.0		1805.0	1615.0		0.0	5173.1		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		1.2	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			100.0%			28.3%			28.3%	
21	**Protected Option Allowed**		FALSE			FALSE			TRUE			TRUE	
22	Reference Time	NA	NA	7.3	NA	NA	0.0	0.0	28.8	0.0	0.7	32.4	38.9
23	Adjusted Reference Time	NA	NA	10.3	NA	NA	7.0	0.0	32.3	13.5	7.0	35.9	42.4
	Permitted Option												
24	Proportion Lefts	1	1.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	857		11	11		0	413		10	488	
26	Proportion Lefts Left	1	1.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	0.07		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	0.0	241.4		120.3	1615.0		0.0	1724.4		1925.3	1808.8	
30	Reference Time A	0.0	425.9		11.0	2.1		0.0	28.8		0.7	32.4	
31	Adjusted Saturation B		0.0			1615.0			5173.1			3617.6	
32	Reference Time B		36.5			2.1			NA			NA	
33	Reference Time Lefts	36.4			8.7			NA			NA		
34	Reference Time		36.5			8.7			28.8			32.4	
35	Adjusted Reference Time		39.5			11.7			32.3			35.9	
	Split Timing												
36	Ref Time Combined		28.5			2.1			28.8			32.4	
37	Ref Time By Movement	28.4	0.3		0.7	2.1		0.0	28.8		0.7	32.4	
38	Reference Time		28.5			2.1			28.8			32.4	
39	Adjusted Reference Time	31.5	31.5		7.0	7.0		32.3	32.3		35.9	35.9	

	Summary	**East West**	**North South**
40	Protected Option	NA	39.3
41	Permitted Option	39.5	35.9
42	Split Option	38.5	68.1
43	Minimum	38.5	35.9
44	Combined	74.4	

	Right Turns	**EBR**	**WBR**	**NBR**	**SBR**
45	Adjusted Reference Time	10.3	7.0	13.5	42.4
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	32.3	35.9	7.0	31.5
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	7.0	31.5	7.0	0.0
50	Combined	49.5	74.4	27.5	73.8

51	**Intersection Capacity Utilization**	**62.0%**
52	**Level Of Service**	**B**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / US 101 NB Off Ra
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: AM Peak
City: Ventura County
Alternative: Existing
Project: Pacific Rock

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1 **Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2 Lanes	0	0	0	1	0	2	0	3	1	0	3	0
3 Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4 Volume	0	0	0	242	0	420	0	1399	115	0	1415	0
5 Pedestrians			0			0			0			0
6 Ped Button (y/n)		☐ Yes			☐ Yes			☐ Yes			☐ Yes	
7 Pedestrian Timing Required		0			0			0			0	
8 Free Right (y/n)			☐ Yes			☐ Yes			☑ Yes			☐ Yes
9 Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10 Lost Time	0	0	0	3	0	3	0	3.5	3.5	0	3.5	0
11 Minimum Green	0	0	0	4	0	4	0	10	10	0	10	0
12 Reference Cycle Length	120											
13 Volume Combined	0.0	0.0	0.0	242.0	0.0	420.0	0.0	1399.0	115.0	0.0	1415.0	0.0
14 Volume Separate Left	0.0	0.0		242.0	0.0		0.0	1399.0		0.0	1415.0	
15 Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	0.885	1.000	0.908	1.000	1.000	0.908	1.000
16 Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17 Saturated Flow Combined	0.0	0.0	0.0	1805.0	0.0	2858.6	0.0	5175.6	1615.0	0.0	5175.6	0.0
18 Saturated Flow Separate	0.0	0.0		1805.0	0.0		0.0	5175.6		0.0	5175.6	
19 Pedestrian Interference Time		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
20 Pedestrian Frequency		0.0%			0.0%			0.0%			0.0%	
21 **Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22 Reference Time	0.0	0.0	0.0	16.1	0.0	17.6	0.0	32.4	8.5	0.0	32.8	0.0
23 Adjusted Reference Time	0.0	0.0	0.0	19.1	0.0	20.6	0.0	35.9	13.5	0.0	36.3	0.0
Permitted Option												
24 Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25 Volume Left Lane	0	0		242	0		0	466		0	472	
26 Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27 Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
28 Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		0.07	1.00	
29 Permitted Sat Flow	0.0	0.0		120.3	0.0		0.0	1725.2		0.0	1725.2	
30 Reference Time A	0.0	0.0		241.3	0.0		0.0	32.4		0.0	32.8	
31 Adjusted Saturation B		0.0			0.0			5175.6			5175.6	
32 Reference Time B		0.0			0.0			NA			NA	
33 Reference Time Lefts	0.0			24.1			NA			NA		
34 Reference Time		0.0			24.1			32.4			32.8	
35 Adjusted Reference Time		0.0			24.1			35.9			36.3	
Split Timing												
36 Ref Time Combined		0.0			0.0			32.4			32.8	
37 Ref Time By Movement	0.0	0.0		16.1	0.0		0.0	32.4		0.0	32.8	
38 Reference Time		0.0			16.1			32.4			32.8	
39 Adjusted Reference Time	0.0	0.0		16.1	16.1		35.9	35.9		36.3	36.3	

Summary	East West	North South
40 Protected Option	19.1	36.3
41 Permitted Option	24.1	36.3
42 Split Option	16.1	72.2
43 Minimum	16.1	36.3
44 Combined	52.4	

Right Turns	EBR	WBR	NBR	SBR
45 Adjusted Reference Time	0.0	20.6	13.5	0.0
46 Cross Through Direction	NBT	SBT	WBT	EBT
47 Cross Through Adj Ref Time	35.9	36.3	0.0	0.0
48 Oncoming Left Direction	WBL	EBL	SBL	NBL
49 Oncoming Left Adj Ref Time	16.1	0.0	0.0	0.0
50 Combined	52.0	56.9	13.5	0.0

51 **Intersection Capacity Utilization**	**47.4%**
52 **Level Of Service**	**A**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / US 101 NB Off Ra
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: PM Peak
City: Ventura County
Alternative: Existing
Project: Pacific Rock

#	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	0	0	0	1	0	2	0	3	1	0	3	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	0	0	0	411	0	594	0	1475	178	0	1099	0
5	Pedestrians			0			0			0			0
6	Ped Button (y/n)		☐ Yes			☐ Yes			☐ Yes			☐ Yes	
7	Pedestrian Timing Required		0			0			0			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☑ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	0	0	0	3	0	3	0	3.5	3.5	0	3.5	0
11	Minimum Green	0	0	0	4	0	4	0	10	10	0	10	0
12	Reference Cycle Length	120											
13	Volume Combined	0.0	0.0	0.0	411.0	0.0	594.0	0.0	1475.0	178.0	0.0	1099.0	0.0
14	Volume Separate Left	0.0	0.0		411.0	0.0		0.0	1475.0		0.0	1099.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	0.885	1.000	0.908	1.000	1.000	0.908	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	0.0	0.0	1805.0	0.0	2858.6	0.0	5175.6	1615.0	0.0	5175.6	0.0
18	Saturated Flow Separate	0.0	0.0		1805.0	0.0		0.0	5175.6		0.0	5175.6	
19	Pedestrian Interference Time		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
20	Pedestrian Frequency		0.0%			0.0%			0.0%			0.0%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	0.0	0.0	0.0	27.3	0.0	24.9	0.0	34.2	13.2	0.0	25.5	0.0
23	Adjusted Reference Time	0.0	0.0	0.0	30.3	0.0	27.9	0.0	37.7	16.7	0.0	29.0	0.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	0		411	0		0	492		0	366	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		0.07	1.00	
29	Permitted Sat Flow	0.0	0.0		120.3	0.0		0.0	1725.2		0.0	1725.2	
30	Reference Time A	0.0	0.0		409.9	0.0		0.0	34.2		0.0	25.5	
31	Adjusted Saturation B		0.0			0.0			5175.6			5175.6	
32	Reference Time B		0.0			0.0			NA			NA	
33	Reference Time Lefts	0.0			35.3			NA			NA		
34	Reference Time		0.0			35.3			34.2			25.5	
35	Adjusted Reference Time		0.0			35.3			37.7			29.0	
	Split Timing												
36	Ref Time Combined		0.0			0.0			34.2			25.5	
37	Ref Time By Movement	0.0	0.0		27.3	0.0		0.0	34.2		0.0	25.5	
38	Reference Time		0.0			27.3			34.2			25.5	
39	Adjusted Reference Time	0.0	0.0		27.3	27.3		37.7	37.7		29.0	29.0	

#	**Summary**	East West	North South
40	Protected Option	30.3	37.7
41	Permitted Option	35.3	37.7
42	Split Option	27.3	66.7
43	Minimum	27.3	37.7
44	Combined	65.0	

#	**Right Turns**	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	0.0	27.9	16.7	0.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	37.7	29.0	0.0	0.0
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	27.3	0.0	0.0	0.0
50	Combined	65.0	56.9	16.7	0.0

#		
51	**Intersection Capacity Utilization**	**54.2%**
52	**Level Of Service**	**A**

Revision 2003.0

EXISTING PLUS PROJECT WORKSHEETS

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / Lewis Road
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: AM Peak

City: Ventura County
Alternative: Existing Plus Project
Project: Pacific Rock

#	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	2	2	1	2	2	1	1	2	1	1	2	1
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	206	597	18	404	348	226	50	285	261	135	666	204
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		20			17			28			27	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	3	4	4	3	4	4
11	Minimum Green	4	10	10	4	10	10	4	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	206.0	597.0	18.0	404.0	348.0	226.0	50.0	285.0	261.0	135.0	666.0	204.0
14	Volume Separate Left	206.0	597.0		404.0	348.0		50.0	285.0		135.0	666.0	
15	Lane Utilization Factor	0.971	0.952	1.000	0.971	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	3505.3	3617.6	1615.0	3505.3	3617.6	1615.0	1805.0	3617.6	1615.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3505.3	3617.6		3505.3	3617.6		1805.0	3617.6		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		0.0	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			28.3%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	7.1	19.8	1.3	13.8	11.5	16.8	3.3	9.5	19.4	9.0	22.1	15.2
23	Adjusted Reference Time	10.1	23.9	14.0	16.8	17.1	20.8	7.0	19.1	23.4	12.0	27.5	19.2
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	103	299		202	174		50	143		135	333	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	116.8	1808.8		116.8	1808.8		120.3	1808.8		1925.3	1808.8	
30	Reference Time A	105.8	19.8		207.5	11.5		49.9	9.5		9.0	22.1	
31	Adjusted Saturation B		3617.6			3617.6			3617.6			3617.6	
32	Reference Time B		NA			NA			NA			NA	
33	Reference Time Lefts	NA			NA			NA			NA		
34	Reference Time		105.8			207.5			49.9			22.1	
35	Adjusted Reference Time		109.8			211.5			53.9			27.5	
	Split Timing												
36	Ref Time Combined		19.8			11.5			9.5			22.1	
37	Ref Time By Movement	7.1	19.8		13.8	11.5		3.3	9.5		9.0	22.1	
38	Reference Time		19.8			13.8			9.5			22.1	
39	Adjusted Reference Time	23.9	23.9		18.7	18.7		19.1	19.1		27.5	27.5	

#	**Summary**	East West	North South
40	Protected Option	40.7	34.5
41	Permitted Option	211.5	53.9
42	Split Option	42.6	46.6
43	Minimum	40.7	34.5
44	Combined	75.2	

#	**Right Turns**	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	14.0	20.8	23.4	19.2
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	19.1	27.5	17.1	23.9
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	16.8	10.1	12.0	7.0
50	Combined	49.9	58.3	52.5	50.0

#		
51	**Intersection Capacity Utilization**	**62.6%**
52	**Level Of Service**	**B**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / Lewis Road
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: PM Peak
City: Ventura County
Alternative: Existing Plus Project
Project: Pacific Rock

1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	2	2	1	2	2	1	1	2	1	1	2	1
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	205	400	17	321	784	271	89	541	455	123	417	269
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		20			17			28			27	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	3	4	4	3	4	4
11	Minimum Green	4	10	10	4	10	10	4	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	205.0	400.0	17.0	321.0	784.0	271.0	89.0	541.0	455.0	123.0	417.0	269.0
14	Volume Separate Left	205.0	400.0		321.0	784.0		89.0	541.0		123.0	417.0	
15	Lane Utilization Factor	0.971	0.952	1.000	0.971	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	3505.3	3617.6	1615.0	3505.3	3617.6	1615.0	1805.0	3617.6	1615.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3505.3	3617.6		3505.3	3617.6		1805.0	3617.6		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		0.0	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			28.3%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	7.0	13.3	1.3	11.0	26.0	20.1	5.9	17.9	33.8	8.2	13.8	20.0
23	Adjusted Reference Time	10.0	19.2	14.0	14.0	30.0	24.1	8.9	24.8	37.8	11.2	21.6	24.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	102.5	200		160.5	392		89	271		123	209	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	116.8	1808.8		116.8	1808.8		120.3	1808.8		1925.3	1808.8	
30	Reference Time A	105.3	13.3		164.8	26.0		88.8	17.9		8.2	13.8	
31	Adjusted Saturation B		3617.6			3617.6			3617.6			3617.6	
32	Reference Time B		NA			NA			NA			NA	
33	Reference Time Lefts	NA			NA			NA			NA		
34	Reference Time		105.3			164.8			88.8			13.8	
35	Adjusted Reference Time		109.3			168.8			92.8			21.6	
	Split Timing												
36	Ref Time Combined		13.3			26.0			17.9			13.8	
37	Ref Time By Movement	7.0	13.3		11.0	26.0		5.9	17.9		8.2	13.8	
38	Reference Time		13.3			26.0			17.9			13.8	
39	Adjusted Reference Time	19.2	19.2		30.0	30.0		24.8	24.8		21.6	21.6	

	Summary	**East West**	**North South**
40	Protected Option	40.0	36.0
41	Permitted Option	168.8	92.8
42	Split Option	49.2	46.4
43	Minimum	40.0	36.0
44	Combined	76.0	

	Right Turns	**EBR**	**WBR**	**NBR**	**SBR**
45	Adjusted Reference Time	14.0	24.1	37.8	24.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	24.8	21.6	30.0	19.2
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	14.0	10.0	11.2	8.9
50	Combined	52.8	55.7	79.0	52.1

51	**Intersection Capacity Utilization**	**65.8%**
52	**Level Of Service**	**C**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / Pancho
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: AM Peak
City: Ventura County
Alternative: Existing Plus Project
Project: Pacific Rock

#	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	2	0	2	2	0	1	1	1	1	1	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☑ Yes			☐ Yes		
4	Volume	11	905	170	365	668	10	85	2	138	26	2	48
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☐ Yes	
7	Pedestrian Timing Required		17			17			23			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	2	3	3	2	3	3
11	Minimum Green	2	5	5	2	5	5	3	5	5	3	5	5
12	Reference Cycle Length	120											
13	Volume Combined	11.0	1075.0	0.0	365.0	678.0	0.0	0.0	87.0	138.0	26.0	50.0	0.0
14	Volume Separate Left	11.0	1075.0		365.0	678.0		85.0	2.0		26.0	50.0	
15	Lane Utilization Factor	1.000	0.952	1.000	0.971	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
16	Turning Factor Adjust	0.950	0.976	0.850	0.950	0.998	0.850	0.950	0.951	0.850	0.950	0.856	0.850
17	Saturated Flow Combined	1805.0	3531.8	0.0	3505.3	3609.6	0.0	0.0	3614.4	1615.0	1805.0	1626.4	0.0
18	Saturated Flow Separate	1805.0	3531.8		3505.3	3609.6		3610.0	1900.0		1805.0	1626.4	
19	Pedestrian Interference Time		0.2	1.2		0.0	1.2		0.0	1.2		1.2	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			100.0%	
21	**Protected Option Allowed**		TRUE			TRUE			FALSE			FALSE	
22	Reference Time	0.7	36.7	0.0	12.5	22.6	0.0	NA	NA	10.3	NA	NA	0.0
23	Adjusted Reference Time	5.0	40.7	9.0	15.5	26.6	9.0	NA	NA	13.3	NA	NA	8.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.98		1	0.00	
25	Volume Left Lane	11	538		182.5	339		0	87		26	50	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.98		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.1		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	0.07		1.07	1.00	
29	Permitted Sat Flow	120.3	1765.9		116.8	1804.8		0.0	244.6		1925.3	1626.4	
30	Reference Time A	11.0	36.7		187.4	22.6		0.0	42.7		1.7	4.9	
31	Adjusted Saturation B		3531.8			3609.6			0.0			1626.4	
32	Reference Time B		NA			NA			10.9			4.9	
33	Reference Time Lefts	NA			NA			10.8			9.7		
34	Reference Time		36.7			187.4			10.9			4.9	
35	Adjusted Reference Time		40.7			191.4			17.3			8.0	
	Split Timing												
36	Ref Time Combined		36.7			22.6			2.9			4.9	
37	Ref Time By Movement	0.7	36.7		12.5	22.6		2.8	0.1		1.7	4.9	
38	Reference Time		36.7			22.6			2.9			4.9	
39	Adjusted Reference Time	40.7	40.7		26.6	26.6		13.1	13.1		8.0	8.0	

#	**Summary**	East West	North South
40	Protected Option	56.2	NA
41	Permitted Option	191.4	17.3
42	Split Option	67.3	21.1
43	Minimum	56.2	17.3
44	Combined	73.5	

#	**Right Turns**	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	9.0	9.0	13.3	8.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	13.1	8.0	26.6	40.7
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	15.5	5.0	8.0	13.1
50	Combined	37.6	22.0	47.8	61.8

#		
51	**Intersection Capacity Utilization**	**61.3%**
52	**Level Of Service**	**B**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location:	Pleasant Valley / Pancho	**City:**	Ventura County
Analyzed by:	VRPA Technologies, Inc	**Alternative:**	Existing Plus Project
Date and Time of Data:	AM Peak	**Project:**	Pacific Rock

#	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	2	0	2	2	0	1	1	1	1	1	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☑ Yes			☐ Yes		
4	Volume	26	810	79	95	857	24	453	4	424	10	4	28
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☐ Yes	
7	Pedestrian Timing Required		17			17			23			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	2	3	3	2	3	3
11	Minimum Green	2	5	5	2	5	5	3	5	5	3	5	5
12	Reference Cycle Length	120											
13	Volume Combined	26.0	889.0	0.0	95.0	881.0	0.0	0.0	457.0	424.0	10.0	32.0	0.0
14	Volume Separate Left	26.0	889.0		95.0	881.0		453.0	4.0		10.0	32.0	
15	Lane Utilization Factor	1.000	0.952	1.000	0.971	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
16	Turning Factor Adjust	0.950	0.987	0.850	0.950	0.996	0.850	0.950	0.950	0.850	0.950	0.869	0.850
17	Saturated Flow Combined	1805.0	3569.4	0.0	3505.3	3602.8	0.0	0.0	3611.7	1615.0	1805.0	1650.6	0.0
18	Saturated Flow Separate	1805.0	3569.4		3505.3	3602.8		3610.0	1900.0		1805.0	1650.6	
19	Pedestrian Interference Time		0.1	1.2		0.0	1.2		0.0	1.2		1.1	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			100.0%	
21	**Protected Option Allowed**		TRUE			TRUE			FALSE			FALSE	
22	Reference Time	1.7	30.0	0.0	3.3	29.4	0.0	NA	NA	31.5	NA	NA	0.0
23	Adjusted Reference Time	5.0	34.0	9.0	6.3	33.4	9.0	NA	NA	34.5	NA	NA	8.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.99		1	0.00	
25	Volume Left Lane	26	445		47.5	441		0	457		10	32	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.99		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	0.07		1.07	1.00	
29	Permitted Sat Flow	120.3	1784.7		116.8	1801.4		0.0	242.1		1925.3	1650.6	
30	Reference Time A	25.9	30.0		48.8	29.4		0.0	226.5		0.7	3.4	
31	Adjusted Saturation B		3569.4			3602.8			0.0			1650.6	
32	Reference Time B		NA			NA			23.2			3.4	
33	Reference Time Lefts	NA			NA			23.1			8.7		
34	Reference Time		30.0			48.8			23.2			3.4	
35	Adjusted Reference Time		34.0			52.8			26.2			8.0	
	Split Timing												
36	Ref Time Combined		30.0			29.4			15.2			3.4	
37	Ref Time By Movement	1.7	30.0		3.3	29.4		15.1	0.3		0.7	3.4	
38	Reference Time		30.0			29.4			15.2			3.4	
39	Adjusted Reference Time	34.0	34.0		33.4	33.4		20.4	20.4		8.0	8.0	

#	Summary	East West	North South
40	Protected Option	40.3	NA
41	Permitted Option	52.8	26.2
42	Split Option	67.4	28.4
43	Minimum	40.3	26.2
44	Combined	66.4	

#	Right Turns	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	9.0	9.0	34.5	8.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	20.4	8.0	33.4	34.0
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	6.3	5.0	8.0	20.4
50	Combined	35.7	22.0	75.9	62.4
51	**Intersection Capacity Utilization**	**63.2%**			
52	**Level Of Service**	**B**			

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / US 101 SB Ramps
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: AM Peak
City: Ventura County
Alternative: Existing Plus Project
Project: Pacific Rock

#	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	1	1	1	1	0	0	3	0	1	2	1
3	Shared LT Lane (y/n)	☑ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	844	4	194	3	0	8	0	1208	5	17	917	789
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☐ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		14			0			14			14	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	3	3	3	3	3	0	3.5	3.5	3	3.5	3.5
11	Minimum Green	4	4	4	4	4	4	0	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	0.0	848.0	194.0	3.0	8.0	0.0	0.0	1213.0	0.0	17.0	917.0	789.0
14	Volume Separate Left	844.0	4.0		3.0	8.0		0.0	1213.0		17.0	917.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.908	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	0.950	0.850	0.950	0.850	0.850	0.950	0.999	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	3610.9	1615.0	1805.0	1615.0	0.0	0.0	5172.4	0.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3610.0	1900.0		1805.0	1615.0		0.0	5172.4		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		1.2	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			100.0%			28.3%			28.3%	
21	**Protected Option Allowed**		FALSE			FALSE			TRUE			TRUE	
22	Reference Time	NA	NA	14.4	NA	NA	0.0	0.0	28.1	0.0	1.1	30.4	58.6
23	Adjusted Reference Time	NA	NA	17.4	NA	NA	7.0	0.0	31.6	13.5	7.0	33.9	62.1
	Permitted Option												
24	Proportion Lefts	1	1.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	848		3	8		0	404		17	459	
26	Proportion Lefts Left	1	1.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	0.07		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	0.0	241.5		120.3	1615.0		0.0	1724.1		1925.3	1808.8	
30	Reference Time A	0.0	421.5		3.0	1.8		0.0	28.1		1.1	30.4	
31	Adjusted Saturation B		0.0			1615.0			5172.4			3617.6	
32	Reference Time B		36.2			1.8			NA			NA	
33	Reference Time Lefts	36.1			8.2			NA			NA		
34	Reference Time		36.2			3.0			28.1			30.4	
35	Adjusted Reference Time		39.2			7.0			31.6			33.9	
	Split Timing												
36	Ref Time Combined		28.2			1.8			28.1			30.4	
37	Ref Time By Movement	28.1	0.3		0.2	1.8		0.0	28.1		1.1	30.4	
38	Reference Time		28.2			1.8			28.1			30.4	
39	Adjusted Reference Time	31.2	31.2		7.0	7.0		31.6	31.6		33.9	33.9	

#	Summary	East West	North South
40	Protected Option	NA	38.6
41	Permitted Option	39.2	33.9
42	Split Option	38.2	65.6
43	Minimum	38.2	33.9
44	Combined	72.1	

#	Right Turns	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	17.4	7.0	13.5	62.1
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	31.6	33.9	7.0	31.2
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	7.0	31.2	7.0	0.0
50	Combined	56.1	72.1	27.5	93.3

#		
51	**Intersection Capacity Utilization**	**77.8%**
52	**Level Of Service**	**D**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / US 101 SB Ramps
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: PM Peak
City: Ventura County
Alternative: Existing Plus Project
Project: Pacific Rock

		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	1	1	1	1	0	0	3	0	1	2	1
3	Shared LT Lane (y/n)	☑ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	853	4	106	11	0	11	0	1275	4	10	1001	523
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☐ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		14			0			14			14	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	3	3	3	3	3	0	3.5	3.5	3	3.5	3.5
11	Minimum Green	4	4	4	4	4	4	0	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	0.0	857.0	106.0	11.0	11.0	0.0	0.0	1279.0	0.0	10.0	1001.0	523.0
14	Volume Separate Left	853.0	4.0		11.0	11.0		0.0	1279.0		10.0	1001.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.908	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	0.950	0.850	0.950	0.850	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	3610.9	1615.0	1805.0	1615.0	0.0	0.0	5173.2	0.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3610.0	1900.0		1805.0	1615.0		0.0	5173.2		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		1.2	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			100.0%			28.3%			28.3%	
21	**Protected Option Allowed**		FALSE			FALSE			TRUE			TRUE	
22	Reference Time	NA	NA	7.9	NA	NA	0.0	0.0	29.7	0.0	0.7	33.2	38.9
23	Adjusted Reference Time	NA	NA	10.9	NA	NA	7.0	0.0	33.2	13.5	7.0	36.7	42.4
	Permitted Option												
24	Proportion Lefts	1	1.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	857		11	11		0	426		10	501	
26	Proportion Lefts Left	1	1.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	0.07		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	0.0	241.4		120.3	1615.0		0.0	1724.4		1925.3	1808.8	
30	Reference Time A	0.0	425.9		11.0	2.1		0.0	29.7		0.7	33.2	
31	Adjusted Saturation B		0.0			1615.0			5173.2			3617.6	
32	Reference Time B		36.5			2.1			NA			NA	
33	Reference Time Lefts	36.4			8.7			NA			NA		
34	Reference Time		36.5			8.7			29.7			33.2	
35	Adjusted Reference Time		39.5			11.7			33.2			36.7	
	Split Timing												
36	Ref Time Combined		28.5			2.1			29.7			33.2	
37	Ref Time By Movement	28.4	0.3		0.7	2.1		0.0	29.7		0.7	33.2	
38	Reference Time		28.5			2.1			29.7			33.2	
39	Adjusted Reference Time	31.5	31.5		7.0	7.0		33.2	33.2		36.7	36.7	

	Summary	East West	North South
40	Protected Option	NA	40.2
41	Permitted Option	39.5	36.7
42	Split Option	38.5	69.9
43	Minimum	38.5	36.7
44	Combined	75.2	

	Right Turns	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	10.9	7.0	13.5	42.4
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	33.2	36.7	7.0	31.5
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	7.0	31.5	7.0	0.0
50	Combined	51.0	75.2	27.5	73.8
51	**Intersection Capacity Utilization**	**62.7%**			
52	**Level Of Service**	**B**			

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / US 101 NB Off Ra
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: AM Peak
City: Ventura County
Alternative: Existing Plus Project
Project: Pacific Rock

1	**Movement**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
2	Lanes	0	0	0	1	0	2	0	3	1	0	3	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	0	0	0	294	0	420	0	1399	130	0	1417	0
5	Pedestrians			0			0			0			0
6	Ped Button (y/n)		☐ Yes			☐ Yes			☐ Yes			☐ Yes	
7	Pedestrian Timing Required		0			0			0			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☑ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	0	0	0	3	0	3	0	3.5	3.5	0	3.5	0
11	Minimum Green	0	0	0	4	0	4	0	10	10	0	10	0
12	Reference Cycle Length	120											
13	Volume Combined	0.0	0.0	0.0	294.0	0.0	420.0	0.0	1399.0	130.0	0.0	1417.0	0.0
14	Volume Separate Left	0.0	0.0		294.0	0.0		0.0	1399.0		0.0	1417.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	0.885	1.000	0.908	1.000	1.000	0.908	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	0.0	0.0	1805.0	0.0	2858.6	0.0	5175.6	1615.0	0.0	5175.6	0.0
18	Saturated Flow Separate	0.0	0.0		1805.0	0.0		0.0	5175.6		0.0	5175.6	
19	Pedestrian Interference Time		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
20	Pedestrian Frequency		0.0%			0.0%			0.0%			0.0%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	0.0	0.0	0.0	19.5	0.0	17.6	0.0	32.4	9.7	0.0	32.9	0.0
23	Adjusted Reference Time	0.0	0.0	0.0	22.5	0.0	20.6	0.0	35.9	13.5	0.0	36.4	0.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	0		294	0		0	466		0	472	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		0.07	1.00	
29	Permitted Sat Flow	0.0	0.0		120.3	0.0		0.0	1725.2		0.0	1725.2	
30	Reference Time A	0.0	0.0		293.2	0.0		0.0	32.4		0.0	32.9	
31	Adjusted Saturation B		0.0			0.0			5175.6			5175.6	
32	Reference Time B		0.0			0.0			NA			NA	
33	Reference Time Lefts	0.0			27.5			NA			NA		
34	Reference Time		0.0			27.5			32.4			32.9	
35	Adjusted Reference Time		0.0			27.5			35.9			36.4	
	Split Timing												
36	Ref Time Combined		0.0			0.0			32.4			32.9	
37	Ref Time By Movement	0.0	0.0		19.5	0.0		0.0	32.4		0.0	32.9	
38	Reference Time		0.0			19.5			32.4			32.9	
39	Adjusted Reference Time	0.0	0.0		19.5	19.5		35.9	35.9		36.4	36.4	

	Summary	**East West**	**North South**
40	Protected Option	22.5	36.4
41	Permitted Option	27.5	36.4
42	Split Option	19.5	72.3
43	Minimum	19.5	36.4
44	Combined	55.9	

	Right Turns	**EBR**	**WBR**	**NBR**	**SBR**
45	Adjusted Reference Time	0.0	20.6	13.5	0.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	35.9	36.4	0.0	0.0
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	19.5	0.0	0.0	0.0
50	Combined	55.5	57.0	13.5	0.0

51	**Intersection Capacity Utilization**	**47.5%**
52	**Level Of Service**	**A**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / US 101 NB Off Ra
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: PM Peak
City: Ventura County
Alternative: Existing Plus Project
Project: Pacific Rock

#		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	0	0	0	1	0	2	0	3	1	0	3	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	0	0	0	436	0	594	0	1475	188	0	1099	0
5	Pedestrians			0			0			0			0
6	Ped Button (y/n)		☐ Yes			☐ Yes			☐ Yes			☐ Yes	
7	Pedestrian Timing Required		0			0			0			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☑ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	0	0	0	3	0	3	0	3.5	3.5	0	3.5	0
11	Minimum Green	0	0	0	4	0	4	0	10	10	0	10	0
12	Reference Cycle Length	120											
13	Volume Combined	0.0	0.0	0.0	436.0	0.0	594.0	0.0	1475.0	188.0	0.0	1099.0	0.0
14	Volume Separate Left	0.0	0.0		436.0	0.0		0.0	1475.0		0.0	1099.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	0.885	1.000	0.908	1.000	1.000	0.908	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	0.0	0.0	1805.0	0.0	2858.6	0.0	5175.6	1615.0	0.0	5175.6	0.0
18	Saturated Flow Separate	0.0	0.0		1805.0	0.0		0.0	5175.6		0.0	5175.6	
19	Pedestrian Interference Time		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
20	Pedestrian Frequency		0.0%			0.0%			0.0%			0.0%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	0.0	0.0	0.0	29.0	0.0	24.9	0.0	34.2	14.0	0.0	25.5	0.0
23	Adjusted Reference Time	0.0	0.0	0.0	32.0	0.0	27.9	0.0	37.7	17.5	0.0	29.0	0.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	0		436	0		0	492		0	366	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		0.07	1.00	
29	Permitted Sat Flow	0.0	0.0		120.3	0.0		0.0	1725.2		0.0	1725.2	
30	Reference Time A	0.0	0.0		434.8	0.0		0.0	34.2		0.0	25.5	
31	Adjusted Saturation B		0.0			0.0			5175.6			5175.6	
32	Reference Time B		0.0			0.0			NA			NA	
33	Reference Time Lefts	0.0			37.0			NA			NA		
34	Reference Time		0.0			37.0			34.2			25.5	
35	Adjusted Reference Time		0.0			37.0			37.7			29.0	
	Split Timing												
36	Ref Time Combined		0.0			0.0			34.2			25.5	
37	Ref Time By Movement	0.0	0.0		29.0	0.0		0.0	34.2		0.0	25.5	
38	Reference Time		0.0			29.0			34.2			25.5	
39	Adjusted Reference Time	0.0	0.0		29.0	29.0		37.7	37.7		29.0	29.0	

#	**Summary**	East West	North South
40	Protected Option	32.0	37.7
41	Permitted Option	37.0	37.7
42	Split Option	29.0	66.7
43	Minimum	29.0	37.7
44	Combined	66.7	

#	**Right Turns**	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	0.0	27.9	17.5	0.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	37.7	29.0	0.0	0.0
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	29.0	0.0	0.0	0.0
50	Combined	66.7	56.9	17.5	0.0

51	**Intersection Capacity Utilization**	**55.6%**
52	**Level Of Service**	**B**

Revision 2003.0

EXISTING PLUS APPROVED/PENDING WORKSHEETS

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / Lewis Road
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: AM Peak
City: Ventura County
Alternative: Existing Plus Approved/Pending
Project: Pacific Rock

1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	2	2	1	2	2	1	1	2	1	1	2	1
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	215	616	18	414	367	222	50	290	260	131	686	243
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		20			17			28			27	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	3	4	4	3	4	4
11	Minimum Green	4	10	10	4	10	10	4	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	215.0	616.0	18.0	414.0	367.0	222.0	50.0	290.0	260.0	131.0	686.0	243.0
14	Volume Separate Left	215.0	616.0		414.0	367.0		50.0	290.0		131.0	686.0	
15	Lane Utilization Factor	0.971	0.952	1.000	0.971	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	3505.3	3617.6	1615.0	3505.3	3617.6	1615.0	1805.0	3617.6	1615.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3505.3	3617.6		3505.3	3617.6		1805.0	3617.6		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		0.0	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			28.3%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	7.4	20.4	1.3	14.2	12.2	16.5	3.3	9.6	19.3	8.7	22.8	18.1
23	Adjusted Reference Time	10.4	24.4	14.0	17.2	17.5	20.5	7.0	19.1	23.3	11.7	28.0	22.1
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	107.5	308		207	184		50	145		131	343	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	116.8	1808.8		116.8	1808.8		120.3	1808.8		1925.3	1808.8	
30	Reference Time A	110.4	20.4		212.6	12.2		49.9	9.6		8.7	22.8	
31	Adjusted Saturation B		3617.6			3617.6			3617.6			3617.6	
32	Reference Time B		NA			NA			NA			NA	
33	Reference Time Lefts	NA			NA			NA			NA		
34	Reference Time		110.4			212.6			49.9			22.8	
35	Adjusted Reference Time		114.4			216.6			53.9			28.0	
	Split Timing												
36	Ref Time Combined		20.4			12.2			9.6			22.8	
37	Ref Time By Movement	7.4	20.4		14.2	12.2		3.3	9.6		8.7	22.8	
38	Reference Time		20.4			14.2			9.6			22.8	
39	Adjusted Reference Time	24.4	24.4		19.0	19.0		19.1	19.1		28.0	28.0	

	Summary	East West	North South
40	Protected Option	41.6	35.0
41	Permitted Option	216.6	53.9
42	Split Option	43.4	47.1
43	Minimum	41.6	35.0
44	Combined	76.6	

	Right Turns	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	14.0	20.5	23.3	22.1
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	19.1	28.0	17.5	24.4
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	17.2	10.4	11.7	7.0
50	Combined	50.3	58.8	52.6	53.5

51	**Intersection Capacity Utilization**	**63.8%**
52	**Level Of Service**	**B**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / Lewis Road
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: PM Peak
City: Ventura County
Alternative: Existing Plus Approved/Pending
Project: Pacific Rock

#	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	2	2	1	2	2	1	1	2	1	1	2	1
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	237	417	17	338	803	269	89	559	456	121	426	287
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		20			17			28			27	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	3	4	4	3	4	4
11	Minimum Green	4	10	10	4	10	10	4	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	237.0	417.0	17.0	338.0	803.0	269.0	89.0	559.0	456.0	121.0	426.0	287.0
14	Volume Separate Left	237.0	417.0		338.0	803.0		89.0	559.0		121.0	426.0	
15	Lane Utilization Factor	0.971	0.952	1.000	0.971	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	3505.3	3617.6	1615.0	3505.3	3617.6	1615.0	1805.0	3617.6	1615.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3505.3	3617.6		3505.3	3617.6		1805.0	3617.6		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		0.0	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			28.3%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	8.1	13.8	1.3	11.6	26.6	20.0	5.9	18.5	33.9	8.0	14.1	21.3
23	Adjusted Reference Time	11.1	19.6	14.0	14.6	30.6	24.0	8.9	25.2	37.9	11.0	21.8	25.3
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	118.5	209		169	402		89	280		121	213	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	116.8	1808.8		116.8	1808.8		120.3	1808.8		1925.3	1808.8	
30	Reference Time A	121.7	13.8		173.6	26.6		88.8	18.5		8.0	14.1	
31	Adjusted Saturation B		3617.6			3617.6			3617.6			3617.6	
32	Reference Time B		NA			NA			NA			NA	
33	Reference Time Lefts	NA			NA			NA			NA		
34	Reference Time		121.7			173.6			88.8			14.1	
35	Adjusted Reference Time		125.7			177.6			92.8			21.8	
	Split Timing												
36	Ref Time Combined		13.8			26.6			18.5			14.1	
37	Ref Time By Movement	8.1	13.8		11.6	26.6		5.9	18.5		8.0	14.1	
38	Reference Time		13.8			26.6			18.5			14.1	
39	Adjusted Reference Time	19.6	19.6		30.6	30.6		25.2	25.2		21.8	21.8	

#	Summary	East West	North South
40	Protected Option	41.7	36.3
41	Permitted Option	177.6	92.8
42	Split Option	50.2	47.0
43	Minimum	41.7	36.3
44	Combined	78.0	

#	Right Turns	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	14.0	24.0	37.9	25.3
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	25.2	21.8	30.6	19.6
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	14.6	11.1	11.0	8.9
50	Combined	53.8	56.9	79.6	53.8

#		
51	**Intersection Capacity Utilization**	**66.3%**
52	**Level Of Service**	**C**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location:	Pleasant Valley / Pancho	**City:**	Ventura County
Analyzed by:	VRPA Technologies, Inc	**Alternative:**	Existing Plus Approved/Pending
Date and Time of Data:	AM Peak	**Project:**	Pacific Rock

#	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	2	0	2	2	0	1	1	1	1	1	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☑ Yes			☐ Yes		
4	Volume	11	933	157	306	692	10	87	2	84	26	2	48
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☐ Yes	
7	Pedestrian Timing Required		17			17			23			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	2	3	3	2	3	3
11	Minimum Green	2	5	5	2	5	5	3	5	5	3	5	5
12	Reference Cycle Length	120											
13	Volume Combined	11.0	1090.0	0.0	306.0	702.0	0.0	0.0	89.0	84.0	26.0	50.0	0.0
14	Volume Separate Left	11.0	1090.0		306.0	702.0		87.0	2.0		26.0	50.0	
15	Lane Utilization Factor	1.000	0.952	1.000	0.971	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
16	Turning Factor Adjust	0.950	0.978	0.850	0.950	0.998	0.850	0.950	0.951	0.850	0.950	0.856	0.850
17	Saturated Flow Combined	1805.0	3539.4	0.0	3505.3	3609.9	0.0	0.0	3614.3	1615.0	1805.0	1626.4	0.0
18	Saturated Flow Separate	1805.0	3539.4		3505.3	3609.9		3610.0	1900.0		1805.0	1626.4	
19	Pedestrian Interference Time		0.2	1.2		0.0	1.2		0.0	1.2		1.2	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			100.0%	
21	**Protected Option Allowed**		TRUE			TRUE			FALSE			FALSE	
22	Reference Time	0.7	37.1	0.0	10.5	23.4	0.0	NA	NA	6.2	NA	NA	0.0
23	Adjusted Reference Time	5.0	41.1	9.0	13.5	27.4	9.0	NA	NA	9.2	NA	NA	8.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.98		1	0.00	
25	Volume Left Lane	11	545		153	351		0	89		26	50	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.98		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.1		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	0.07		1.07	1.00	
29	Permitted Sat Flow	120.3	1769.7		116.8	1804.9		0.0	244.5		1925.3	1626.4	
30	Reference Time A	11.0	37.1		157.1	23.4		0.0	43.7		1.7	4.9	
31	Adjusted Saturation B		3539.4			3609.9			0.0			1626.4	
32	Reference Time B		NA			NA			11.0			4.9	
33	Reference Time Lefts	NA			NA			10.9			9.7		
34	Reference Time		37.1			157.1			11.0			4.9	
35	Adjusted Reference Time		41.1			161.1			17.4			8.0	
	Split Timing												
36	Ref Time Combined		37.1			23.4			3.0			4.9	
37	Ref Time By Movement	0.7	37.1		10.5	23.4		2.9	0.1		1.7	4.9	
38	Reference Time		37.1			23.4			3.0			4.9	
39	Adjusted Reference Time	41.1	41.1		27.4	27.4		13.1	13.1		8.0	8.0	

#	Summary	East West	North South
40	Protected Option	54.6	NA
41	Permitted Option	161.1	17.4
42	Split Option	68.5	21.1
43	Minimum	54.6	17.4
44	Combined	72.0	

#	Right Turns	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	9.0	9.0	9.2	8.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	13.1	8.0	27.4	41.1
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	13.5	5.0	8.0	13.1
50	Combined	35.6	22.0	44.6	62.2

#		
51	**Intersection Capacity Utilization**	**60.0%**
52	**Level Of Service**	**B**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location:	Pleasant Valley / Pancho	**City:**	Ventura County
Analyzed by:	VRPA Technologies, Inc	**Alternative:**	Existing Plus Approved/Pending
Date and Time of Data:	PM Peak	**Project:**	Pacific Rock

#	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	2	0	2	2	0	1	1	1	1	1	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☑ Yes			☐ Yes		
4	Volume	26	831	83	74	885	24	447	4	391	10	4	28
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☐ Yes	
7	Pedestrian Timing Required		17			17			23			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	2	3	3	2	3	3
11	Minimum Green	2	5	5	2	5	5	3	5	5	3	5	5
12	Reference Cycle Length	120											
13	Volume Combined	26.0	914.0	0.0	74.0	909.0	0.0	0.0	451.0	391.0	10.0	32.0	0.0
14	Volume Separate Left	26.0	914.0		74.0	909.0		447.0	4.0		10.0	32.0	
15	Lane Utilization Factor	1.000	0.952	1.000	0.971	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
16	Turning Factor Adjust	0.950	0.986	0.850	0.950	0.996	0.850	0.950	0.950	0.850	0.950	0.869	0.850
17	Saturated Flow Combined	1805.0	3568.3	0.0	3505.3	3603.3	0.0	0.0	3611.7	1615.0	1805.0	1650.6	0.0
18	Saturated Flow Separate	1805.0	3568.3		3505.3	3603.3		3610.0	1900.0		1805.0	1650.6	
19	Pedestrian Interference Time		0.1	1.2		0.0	1.2		0.0	1.2		1.1	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			100.0%	
21	**Protected Option Allowed**		TRUE			TRUE			FALSE			FALSE	
22	Reference Time	1.7	30.8	0.0	2.5	30.3	0.0	NA	NA	29.1	NA	NA	0.0
23	Adjusted Reference Time	5.0	34.8	9.0	5.5	34.3	9.0	NA	NA	32.1	NA	NA	8.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.99		1	0.00	
25	Volume Left Lane	26	457		37	455		0	451		10	32	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.99		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	0.07		1.07	1.00	
29	Permitted Sat Flow	120.3	1784.2		116.8	1801.6		0.0	242.1		1925.3	1650.6	
30	Reference Time A	25.9	30.8		38.0	30.3		0.0	223.5		0.7	3.4	
31	Adjusted Saturation B		3568.3			3603.3			0.0			1650.6	
32	Reference Time B		NA			NA			23.0			3.4	
33	Reference Time Lefts	NA			NA			22.9			8.7		
34	Reference Time		30.8			38.0			23.0			3.4	
35	Adjusted Reference Time		34.8			42.0			26.0			8.0	
	Split Timing												
36	Ref Time Combined		30.8			30.3			15.0			3.4	
37	Ref Time By Movement	1.7	30.8		2.5	30.3		14.9	0.3		0.7	3.4	
38	Reference Time		30.8			30.3			15.0			3.4	
39	Adjusted Reference Time	34.8	34.8		34.3	34.3		20.3	20.3		8.0	8.0	

#	Summary	East West	North South
40	Protected Option	40.4	NA
41	Permitted Option	42.0	26.0
42	Split Option	69.2	28.3
43	Minimum	40.4	26.0
44	Combined	66.4	

#	Right Turns	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	9.0	9.0	32.1	8.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	20.3	8.0	34.3	34.8
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	5.5	5.0	8.0	20.3
50	Combined	34.8	22.0	74.4	63.1

#		
51	**Intersection Capacity Utilization**	**62.0%**
52	**Level Of Service**	**B**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / US 101 SB Ramps
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: AM Peak
City: Ventura County
Alternative: Existing Plus Approved/Pending
Project: Pacific Rock

		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	1	1	1	1	0	0	3	0	1	2	1
3	Shared LT Lane (y/n)	☑ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	935	4	179	3	0	8	0	1193	5	17	896	889
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☐ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		14			0			14			14	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	3	3	3	3	3	0	3.5	3.5	3	3.5	3.5
11	Minimum Green	4	4	4	4	4	4	0	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	0.0	939.0	179.0	3.0	8.0	0.0	0.0	1198.0	0.0	17.0	896.0	889.0
14	Volume Separate Left	935.0	4.0		3.0	8.0		0.0	1198.0		17.0	896.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.908	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	0.950	0.850	0.950	0.850	0.850	0.950	0.999	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	3610.8	1615.0	1805.0	1615.0	0.0	0.0	5172.4	0.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3610.0	1900.0		1805.0	1615.0		0.0	5172.4		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		1.2	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			100.0%			28.3%			28.3%	
21	**Protected Option Allowed**		FALSE			FALSE			TRUE			TRUE	
22	Reference Time	NA	NA	13.3	NA	NA	0.0	0.0	27.8	0.0	1.1	29.7	66.1
23	Adjusted Reference Time	NA	NA	16.3	NA	NA	7.0	0.0	31.3	13.5	7.0	33.2	69.6
	Permitted Option												
24	Proportion Lefts	1	1.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	939		3	8		0	399		17	448	
26	Proportion Lefts Left	1	1.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	0.07		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	0.0	241.4		120.3	1615.0		0.0	1724.1		1925.3	1808.8	
30	Reference Time A	0.0	466.8		3.0	1.8		0.0	27.8		1.1	29.7	
31	Adjusted Saturation B		0.0			1615.0			5172.4			3617.6	
32	Reference Time B		39.2			1.8			NA			NA	
33	Reference Time Lefts	39.1			8.2			NA			NA		
34	Reference Time		39.2			3.0			27.8			29.7	
35	Adjusted Reference Time		42.2			7.0			31.3			33.2	
	Split Timing												
36	Ref Time Combined		31.2			1.8			27.8			29.7	
37	Ref Time By Movement	31.1	0.3		0.2	1.8		0.0	27.8		1.1	29.7	
38	Reference Time		31.2			1.8			27.8			29.7	
39	Adjusted Reference Time	34.2	34.2		7.0	7.0		31.3	31.3		33.2	33.2	

	Summary	**East West**	**North South**
40	Protected Option	NA	38.3
41	Permitted Option	42.2	33.2
42	Split Option	41.2	64.5
43	Minimum	41.2	33.2
44	Combined	74.4	

	Right Turns	**EBR**	**WBR**	**NBR**	**SBR**
45	Adjusted Reference Time	16.3	7.0	13.5	69.6
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	31.3	33.2	7.0	34.2
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	7.0	34.2	7.0	0.0
50	Combined	54.6	74.4	27.5	103.8

51	**Intersection Capacity Utilization**	**86.5%**
52	**Level Of Service**	**E**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / US 101 SB Ramps
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: PM Peak
City: Ventura County
Alternative: Existing Plus Approved/Pending
Project: Pacific Rock

#	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	1	1	1	1	0	0	3	0	1	2	1
3	Shared LT Lane (y/n)	☑ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	928	4	106	11	0	11	0	1272	4	10	1020	623
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☐ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		14			0			14			14	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	3	3	3	3	3	0	3.5	3.5	3	3.5	3.5
11	Minimum Green	4	4	4	4	4	4	0	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	0.0	932.0	106.0	11.0	11.0	0.0	0.0	1276.0	0.0	10.0	1020.0	623.0
14	Volume Separate Left	928.0	4.0		11.0	11.0		0.0	1276.0		10.0	1020.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.908	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	0.950	0.850	0.950	0.850	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	3610.8	1615.0	1805.0	1615.0	0.0	0.0	5173.2	0.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3610.0	1900.0		1805.0	1615.0		0.0	5173.2		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		1.2	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			100.0%			28.3%			28.3%	
21	**Protected Option Allowed**		FALSE			FALSE			TRUE			TRUE	
22	Reference Time	NA	NA	7.9	NA	NA	0.0	0.0	29.6	0.0	0.7	33.8	46.3
23	Adjusted Reference Time	NA	NA	10.9	NA	NA	7.0	0.0	33.1	13.5	7.0	37.3	49.8
	Permitted Option												
24	Proportion Lefts	1	1.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	932		11	11		0	425		10	510	
26	Proportion Lefts Left	1	1.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	0.07		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	0.0	241.4		120.3	1615.0		0.0	1724.4		1925.3	1808.8	
30	Reference Time A	0.0	463.3		11.0	2.1		0.0	29.6		0.7	33.8	
31	Adjusted Saturation B		0.0			1615.0			5173.2			3617.6	
32	Reference Time B		39.0			2.1			NA			NA	
33	Reference Time Lefts	38.8			8.7			NA			NA		
34	Reference Time		39.0			8.7			29.6			33.8	
35	Adjusted Reference Time		42.0			11.7			33.1			37.3	
	Split Timing												
36	Ref Time Combined		31.0			2.1			29.6			33.8	
37	Ref Time By Movement	30.8	0.3		0.7	2.1		0.0	29.6		0.7	33.8	
38	Reference Time		31.0			2.1			29.6			33.8	
39	Adjusted Reference Time	34.0	34.0		7.0	7.0		33.1	33.1		37.3	37.3	

#	Summary	East West	North South
40	Protected Option	NA	40.1
41	Permitted Option	42.0	37.3
42	Split Option	41.0	70.4
43	Minimum	41.0	37.3
44	Combined	78.3	

#	Right Turns	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	10.9	7.0	13.5	49.8
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	33.1	37.3	7.0	34.0
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	7.0	34.0	7.0	0.0
50	Combined	51.0	78.3	27.5	83.8

#		
51	**Intersection Capacity Utilization**	**69.8%**
52	**Level Of Service**	**C**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / US 101 NB Off Ra
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: AM Peak
City: Ventura County
Alternative: Existing Plus Approved/Pending
Project: Pacific Rock

		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	0	0	0	1	0	2	0	3	1	0	3	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	0	0	0	244	0	513	0	1525	122	0	1546	0
5	Pedestrians			0			0			0			0
6	Ped Button (y/n)		☐ Yes			☐ Yes			☐ Yes			☐ Yes	
7	Pedestrian Timing Required		0			0			0			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☑ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	0	0	0	3	0	3	0	3.5	3.5	0	3.5	0
11	Minimum Green	0	0	0	4	0	4	0	10	10	0	10	0
12	Reference Cycle Length	120											
13	Volume Combined	0.0	0.0	0.0	244.0	0.0	513.0	0.0	1525.0	122.0	0.0	1546.0	0.0
14	Volume Separate Left	0.0	0.0		244.0	0.0		0.0	1525.0		0.0	1546.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	0.885	1.000	0.908	1.000	1.000	0.908	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	0.0	0.0	1805.0	0.0	2858.6	0.0	5175.6	1615.0	0.0	5175.6	0.0
18	Saturated Flow Separate	0.0	0.0		1805.0	0.0		0.0	5175.6		0.0	5175.6	
19	Pedestrian Interference Time		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
20	Pedestrian Frequency		0.0%			0.0%			0.0%			0.0%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	0.0	0.0	0.0	16.2	0.0	21.5	0.0	35.4	9.1	0.0	35.8	0.0
23	Adjusted Reference Time	0.0	0.0	0.0	19.2	0.0	24.5	0.0	38.9	13.5	0.0	39.3	0.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	0		244	0		0	508		0	515	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		0.07	1.00	
29	Permitted Sat Flow	0.0	0.0		120.3	0.0		0.0	1725.2		0.0	1725.2	
30	Reference Time A	0.0	0.0		243.3	0.0		0.0	35.4		0.0	35.8	
31	Adjusted Saturation B		0.0			0.0			5175.6			5175.6	
32	Reference Time B		0.0			0.0			NA			NA	
33	Reference Time Lefts	0.0			24.2			NA			NA		
34	Reference Time		0.0			24.2			35.4			35.8	
35	Adjusted Reference Time		0.0			24.2			38.9			39.3	
	Split Timing												
36	Ref Time Combined		0.0			0.0			35.4			35.8	
37	Ref Time By Movement	0.0	0.0		16.2	0.0		0.0	35.4		0.0	35.8	
38	Reference Time		0.0			16.2			35.4			35.8	
39	Adjusted Reference Time	0.0	0.0		16.2	16.2		38.9	38.9		39.3	39.3	

	Summary	**East West**	**North South**
40	Protected Option	19.2	39.3
41	Permitted Option	24.2	39.3
42	Split Option	16.2	78.2
43	Minimum	16.2	39.3
44	Combined	55.6	

	Right Turns	**EBR**	**WBR**	**NBR**	**SBR**
45	Adjusted Reference Time	0.0	24.5	13.5	0.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	38.9	39.3	0.0	0.0
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	16.2	0.0	0.0	0.0
50	Combined	55.1	63.9	13.5	0.0

51	**Intersection Capacity Utilization**	**53.2%**
52	**Level Of Service**	**A**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / US 101 NB Off Ra
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: PM Peak
City: Ventura County
Alternative: Existing Plus Approved/Pending
Project: Pacific Rock

		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	0	0	0	1	0	2	0	3	1	0	3	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	0	0	0	419	0	677	0	1577	183	0	1235	0
5	Pedestrians			0			0			0			0
6	Ped Button (y/n)		☐ Yes			☐ Yes			☐ Yes			☐ Yes	
7	Pedestrian Timing Required		0			0			0			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☑ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	0	0	0	3	0	3	0	3.5	3.5	0	3.5	0
11	Minimum Green	0	0	0	4	0	4	0	10	10	0	10	0
12	Reference Cycle Length	120											
13	Volume Combined	0.0	0.0	0.0	419.0	0.0	677.0	0.0	1577.0	183.0	0.0	1235.0	0.0
14	Volume Separate Left	0.0	0.0		419.0	0.0		0.0	1577.0		0.0	1235.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	0.885	1.000	0.908	1.000	1.000	0.908	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	0.0	0.0	1805.0	0.0	2858.6	0.0	5175.6	1615.0	0.0	5175.6	0.0
18	Saturated Flow Separate	0.0	0.0		1805.0	0.0		0.0	5175.6		0.0	5175.6	
19	Pedestrian Interference Time		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
20	Pedestrian Frequency		0.0%			0.0%			0.0%			0.0%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	0.0	0.0	0.0	27.9	0.0	28.4	0.0	36.6	13.6	0.0	28.6	0.0
23	Adjusted Reference Time	0.0	0.0	0.0	30.9	0.0	31.4	0.0	40.1	17.1	0.0	32.1	0.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	0		419	0		0	526		0	412	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		0.07	1.00	
29	Permitted Sat Flow	0.0	0.0		120.3	0.0		0.0	1725.2		0.0	1725.2	
30	Reference Time A	0.0	0.0		417.8	0.0		0.0	36.6		0.0	28.6	
31	Adjusted Saturation B		0.0			0.0			5175.6			5175.6	
32	Reference Time B		0.0			0.0			NA			NA	
33	Reference Time Lefts	0.0			35.9			NA			NA		
34	Reference Time		0.0			35.9			36.6			28.6	
35	Adjusted Reference Time		0.0			35.9			40.1			32.1	
	Split Timing												
36	Ref Time Combined		0.0			0.0			36.6			28.6	
37	Ref Time By Movement	0.0	0.0		27.9	0.0		0.0	36.6		0.0	28.6	
38	Reference Time		0.0			27.9			36.6			28.6	
39	Adjusted Reference Time	0.0	0.0		27.9	27.9		40.1	40.1		32.1	32.1	

	Summary	East West	North South
40	Protected Option	30.9	40.1
41	Permitted Option	35.9	40.1
42	Split Option	27.9	72.2
43	Minimum	27.9	40.1
44	Combined	67.9	

	Right Turns	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	0.0	31.4	17.1	0.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	40.1	32.1	0.0	0.0
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	27.9	0.0	0.0	0.0
50	Combined	67.9	63.6	17.1	0.0

51	**Intersection Capacity Utilization**	**56.6%**
52	**Level Of Service**	**B**

Revision 2003.0

EXISTING PLUS APPROVED/PENDING PLUS PROJECT WORKSHEETS

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / Lewis Road
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: AM Peak
City: Ventura County
Alternative: Existing Plus App/Pen Plus Project
Project: Pacific Rock

		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	2	2	1	2	2	1	1	2	1	1	2	1
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	215	625	18	418	371	226	50	290	264	135	686	243
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		20			17			28			27	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	3	4	4	3	4	4
11	Minimum Green	4	10	10	4	10	10	4	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	215.0	625.0	18.0	418.0	371.0	226.0	50.0	290.0	264.0	135.0	686.0	243.0
14	Volume Separate Left	215.0	625.0		418.0	371.0		50.0	290.0		135.0	686.0	
15	Lane Utilization Factor	0.971	0.952	1.000	0.971	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	3505.3	3617.6	1615.0	3505.3	3617.6	1615.0	1805.0	3617.6	1615.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3505.3	3617.6		3505.3	3617.6		1805.0	3617.6		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		0.0	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			28.3%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	7.4	20.7	1.3	14.3	12.3	16.8	3.3	9.6	19.6	9.0	22.8	18.1
23	Adjusted Reference Time	10.4	24.7	14.0	17.3	17.6	20.8	7.0	19.1	23.6	12.0	28.0	22.1
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	107.5	313		209	186		50	145		135	343	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	116.8	1808.8		116.8	1808.8		120.3	1808.8		1925.3	1808.8	
30	Reference Time A	110.4	20.7		214.6	12.3		49.9	9.6		9.0	22.8	
31	Adjusted Saturation B		3617.6			3617.6			3617.6			3617.6	
32	Reference Time B		NA			NA			NA			NA	
33	Reference Time Lefts	NA			NA			NA			NA		
34	Reference Time		110.4			214.6			49.9			22.8	
35	Adjusted Reference Time		114.4			218.6			53.9			28.0	
	Split Timing												
36	Ref Time Combined		20.7			12.3			9.6			22.8	
37	Ref Time By Movement	7.4	20.7		14.3	12.3		3.3	9.6		9.0	22.8	
38	Reference Time		20.7			14.3			9.6			22.8	
39	Adjusted Reference Time	24.7	24.7		19.1	19.1		19.1	19.1		28.0	28.0	

#	**Summary**	East West	North South
40	Protected Option	42.0	35.0
41	Permitted Option	218.6	53.9
42	Split Option	43.8	47.1
43	Minimum	42.0	35.0
44	Combined	77.0	

#	**Right Turns**	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	14.0	20.8	23.6	22.1
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	19.1	28.0	17.6	24.7
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	17.3	10.4	12.0	7.0
50	Combined	50.4	59.1	53.2	53.8

51	**Intersection Capacity Utilization**	**64.2%**
52	**Level Of Service**	**C**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / Lewis Road
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: PM Peak
City: Ventura County
Alternative: Existing Plus App/Pen Plus Project
Project: Pacific Rock

#	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	2	2	1	2	2	1	1	2	1	1	2	1
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	237	419	17	340	810	271	89	559	458	123	426	287
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		20			17			28			27	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	3	4	4	3	4	4
11	Minimum Green	4	10	10	4	10	10	4	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	237.0	419.0	17.0	340.0	810.0	271.0	89.0	559.0	458.0	123.0	426.0	287.0
14	Volume Separate Left	237.0	419.0		340.0	810.0		89.0	559.0		123.0	426.0	
15	Lane Utilization Factor	0.971	0.952	1.000	0.971	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	3505.3	3617.6	1615.0	3505.3	3617.6	1615.0	1805.0	3617.6	1615.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3505.3	3617.6		3505.3	3617.6		1805.0	3617.6		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		0.0	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			28.3%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	8.1	13.9	1.3	11.6	26.9	20.1	5.9	18.5	34.0	8.2	14.1	21.3
23	Adjusted Reference Time	11.1	19.6	14.0	14.6	30.9	24.1	8.9	25.2	38.0	11.2	21.8	25.3
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	118.5	210		170	405		89	280		123	213	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	116.8	1808.8		116.8	1808.8		120.3	1808.8		1925.3	1808.8	
30	Reference Time A	121.7	13.9		174.6	26.9		88.8	18.5		8.2	14.1	
31	Adjusted Saturation B		3617.6			3617.6			3617.6			3617.6	
32	Reference Time B		NA			NA			NA			NA	
33	Reference Time Lefts	NA			NA			NA			NA		
34	Reference Time		121.7			174.6			88.8			14.1	
35	Adjusted Reference Time		125.7			178.6			92.8			21.8	
	Split Timing												
36	Ref Time Combined		13.9			26.9			18.5			14.1	
37	Ref Time By Movement	8.1	13.9		11.6	26.9		5.9	18.5		8.2	14.1	
38	Reference Time		13.9			26.9			18.5			14.1	
39	Adjusted Reference Time	19.6	19.6		30.9	30.9		25.2	25.2		21.8	21.8	

#	**Summary**	East West	North South
40	Protected Option	42.0	36.4
41	Permitted Option	178.6	92.8
42	Split Option	50.5	47.0
43	Minimum	42.0	36.4
44	Combined	78.4	

#	**Right Turns**	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	14.0	24.1	38.0	25.3
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	25.2	21.8	30.9	19.6
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	14.6	11.1	11.2	8.9
50	Combined	53.9	57.0	80.1	53.9

#		
51	**Intersection Capacity Utilization**	**66.7%**
52	**Level Of Service**	**C**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / Pancho
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: AM Peak
City: Ventura County
Alternative: Existing Plus App/Pen Plus Project
Project: Pacific Rock

		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	2	0	2	2	0	1	1	1	1	1	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☑ Yes			☐ Yes		
4	Volume	11	933	173	377	692	10	98	2	148	26	2	48
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☐ Yes	
7	Pedestrian Timing Required		17			17			23			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	2	3	3	2	3	3
11	Minimum Green	2	5	5	2	5	5	3	5	5	3	5	5
12	Reference Cycle Length	120											
13	Volume Combined	11.0	1106.0	0.0	377.0	702.0	0.0	0.0	100.0	148.0	26.0	50.0	0.0
14	Volume Separate Left	11.0	1106.0		377.0	702.0		98.0	2.0		26.0	50.0	
15	Lane Utilization Factor	1.000	0.952	1.000	0.971	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
16	Turning Factor Adjust	0.950	0.977	0.850	0.950	0.998	0.850	0.950	0.951	0.850	0.950	0.856	0.850
17	Saturated Flow Combined	1805.0	3532.7	0.0	3505.3	3609.9	0.0	0.0	3613.8	1615.0	1805.0	1626.4	0.0
18	Saturated Flow Separate	1805.0	3532.7		3505.3	3609.9		3610.0	1900.0		1805.0	1626.4	
19	Pedestrian Interference Time		0.2	1.2		0.0	1.2		0.0	1.2		1.2	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			100.0%	
21	**Protected Option Allowed**		TRUE			TRUE			FALSE			FALSE	
22	Reference Time	0.7	37.8	0.0	12.9	23.4	0.0	NA	NA	11.0	NA	NA	0.0
23	Adjusted Reference Time	5.0	41.8	9.0	15.9	27.4	9.0	NA	NA	14.0	NA	NA	8.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.98		1	0.00	
25	Volume Left Lane	11	553		188.5	351		0	100		26	50	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.98		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.1		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	0.07		1.07	1.00	
29	Permitted Sat Flow	120.3	1766.4		116.8	1804.9		0.0	244.1		1925.3	1626.4	
30	Reference Time A	11.0	37.8		193.6	23.4		0.0	49.2		1.7	4.9	
31	Adjusted Saturation B		3532.7			3609.9			0.0			1626.4	
32	Reference Time B		NA			NA			11.3			4.9	
33	Reference Time Lefts	NA			NA			11.3			9.7		
34	Reference Time		37.8			193.6			11.3			4.9	
35	Adjusted Reference Time		41.8			197.6			17.6			8.0	
	Split Timing												
36	Ref Time Combined		37.8			23.4			3.3			4.9	
37	Ref Time By Movement	0.7	37.8		12.9	23.4		3.3	0.1		1.7	4.9	
38	Reference Time		37.8			23.4			3.3			4.9	
39	Adjusted Reference Time	41.8	41.8		27.4	27.4		13.1	13.1		8.0	8.0	

	Summary	East West	North South
40	Protected Option	57.7	NA
41	Permitted Option	197.6	17.6
42	Split Option	69.1	21.1
43	Minimum	57.7	17.6
44	Combined	75.3	

	Right Turns	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	9.0	9.0	14.0	8.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	13.1	8.0	27.4	41.8
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	15.9	5.0	8.0	13.1
50	Combined	38.0	22.0	49.4	62.9

51	**Intersection Capacity Utilization**	**62.8%**
52	**Level Of Service**	**B**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location:	Pleasant Valley / Pancho	**City:**	Ventura County
Analyzed by:	VRPA Technologies, Inc	**Alternative:**	Existing Plus App/Pen Plus Project
Date and Time of Data:	PM Peak	**Project:**	Pacific Rock

1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	2	0	2	2	0	1	1	1	1	1	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☑ Yes			☐ Yes		
4	Volume	26	831	89	106	885	24	458	4	430	10	4	28
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☐ Yes	
7	Pedestrian Timing Required		17			17			23			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	2	3	3	2	3	3
11	Minimum Green	2	5	5	2	5	5	3	5	5	3	5	5
12	Reference Cycle Length	120											
13	Volume Combined	26.0	920.0	0.0	106.0	909.0	0.0	0.0	462.0	430.0	10.0	32.0	0.0
14	Volume Separate Left	26.0	920.0		106.0	909.0		458.0	4.0		10.0	32.0	
15	Lane Utilization Factor	1.000	0.952	1.000	0.971	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
16	Turning Factor Adjust	0.950	0.985	0.850	0.950	0.996	0.850	0.950	0.950	0.850	0.950	0.869	0.850
17	Saturated Flow Combined	1805.0	3565.1	0.0	3505.3	3603.3	0.0	0.0	3611.6	1615.0	1805.0	1650.6	0.0
18	Saturated Flow Separate	1805.0	3565.1		3505.3	3603.3		3610.0	1900.0		1805.0	1650.6	
19	Pedestrian Interference Time		0.1	1.2		0.0	1.2		0.0	1.2		1.1	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			100.0%	
21	**Protected Option Allowed**		TRUE			TRUE			FALSE			FALSE	
22	Reference Time	1.7	31.1	0.0	3.6	30.3	0.0	NA	NA	32.0	NA	NA	0.0
23	Adjusted Reference Time	5.0	35.1	9.0	6.6	34.3	9.0	NA	NA	35.0	NA	NA	8.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.99		1	0.00	
25	Volume Left Lane	26	460		53	455		0	462		10	32	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.99		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	0.07		1.07	1.00	
29	Permitted Sat Flow	120.3	1782.6		116.8	1801.6		0.0	242.1		1925.3	1650.6	
30	Reference Time A	25.9	31.1		54.4	30.3		0.0	229.0		0.7	3.4	
31	Adjusted Saturation B		3565.1			3603.3			0.0			1650.6	
32	Reference Time B		NA			NA			23.4			3.4	
33	Reference Time Lefts	NA			NA			23.2			8.7		
34	Reference Time		31.1			54.4			23.4			3.4	
35	Adjusted Reference Time		35.1			58.4			26.4			8.0	
	Split Timing												
36	Ref Time Combined		31.1			30.3			15.4			3.4	
37	Ref Time By Movement	1.7	31.1		3.6	30.3		15.2	0.3		0.7	3.4	
38	Reference Time		31.1			30.3			15.4			3.4	
39	Adjusted Reference Time	35.1	35.1		34.3	34.3		20.5	20.5		8.0	8.0	

	Summary	**East West**	**North South**
40	Protected Option	41.7	NA
41	Permitted Option	58.4	26.4
42	Split Option	69.4	28.5
43	Minimum	41.7	26.4
44	Combined	68.1	

	Right Turns	**EBR**	**WBR**	**NBR**	**SBR**
45	Adjusted Reference Time	9.0	9.0	35.0	8.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	20.5	8.0	34.3	35.1
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	6.6	5.0	8.0	20.5
50	Combined	36.1	22.0	77.3	63.6

51	**Intersection Capacity Utilization**	**64.4%**
52	**Level Of Service**	**C**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location:	Pleasant Valley / US 101 SB Ramps	**City:**	Ventura County
Analyzed by:	VRPA Technologies, Inc	**Alternative:**	Existing Plus App/Pen Plus Project
Date and Time of Data:	AM Peak	**Project:**	Pacific Rock

		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	1	1	1	1	0	0	3	0	1	2	1
3	Shared LT Lane (y/n)	☑ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	935	4	196	3	0	8	0	1257	5	17	950	889
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☐ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		14			0			14			14	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	3	3	3	3	3	0	3.5	3.5	3	3.5	3.5
11	Minimum Green	4	4	4	4	4	4	0	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	0.0	939.0	196.0	3.0	8.0	0.0	0.0	1262.0	0.0	17.0	950.0	889.0
14	Volume Separate Left	935.0	4.0		3.0	8.0		0.0	1262.0		17.0	950.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.908	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	0.950	0.850	0.950	0.850	0.850	0.950	0.999	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	3610.8	1615.0	1805.0	1615.0	0.0	0.0	5172.5	0.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3610.0	1900.0		1805.0	1615.0		0.0	5172.5		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		1.2	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			100.0%			28.3%			28.3%	
21	**Protected Option Allowed**		FALSE			FALSE			TRUE			TRUE	
22	Reference Time	NA	NA	14.6	NA	NA	0.0	0.0	29.3	0.0	1.1	31.5	66.1
23	Adjusted Reference Time	NA	NA	17.6	NA	NA	7.0	0.0	32.8	13.5	7.0	35.0	69.6
	Permitted Option												
24	Proportion Lefts	1	1.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	939		3	8		0	421		17	475	
26	Proportion Lefts Left	1	1.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	0.07		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	0.0	241.4		120.3	1615.0		0.0	1724.2		1925.3	1808.8	
30	Reference Time A	0.0	466.8		3.0	1.8		0.0	29.3		1.1	31.5	
31	Adjusted Saturation B		0.0			1615.0			5172.5			3617.6	
32	Reference Time B		39.2			1.8			NA			NA	
33	Reference Time Lefts	39.1			8.2			NA			NA		
34	Reference Time		39.2			3.0			29.3			31.5	
35	Adjusted Reference Time		42.2			7.0			32.8			35.0	
	Split Timing												
36	Ref Time Combined		31.2			1.8			29.3			31.5	
37	Ref Time By Movement	31.1	0.3		0.2	1.8		0.0	29.3		1.1	31.5	
38	Reference Time		31.2			1.8			29.3			31.5	
39	Adjusted Reference Time	34.2	34.2		7.0	7.0		32.8	32.8		35.0	35.0	

	Summary	East West	North South
40	Protected Option	NA	39.8
41	Permitted Option	42.2	35.0
42	Split Option	41.2	67.8
43	Minimum	41.2	35.0
44	Combined	76.2	

	Right Turns	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	17.6	7.0	13.5	69.6
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	32.8	35.0	7.0	34.2
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	7.0	34.2	7.0	0.0
50	Combined	57.3	76.2	27.5	103.8

51	**Intersection Capacity Utilization**	**86.5%**
52	**Level Of Service**	**E**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / US 101 SB Ramps
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: PM Peak
City: Ventura County
Alternative: Existing Plus App/Pen Plus Project
Project: Pacific Rock

		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	1	1	1	1	0	0	3	0	1	2	1
3	Shared LT Lane (y/n)	☑ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	928	4	114	11	0	11	0	1311	4	10	1045	623
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☐ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		14			0			14			14	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	3	3	3	3	3	0	3.5	3.5	3	3.5	3.5
11	Minimum Green	4	4	4	4	4	4	0	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	0.0	932.0	114.0	11.0	11.0	0.0	0.0	1315.0	0.0	10.0	1045.0	623.0
14	Volume Separate Left	928.0	4.0		11.0	11.0		0.0	1315.0		10.0	1045.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.908	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	0.950	0.850	0.950	0.850	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	3610.8	1615.0	1805.0	1615.0	0.0	0.0	5173.2	0.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3610.0	1900.0		1805.0	1615.0		0.0	5173.2		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		1.2	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			100.0%			28.3%			28.3%	
21	**Protected Option Allowed**		FALSE			FALSE			TRUE			TRUE	
22	Reference Time	NA	NA	8.5	NA	NA	0.0	0.0	30.5	0.0	0.7	34.7	46.3
23	Adjusted Reference Time	NA	NA	11.5	NA	NA	7.0	0.0	34.0	13.5	7.0	38.2	49.8
	Permitted Option												
24	Proportion Lefts	1	1.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	932		11	11		0	438		10	523	
26	Proportion Lefts Left	1	1.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	0.07		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	0.0	241.4		120.3	1615.0		0.0	1724.4		1925.3	1808.8	
30	Reference Time A	0.0	463.3		11.0	2.1		0.0	30.5		0.7	34.7	
31	Adjusted Saturation B		0.0			1615.0			5173.2			3617.6	
32	Reference Time B		39.0			2.1			NA			NA	
33	Reference Time Lefts	38.8			8.7			NA			NA		
34	Reference Time		39.0			8.7			30.5			34.7	
35	Adjusted Reference Time		42.0			11.7			34.0			38.2	
	Split Timing												
36	Ref Time Combined		31.0			2.1			30.5			34.7	
37	Ref Time By Movement	30.8	0.3		0.7	2.1		0.0	30.5		0.7	34.7	
38	Reference Time		31.0			2.1			30.5			34.7	
39	Adjusted Reference Time	34.0	34.0		7.0	7.0		34.0	34.0		38.2	38.2	

	Summary	East West	North South
40	Protected Option	NA	41.0
41	Permitted Option	42.0	38.2
42	Split Option	41.0	72.2
43	Minimum	41.0	38.2
44	Combined	79.1	

	Right Turns	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	11.5	7.0	13.5	49.8
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	34.0	38.2	7.0	34.0
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	7.0	34.0	7.0	0.0
50	Combined	52.5	79.1	27.5	83.8

51	**Intersection Capacity Utilization**	**69.8%**
52	**Level Of Service**	**C**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / US 101 NB Off Ra
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: AM Peak
City: Ventura County
Alternative: Existing Plus App/Pen Plus Project
Project: Pacific Rock

		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	0	0	0	1	0	2	0	3	1	0	3	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	0	0	0	296	0	513	0	1525	137	0	1548	0
5	Pedestrians			0			0			0			0
6	Ped Button (y/n)		☐ Yes			☐ Yes			☐ Yes			☐ Yes	
7	Pedestrian Timing Required		0			0			0			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☑ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	0	0	0	3	0	3	0	3.5	3.5	0	3.5	0
11	Minimum Green	0	0	0	4	0	4	0	10	10	0	10	0
12	Reference Cycle Length	120											
13	Volume Combined	0.0	0.0	0.0	296.0	0.0	513.0	0.0	1525.0	137.0	0.0	1548.0	0.0
14	Volume Separate Left	0.0	0.0		296.0	0.0		0.0	1525.0		0.0	1548.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	0.885	1.000	0.908	1.000	1.000	0.908	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	0.0	0.0	1805.0	0.0	2858.6	0.0	5175.6	1615.0	0.0	5175.6	0.0
18	Saturated Flow Separate	0.0	0.0		1805.0	0.0		0.0	5175.6		0.0	5175.6	
19	Pedestrian Interference Time		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
20	Pedestrian Frequency		0.0%			0.0%			0.0%			0.0%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	0.0	0.0	0.0	19.7	0.0	21.5	0.0	35.4	10.2	0.0	35.9	0.0
23	Adjusted Reference Time	0.0	0.0	0.0	22.7	0.0	24.5	0.0	38.9	13.7	0.0	39.4	0.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	0		296	0		0	508		0	516	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		0.07	1.00	
29	Permitted Sat Flow	0.0	0.0		120.3	0.0		0.0	1725.2		0.0	1725.2	
30	Reference Time A	0.0	0.0		295.2	0.0		0.0	35.4		0.0	35.9	
31	Adjusted Saturation B		0.0			0.0			5175.6			5175.6	
32	Reference Time B		0.0			0.0			NA			NA	
33	Reference Time Lefts	0.0			27.7			NA			NA		
34	Reference Time		0.0			27.7			35.4			35.9	
35	Adjusted Reference Time		0.0			27.7			38.9			39.4	
	Split Timing												
36	Ref Time Combined		0.0			0.0			35.4			35.9	
37	Ref Time By Movement	0.0	0.0		19.7	0.0		0.0	35.4		0.0	35.9	
38	Reference Time		0.0			19.7			35.4			35.9	
39	Adjusted Reference Time	0.0	0.0		19.7	19.7		38.9	38.9		39.4	39.4	

	Summary	East West	North South
40	Protected Option	22.7	39.4
41	Permitted Option	27.7	39.4
42	Split Option	19.7	78.2
43	Minimum	19.7	39.4
44	Combined	59.1	

	Right Turns	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	0.0	24.5	13.7	0.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	38.9	39.4	0.0	0.0
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	19.7	0.0	0.0	0.0
50	Combined	58.5	63.9	13.7	0.0

51	**Intersection Capacity Utilization**	**53.3%**
52	**Level Of Service**	**A**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location:	Pleasant Valley / US 101 NB Off Ra	**City:**	Ventura County
Analyzed by:	VRPA Technologies, Inc	**Alternative:**	Existing Plus App/Pen Plus Project
Date and Time of Data:	PM Peak	**Project:**	Pacific Rock

#	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	0	0	0	1	0	2	0	3	1	0	3	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	0	0	0	444	0	677	0	1577	193	0	1235	0
5	Pedestrians			0			0			0			0
6	Ped Button (y/n)		☐ Yes			☐ Yes			☐ Yes			☐ Yes	
7	Pedestrian Timing Required		0			0			0			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☑ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	0	0	0	3	0	3	0	3.5	3.5	0	3.5	0
11	Minimum Green	0	0	0	4	0	4	0	10	10	0	10	0
12	Reference Cycle Length	120											
13	Volume Combined	0.0	0.0	0.0	444.0	0.0	677.0	0.0	1577.0	193.0	0.0	1235.0	0.0
14	Volume Separate Left	0.0	0.0		444.0	0.0		0.0	1577.0		0.0	1235.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	0.885	1.000	0.908	1.000	1.000	0.908	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	0.0	0.0	1805.0	0.0	2858.6	0.0	5175.6	1615.0	0.0	5175.6	0.0
18	Saturated Flow Separate	0.0	0.0		1805.0	0.0		0.0	5175.6		0.0	5175.6	
19	Pedestrian Interference Time		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
20	Pedestrian Frequency		0.0%			0.0%			0.0%			0.0%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	0.0	0.0	0.0	29.5	0.0	28.4	0.0	36.6	14.3	0.0	28.6	0.0
23	Adjusted Reference Time	0.0	0.0	0.0	32.5	0.0	31.4	0.0	40.1	17.8	0.0	32.1	0.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	0		444	0		0	526		0	412	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		0.07	1.00	
29	Permitted Sat Flow	0.0	0.0		120.3	0.0		0.0	1725.2		0.0	1725.2	
30	Reference Time A	0.0	0.0		442.8	0.0		0.0	36.6		0.0	28.6	
31	Adjusted Saturation B		0.0			0.0			5175.6			5175.6	
32	Reference Time B		0.0			0.0			NA			NA	
33	Reference Time Lefts	0.0			37.5			NA			NA		
34	Reference Time		0.0			37.5			36.6			28.6	
35	Adjusted Reference Time		0.0			37.5			40.1			32.1	
	Split Timing												
36	Ref Time Combined		0.0			0.0			36.6			28.6	
37	Ref Time By Movement	0.0	0.0		29.5	0.0		0.0	36.6		0.0	28.6	
38	Reference Time		0.0			29.5			36.6			28.6	
39	Adjusted Reference Time	0.0	0.0		29.5	29.5		40.1	40.1		32.1	32.1	

#	Summary	East West	North South
40	Protected Option	32.5	40.1
41	Permitted Option	37.5	40.1
42	Split Option	29.5	72.2
43	Minimum	29.5	40.1
44	Combined	69.6	

#	Right Turns	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	0.0	31.4	17.8	0.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	40.1	32.1	0.0	0.0
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	29.5	0.0	0.0	0.0
50	Combined	69.6	63.6	17.8	0.0

#		
51	**Intersection Capacity Utilization**	**58.0%**
52	**Level Of Service**	**B**

Revision 2003.0

CUMULATIVE YEAR 2030
WORKSHEETS

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / Lewis Road
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: AM Peak
City: Ventura County
Alternative: Cumulative Year 2030 W/out Projec
Project: Pacific Rock

		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	2	2	1	2	2	1	1	2	1	1	2	1
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	236	636	30	638	401	244	64	298	363	221	974	250
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		20			17			28			27	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	3	4	4	3	4	4
11	Minimum Green	4	10	10	4	10	10	4	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	236.0	636.0	30.0	638.0	401.0	244.0	64.0	298.0	363.0	221.0	974.0	250.0
14	Volume Separate Left	236.0	636.0		638.0	401.0		64.0	298.0		221.0	974.0	
15	Lane Utilization Factor	0.971	0.952	1.000	0.971	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	3505.3	3617.6	1615.0	3505.3	3617.6	1615.0	1805.0	3617.6	1615.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3505.3	3617.6		3505.3	3617.6		1805.0	3617.6		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		0.0	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			28.3%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	8.1	21.1	2.2	21.8	13.3	18.1	4.3	9.9	27.0	14.7	32.3	18.6
23	Adjusted Reference Time	11.1	25.1	14.0	24.8	18.4	22.1	7.3	19.1	31.0	17.7	36.3	22.6
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	118	318		319	201		64	149		221	487	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	116.8	1808.8		116.8	1808.8		120.3	1808.8		1925.3	1808.8	
30	Reference Time A	121.2	21.1		327.6	13.3		63.8	9.9		14.7	32.3	
31	Adjusted Saturation B		3617.6			3617.6			3617.6			3617.6	
32	Reference Time B		NA			NA			NA			NA	
33	Reference Time Lefts	NA			NA			NA			NA		
34	Reference Time		121.2			327.6			63.8			32.3	
35	Adjusted Reference Time		125.2			331.6			67.8			36.3	
	Split Timing												
36	Ref Time Combined		21.1			13.3			9.9			32.3	
37	Ref Time By Movement	8.1	21.1		21.8	13.3		4.3	9.9		14.7	32.3	
38	Reference Time		21.1			21.8			9.9			32.3	
39	Adjusted Reference Time	25.1	25.1		25.8	25.8		19.1	19.1		36.3	36.3	

	Summary	**East West**	**North South**
40	Protected Option	49.9	43.6
41	Permitted Option	331.6	67.8
42	Split Option	50.9	55.4
43	Minimum	49.9	43.6
44	Combined	93.5	

	Right Turns	**EBR**	**WBR**	**NBR**	**SBR**
45	Adjusted Reference Time	14.0	22.1	31.0	22.6
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	19.1	36.3	18.4	25.1
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	24.8	11.1	17.7	7.3
50	Combined	57.9	69.5	67.0	54.9
51	**Intersection Capacity Utilization**	**77.9%**			
52	**Level Of Service**	**D**			

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / Lewis Road
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: PM Peak
City: Ventura County
Alternative: Cumulative Year 2030 W/out Projec
Project: Pacific Rock

		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
2	Lanes	2	2	1	2	2	1	1	2	1	1	2	1
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	258	457	31	370	851	296	107	746	648	133	468	314
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		20			17			28			27	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	3	4	4	3	4	4
11	Minimum Green	4	10	10	4	10	10	4	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	258.0	457.0	31.0	370.0	851.0	296.0	107.0	746.0	648.0	133.0	468.0	314.0
14	Volume Separate Left	258.0	457.0		370.0	851.0		107.0	746.0		133.0	468.0	
15	Lane Utilization Factor	0.971	0.952	1.000	0.971	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	3505.3	3617.6	1615.0	3505.3	3617.6	1615.0	1805.0	3617.6	1615.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3505.3	3617.6		3505.3	3617.6		1805.0	3617.6		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		0.0	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			28.3%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	8.8	15.2	2.3	12.7	28.2	22.0	7.1	24.7	48.1	8.8	15.5	23.3
23	Adjusted Reference Time	11.8	20.5	14.0	15.7	32.2	26.0	10.1	29.7	52.1	11.8	22.8	27.3
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	129	229		185	426		107	373		133	234	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	116.8	1808.8		116.8	1808.8		120.3	1808.8		1925.3	1808.8	
30	Reference Time A	132.5	15.2		190.0	28.2		106.7	24.7		8.8	15.5	
31	Adjusted Saturation B		3617.6			3617.6			3617.6			3617.6	
32	Reference Time B		NA			NA			NA			NA	
33	Reference Time Lefts	NA			NA			NA			NA		
34	Reference Time		132.5			190.0			106.7			15.5	
35	Adjusted Reference Time		136.5			194.0			110.7			22.8	
	Split Timing												
36	Ref Time Combined		15.2			28.2			24.7			15.5	
37	Ref Time By Movement	8.8	15.2		12.7	28.2		7.1	24.7		8.8	15.5	
38	Reference Time		15.2			28.2			24.7			15.5	
39	Adjusted Reference Time	20.5	20.5		32.2	32.2		29.7	29.7		22.8	22.8	

	Summary	**East West**	**North South**
40	Protected Option	44.1	41.5
41	Permitted Option	194.0	110.7
42	Split Option	52.8	52.4
43	Minimum	44.1	41.5
44	Combined	85.6	

	Right Turns	**EBR**	**WBR**	**NBR**	**SBR**
45	Adjusted Reference Time	14.0	26.0	52.1	27.3
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	29.7	22.8	32.2	20.5
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	15.7	11.8	11.8	10.1
50	Combined	59.3	60.6	96.2	58.0

51	**Intersection Capacity Utilization**	**80.2%**
52	**Level Of Service**	**D**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location:	Pleasant Valley / Pancho	**City:**	Ventura County
Analyzed by:	VRPA Technologies, Inc	**Alternative:**	Cumulative Year 2030 W/out Projec
Date and Time of Data:	AM Peak	**Project:**	Pacific Rock

#	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	2	0	2	2	0	1	1	1	1	1	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☑ Yes			☐ Yes		
4	Volume	17	1018	278	388	831	11	132	2	116	32	2	53
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☐ Yes	
7	Pedestrian Timing Required		17			17			23			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	2	3	3	2	3	3
11	Minimum Green	2	5	5	2	5	5	3	5	5	3	5	5
12	Reference Cycle Length	120											
13	Volume Combined	17.0	1296.0	0.0	388.0	842.0	0.0	0.0	134.0	116.0	32.0	55.0	0.0
14	Volume Separate Left	17.0	1296.0		388.0	842.0		132.0	2.0		32.0	55.0	
15	Lane Utilization Factor	1.000	0.952	1.000	0.971	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
16	Turning Factor Adjust	0.950	0.968	0.850	0.950	0.998	0.850	0.950	0.951	0.850	0.950	0.855	0.850
17	Saturated Flow Combined	1805.0	3501.2	0.0	3505.3	3610.5	0.0	0.0	3612.8	1615.0	1805.0	1625.4	0.0
18	Saturated Flow Separate	1805.0	3501.2		3505.3	3610.5		3610.0	1900.0		1805.0	1625.4	
19	Pedestrian Interference Time		0.3	1.2		0.0	1.2		0.0	1.2		1.2	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			100.0%	
21	**Protected Option Allowed**		TRUE			TRUE			FALSE			FALSE	
22	Reference Time	1.1	44.7	0.0	13.3	28.0	0.0	NA	NA	8.6	NA	NA	0.0
23	Adjusted Reference Time	5.0	48.7	9.0	16.3	32.0	9.0	NA	NA	11.6	NA	NA	8.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.99		1	0.00	
25	Volume Left Lane	17	648		194	421		0	134		32	55	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.99		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.1		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	0.07		1.07	1.00	
29	Permitted Sat Flow	120.3	1750.6		116.8	1805.3		0.0	243.2		1925.3	1625.4	
30	Reference Time A	17.0	44.7		199.2	28.0		0.0	66.1		2.1	5.3	
31	Adjusted Saturation B		3501.2			3610.5			0.0			1625.4	
32	Reference Time B		NA			NA			12.5			5.3	
33	Reference Time Lefts	NA			NA			12.4			10.1		
34	Reference Time		44.7			199.2			12.5			5.3	
35	Adjusted Reference Time		48.7			203.2			18.4			8.3	
	Split Timing												
36	Ref Time Combined		44.7			28.0			4.5			5.3	
37	Ref Time By Movement	1.1	44.7		13.3	28.0		4.4	0.1		2.1	5.3	
38	Reference Time		44.7			28.0			4.5			5.3	
39	Adjusted Reference Time	48.7	48.7		32.0	32.0		13.1	13.1		8.3	8.3	

#	**Summary**	**East West**	**North South**
40	Protected Option	65.0	NA
41	Permitted Option	203.2	18.4
42	Split Option	80.7	21.4
43	Minimum	65.0	18.4
44	Combined	83.4	

#	**Right Turns**	**EBR**	**WBR**	**NBR**	**SBR**
45	Adjusted Reference Time	9.0	9.0	11.6	8.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	13.1	8.3	32.0	48.7
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	16.3	5.0	8.3	13.1
50	Combined	38.4	22.3	51.9	69.8

#		
51	**Intersection Capacity Utilization**	**69.5%**
52	**Level Of Service**	**C**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / Pancho
City: Ventura County
Analyzed by: VRPA Technologies, Inc
Alternative: Cumulative Year 2030 W/out Projec
Date and Time of Data: PM Peak
Project: Pacific Rock

#	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	2	0	2	2	0	1	1	1	1	1	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☑ Yes			☐ Yes		
4	Volume	34	891	173	91	970	26	472	6	430	14	4	31
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☐ Yes	
7	Pedestrian Timing Required		17			17			23			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	2	3	3	2	3	3
11	Minimum Green	2	5	5	2	5	5	3	5	5	3	5	5
12	Reference Cycle Length	120											
13	Volume Combined	34.0	1064.0	0.0	91.0	996.0	0.0	0.0	478.0	430.0	14.0	35.0	0.0
14	Volume Separate Left	34.0	1064.0		91.0	996.0		472.0	6.0		14.0	35.0	
15	Lane Utilization Factor	1.000	0.952	1.000	0.971	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
16	Turning Factor Adjust	0.950	0.976	0.850	0.950	0.996	0.850	0.950	0.951	0.850	0.950	0.867	0.850
17	Saturated Flow Combined	1805.0	3529.4	0.0	3505.3	3603.4	0.0	0.0	3612.4	1615.0	1805.0	1647.6	0.0
18	Saturated Flow Separate	1805.0	3529.4		3505.3	3603.4		3610.0	1900.0		1805.0	1647.6	
19	Pedestrian Interference Time		0.2	1.2		0.0	1.2		0.0	1.2		1.1	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			100.0%	
21	**Protected Option Allowed**		TRUE			TRUE			FALSE			FALSE	
22	Reference Time	2.3	36.4	0.0	3.1	33.2	0.0	NA	NA	32.0	NA	NA	0.0
23	Adjusted Reference Time	5.3	40.4	9.0	6.1	37.2	9.0	NA	NA	35.0	NA	NA	8.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.99		1	0.00	
25	Volume Left Lane	34	532		45.5	498		0	478		14	35	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.99		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.1		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	0.07		1.07	1.00	
29	Permitted Sat Flow	120.3	1764.7		116.8	1801.7		0.0	242.8		1925.3	1647.6	
30	Reference Time A	33.9	36.4		46.7	33.2		0.0	236.3		0.9	3.6	
31	Adjusted Saturation B		3529.4			3603.4			0.0			1647.6	
32	Reference Time B		NA			NA			23.9			3.6	
33	Reference Time Lefts	NA			NA			23.7			8.9		
34	Reference Time		36.4			46.7			23.9			3.6	
35	Adjusted Reference Time		40.4			50.7			26.9			8.0	
	Split Timing												
36	Ref Time Combined		36.4			33.2			15.9			3.6	
37	Ref Time By Movement	2.3	36.4		3.1	33.2		15.7	0.4		0.9	3.6	
38	Reference Time		36.4			33.2			15.9			3.6	
39	Adjusted Reference Time	40.4	40.4		37.2	37.2		20.9	20.9		8.0	8.0	

#	Summary	East West	North South
40	Protected Option	46.5	NA
41	Permitted Option	50.7	26.9
42	Split Option	77.6	28.9
43	Minimum	46.5	26.9
44	Combined	73.4	

#	Right Turns	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	9.0	9.0	35.0	8.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	20.9	8.0	37.2	40.4
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	6.1	5.3	8.0	20.9
50	Combined	36.0	22.3	80.2	69.3

#		
51	**Intersection Capacity Utilization**	**66.8%**
52	**Level Of Service**	**C**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / US 101 SB Ramps
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: AM Peak
City: Ventura County
Alternative: Cumulative Year 2030 W/out Projec
Project: Pacific Rock

		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	1	1	1	1	0	0	3	0	1	2	1
3	Shared LT Lane (y/n)	☑ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	1092	4	213	3	0	9	0	1261	5	21	1033	1083
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☐ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		14			0			14			14	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	3	3	3	3	3	0	3.5	3.5	3	3.5	3.5
11	Minimum Green	4	4	4	4	4	4	0	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	0.0	1096.0	213.0	3.0	9.0	0.0	0.0	1266.0	0.0	21.0	1033.0	1083.0
14	Volume Separate Left	1092.0	4.0		3.0	9.0		0.0	1266.0		21.0	1033.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.908	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	0.950	0.850	0.950	0.850	0.850	0.950	0.999	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	3610.7	1615.0	1805.0	1615.0	0.0	0.0	5172.5	0.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3610.0	1900.0		1805.0	1615.0		0.0	5172.5		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		1.2	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			100.0%			28.3%			28.3%	
21	**Protected Option Allowed**		FALSE			FALSE			TRUE			TRUE	
22	Reference Time	NA	NA	15.8	NA	NA	0.0	0.0	29.4	0.0	1.4	34.3	80.5
23	Adjusted Reference Time	NA	NA	18.8	NA	NA	7.0	0.0	32.9	13.5	7.0	37.8	84.0
	Permitted Option												
24	Proportion Lefts	1	1.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	1096		3	9		0	422		21	517	
26	Proportion Lefts Left	1	1.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	0.07		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	0.0	241.3		120.3	1615.0		0.0	1724.2		1925.3	1808.8	
30	Reference Time A	0.0	545.1		3.0	1.9		0.0	29.4		1.4	34.3	
31	Adjusted Saturation B		0.0			1615.0			5172.5			3617.6	
32	Reference Time B		44.4			1.9			NA			NA	
33	Reference Time Lefts	44.3			8.2			NA			NA		
34	Reference Time		44.4			3.0			29.4			34.3	
35	Adjusted Reference Time		47.4			7.0			32.9			37.8	
	Split Timing												
36	Ref Time Combined		36.4			1.9			29.4			34.3	
37	Ref Time By Movement	36.3	0.3		0.2	1.9		0.0	29.4		1.4	34.3	
38	Reference Time		36.4			1.9			29.4			34.3	
39	Adjusted Reference Time	39.4	39.4		7.0	7.0		32.9	32.9		37.8	37.8	

	Summary	**East West**	**North South**
40	Protected Option	NA	39.9
41	Permitted Option	47.4	37.8
42	Split Option	46.4	70.6
43	Minimum	46.4	37.8
44	Combined	84.2	

	Right Turns	**EBR**	**WBR**	**NBR**	**SBR**
45	Adjusted Reference Time	18.8	7.0	13.5	84.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	32.9	37.8	7.0	39.4
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	7.0	39.4	7.0	0.0
50	Combined	58.7	84.2	27.5	123.4

51	**Intersection Capacity Utilization**	**102.8%**
52	**Level Of Service**	**G**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location:	Pleasant Valley / US 101 SB Ramps	**City:**	Ventura County
Analyzed by:	VRPA Technologies, Inc	**Alternative:**	Cumulative Year 2030 W/out Projec
Date and Time of Data:	PM Peak	**Project:**	Pacific Rock

1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	1	1	1	1	0	0	3	0	1	2	1
3	Shared LT Lane (y/n)	☑ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	1228	4	116	12	0	12	0	1372	5	25	1117	945
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☐ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		14			0			14			14	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	3	3	3	3	3	0	3.5	3.5	3	3.5	3.5
11	Minimum Green	4	4	4	4	4	4	0	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	0.0	1232.0	116.0	12.0	12.0	0.0	0.0	1377.0	0.0	25.0	1117.0	945.0
14	Volume Separate Left	1228.0	4.0		12.0	12.0		0.0	1377.0		25.0	1117.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.908	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	0.950	0.850	0.950	0.850	0.850	0.950	0.999	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	3610.6	1615.0	1805.0	1615.0	0.0	0.0	5172.8	0.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3610.0	1900.0		1805.0	1615.0		0.0	5172.8		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		1.2	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			100.0%			28.3%			28.3%	
21	**Protected Option Allowed**		FALSE			FALSE			TRUE			TRUE	
22	Reference Time	NA	NA	8.6	NA	NA	0.0	0.0	31.9	0.0	1.7	37.1	70.2
23	Adjusted Reference Time	NA	NA	11.6	NA	NA	7.0	0.0	35.4	13.5	7.0	40.6	73.7
	Permitted Option												
24	Proportion Lefts	1	1.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	1232		12	12		0	459		25	559	
26	Proportion Lefts Left	1	1.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	0.07		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	0.0	241.2		120.3	1615.0		0.0	1724.3		1925.3	1808.8	
30	Reference Time A	0.0	612.9		12.0	2.1		0.0	31.9		1.7	37.1	
31	Adjusted Saturation B		0.0			1615.0			5172.8			3617.6	
32	Reference Time B		48.9			2.1			NA			NA	
33	Reference Time Lefts	48.8			8.8			NA			NA		
34	Reference Time		48.9			8.8			31.9			37.1	
35	Adjusted Reference Time		51.9			11.8			35.4			40.6	
	Split Timing												
36	Ref Time Combined		40.9			2.1			31.9			37.1	
37	Ref Time By Movement	40.8	0.3		0.8	2.1		0.0	31.9		1.7	37.1	
38	Reference Time		40.9			2.1			31.9			37.1	
39	Adjusted Reference Time	43.9	43.9		7.0	7.0		35.4	35.4		40.6	40.6	

	Summary	East West	North South
40	Protected Option	NA	42.4
41	Permitted Option	51.9	40.6
42	Split Option	50.9	76.0
43	Minimum	50.9	40.6
44	Combined	91.5	

	Right Turns	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	11.6	7.0	13.5	73.7
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	35.4	40.6	7.0	43.9
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	7.0	43.9	7.0	0.0
50	Combined	54.1	91.5	27.5	117.7

51	**Intersection Capacity Utilization**	**98.1%**
52	**Level Of Service**	**F**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location:	Pleasant Valley / US 101 NB Off Ra	**City:**	Ventura County
Analyzed by:	VRPA Technologies, Inc	**Alternative:**	Cumulative Year 2030 W/out Projec
Date and Time of Data:	AM Peak	**Project:**	Pacific Rock

#	Item	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	0	0	0	1	0	2	0	3	1	0	3	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	0	0	0	385	0	708	0	1604	151	0	2028	0
5	Pedestrians			0			0			0			0
6	Ped Button (y/n)		☐ Yes			☐ Yes			☐ Yes			☐ Yes	
7	Pedestrian Timing Required		0			0			0			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☑ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	0	0	0	3	0	3	0	3.5	3.5	0	3.5	0
11	Minimum Green	0	0	0	4	0	4	0	10	10	0	10	0
12	Reference Cycle Length	120											
13	Volume Combined	0.0	0.0	0.0	385.0	0.0	708.0	0.0	1604.0	151.0	0.0	2028.0	0.0
14	Volume Separate Left	0.0	0.0		385.0	0.0		0.0	1604.0		0.0	2028.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	0.885	1.000	0.908	1.000	1.000	0.908	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	0.0	0.0	1805.0	0.0	2858.6	0.0	5175.6	1615.0	0.0	5175.6	0.0
18	Saturated Flow Separate	0.0	0.0		1805.0	0.0		0.0	5175.6		0.0	5175.6	
19	Pedestrian Interference Time		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
20	Pedestrian Frequency		0.0%			0.0%			0.0%			0.0%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	0.0	0.0	0.0	25.6	0.0	29.7	0.0	37.2	11.2	0.0	47.0	0.0
23	Adjusted Reference Time	0.0	0.0	0.0	28.6	0.0	32.7	0.0	40.7	14.7	0.0	50.5	0.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	0		385	0		0	535		0	676	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		0.07	1.00	
29	Permitted Sat Flow	0.0	0.0		120.3	0.0		0.0	1725.2		0.0	1725.2	
30	Reference Time A	0.0	0.0		383.9	0.0		0.0	37.2		0.0	47.0	
31	Adjusted Saturation B		0.0			0.0			5175.6			5175.6	
32	Reference Time B		0.0			0.0			NA			NA	
33	Reference Time Lefts	0.0			33.6			NA			NA		
34	Reference Time		0.0			33.6			37.2			47.0	
35	Adjusted Reference Time		0.0			33.6			40.7			50.5	
	Split Timing												
36	Ref Time Combined		0.0			0.0			37.2			47.0	
37	Ref Time By Movement	0.0	0.0		25.6	0.0		0.0	37.2		0.0	47.0	
38	Reference Time		0.0			25.6			37.2			47.0	
39	Adjusted Reference Time	0.0	0.0		25.6	25.6		40.7	40.7		50.5	50.5	

#	**Summary**	**East West**	**North South**
40	Protected Option	28.6	50.5
41	Permitted Option	33.6	50.5
42	Split Option	25.6	91.2
43	Minimum	25.6	50.5
44	Combined	76.1	

#	**Right Turns**	**EBR**	**WBR**	**NBR**	**SBR**
45	Adjusted Reference Time	0.0	32.7	14.7	0.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	40.7	50.5	0.0	0.0
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	25.6	0.0	0.0	0.0
50	Combined	66.3	83.2	14.7	0.0

#		
51	**Intersection Capacity Utilization**	**69.4%**
52	**Level Of Service**	**C**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location:	Pleasant Valley / US 101 NB Off Ra	**City:**	Ventura County
Analyzed by:	VRPA Technologies, Inc	**Alternative:**	Cumulative Year 2030 W/out Projec
Date and Time of Data:	PM Peak	**Project:**	Pacific Rock

#	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	0	0	0	1	0	2	0	3	1	0	3	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	0	0	0	460	0	757	0	1855	245	0	1946	0
5	Pedestrians			0			0			0			0
6	Ped Button (y/n)		☐ Yes			☐ Yes			☐ Yes			☐ Yes	
7	Pedestrian Timing Required		0			0			0			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☑ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	0	0	0	3	0	3	0	3.5	3.5	0	3.5	0
11	Minimum Green	0	0	0	4	0	4	0	10	10	0	10	0
12	Reference Cycle Length	120											
13	Volume Combined	0.0	0.0	0.0	460.0	0.0	757.0	0.0	1855.0	245.0	0.0	1946.0	0.0
14	Volume Separate Left	0.0	0.0		460.0	0.0		0.0	1855.0		0.0	1946.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	0.885	1.000	0.908	1.000	1.000	0.908	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	0.0	0.0	1805.0	0.0	2858.6	0.0	5175.6	1615.0	0.0	5175.6	0.0
18	Saturated Flow Separate	0.0	0.0		1805.0	0.0		0.0	5175.6		0.0	5175.6	
19	Pedestrian Interference Time		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
20	Pedestrian Frequency		0.0%			0.0%			0.0%			0.0%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	0.0	0.0	0.0	30.6	0.0	31.8	0.0	43.0	18.2	0.0	45.1	0.0
23	Adjusted Reference Time	0.0	0.0	0.0	33.6	0.0	34.8	0.0	46.5	21.7	0.0	48.6	0.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	0		460	0		0	618		0	649	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		0.07	1.00	
29	Permitted Sat Flow	0.0	0.0		120.3	0.0		0.0	1725.2		0.0	1725.2	
30	Reference Time A	0.0	0.0		458.7	0.0		0.0	43.0		0.0	45.1	
31	Adjusted Saturation B		0.0			0.0			5175.6			5175.6	
32	Reference Time B		0.0			0.0			NA			NA	
33	Reference Time Lefts	0.0			38.6			NA			NA		
34	Reference Time		0.0			38.6			43.0			45.1	
35	Adjusted Reference Time		0.0			38.6			46.5			48.6	
	Split Timing												
36	Ref Time Combined		0.0			0.0			43.0			45.1	
37	Ref Time By Movement	0.0	0.0		30.6	0.0		0.0	43.0		0.0	45.1	
38	Reference Time		0.0			30.6			43.0			45.1	
39	Adjusted Reference Time	0.0	0.0		30.6	30.6		46.5	46.5		48.6	48.6	

#	Summary	East West	North South
40	Protected Option	33.6	48.6
41	Permitted Option	38.6	48.6
42	Split Option	30.6	95.1
43	Minimum	30.6	48.6
44	Combined	79.2	

#	Right Turns	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	0.0	34.8	21.7	0.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	46.5	48.6	0.0	0.0
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	30.6	0.0	0.0	0.0
50	Combined	77.1	83.4	21.7	0.0

#		
51	**Intersection Capacity Utilization**	**69.5%**
52	**Level Of Service**	**C**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / Lewis Road
City: Ventura County
Analyzed by: VRPA Technologies, Inc
Alternative: Cumulative Year 2030 Plus Project
Date and Time of Data: AM Peak
Project: Pacific Rock

		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	2	2	1	2	2	1	1	2	1	1	2	1
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	236	645	30	642	405	248	64	298	367	225	974	250
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		20			17			28			27	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	3	4	4	3	4	4
11	Minimum Green	4	10	10	4	10	10	4	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	236.0	645.0	30.0	642.0	405.0	248.0	64.0	298.0	367.0	225.0	974.0	250.0
14	Volume Separate Left	236.0	645.0		642.0	405.0		64.0	298.0		225.0	974.0	
15	Lane Utilization Factor	0.971	0.952	1.000	0.971	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	3505.3	3617.6	1615.0	3505.3	3617.6	1615.0	1805.0	3617.6	1615.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3505.3	3617.6		3505.3	3617.6		1805.0	3617.6		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		0.0	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			28.3%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	8.1	21.4	2.2	22.0	13.4	18.4	4.3	9.9	27.3	15.0	32.3	18.6
23	Adjusted Reference Time	11.1	25.4	14.0	25.0	18.4	22.4	7.3	19.1	31.3	18.0	36.3	22.6
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	118	323		321	203		64	149		225	487	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	116.8	1808.8		116.8	1808.8		120.3	1808.8		1925.3	1808.8	
30	Reference Time A	121.2	21.4		329.7	13.4		63.8	9.9		15.0	32.3	
31	Adjusted Saturation B		3617.6			3617.6			3617.6			3617.6	
32	Reference Time B		NA			NA			NA			NA	
33	Reference Time Lefts	NA			NA			NA			NA		
34	Reference Time		121.2			329.7			63.8			32.3	
35	Adjusted Reference Time		125.2			333.7			67.8			36.3	
	Split Timing												
36	Ref Time Combined		21.4			13.4			9.9			32.3	
37	Ref Time By Movement	8.1	21.4		22.0	13.4		4.3	9.9		15.0	32.3	
38	Reference Time		21.4			22.0			9.9			32.3	
39	Adjusted Reference Time	25.4	25.4		26.0	26.0		19.1	19.1		36.3	36.3	

	Summary	**East West**	**North South**
40	Protected Option	50.4	43.6
41	Permitted Option	333.7	67.8
42	Split Option	51.4	55.4
43	Minimum	50.4	43.6
44	Combined	93.9	

	Right Turns	**EBR**	**WBR**	**NBR**	**SBR**
45	Adjusted Reference Time	14.0	22.4	31.3	22.6
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	19.1	36.3	18.4	25.4
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	25.0	11.1	18.0	7.3
50	Combined	58.1	69.8	67.7	55.2

51	**Intersection Capacity Utilization**	**78.3%**
52	**Level Of Service**	**D**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / Lewis Road
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: PM Peak
City: Ventura County
Alternative: Cumulative Year 2030 Plus Project
Project: Pacific Rock

		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	2	2	1	2	2	1	1	2	1	1	2	1
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	258	459	31	372	858	298	107	746	650	135	468	314
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		20			17			28			27	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	3	4	4	3	4	4
11	Minimum Green	4	10	10	4	10	10	4	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	258.0	459.0	31.0	372.0	858.0	298.0	107.0	746.0	650.0	135.0	468.0	314.0
14	Volume Separate Left	258.0	459.0		372.0	858.0		107.0	746.0		135.0	468.0	
15	Lane Utilization Factor	0.971	0.952	1.000	0.971	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	3505.3	3617.6	1615.0	3505.3	3617.6	1615.0	1805.0	3617.6	1615.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3505.3	3617.6		3505.3	3617.6		1805.0	3617.6		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		0.0	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			28.3%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	8.8	15.2	2.3	12.7	28.5	22.1	7.1	24.7	48.3	9.0	15.5	23.3
23	Adjusted Reference Time	11.8	20.6	14.0	15.7	32.5	26.1	10.1	29.7	52.3	12.0	22.8	27.3
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	129	230		186	429		107	373		135	234	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	116.8	1808.8		116.8	1808.8		120.3	1808.8		1925.3	1808.8	
30	Reference Time A	132.5	15.2		191.0	28.5		106.7	24.7		9.0	15.5	
31	Adjusted Saturation B		3617.6			3617.6			3617.6			3617.6	
32	Reference Time B		NA			NA			NA			NA	
33	Reference Time Lefts	NA			NA			NA			NA		
34	Reference Time		132.5			191.0			106.7			15.5	
35	Adjusted Reference Time		136.5			195.0			110.7			22.8	
	Split Timing												
36	Ref Time Combined		15.2			28.5			24.7			15.5	
37	Ref Time By Movement	8.8	15.2		12.7	28.5		7.1	24.7		9.0	15.5	
38	Reference Time		15.2			28.5			24.7			15.5	
39	Adjusted Reference Time	20.6	20.6		32.5	32.5		29.7	29.7		22.8	22.8	

	Summary	**East West**	**North South**
40	Protected Option	44.3	41.6
41	Permitted Option	195.0	110.7
42	Split Option	53.0	52.4
43	Minimum	44.3	41.6
44	Combined	85.9	

	Right Turns	**EBR**	**WBR**	**NBR**	**SBR**
45	Adjusted Reference Time	14.0	26.1	52.3	27.3
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	29.7	22.8	32.5	20.6
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	15.7	11.8	12.0	10.1
50	Combined	59.4	60.8	96.7	58.0

51	**Intersection Capacity Utilization**	**80.6%**
52	**Level Of Service**	**D**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / Pancho
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: AM Peak
City: Ventura County
Alternative: Cumulative Year 2030 Plus Project
Project: Pacific Rock

		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	2	0	2	2	0	1	1	1	1	1	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☑ Yes			☐ Yes		
4	Volume	17	1018	294	459	831	11	143	2	180	32	2	53
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☐ Yes	
7	Pedestrian Timing Required		17			17			23			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	2	3	3	2	3	3
11	Minimum Green	2	5	5	2	5	5	3	5	5	3	5	5
12	Reference Cycle Length	120											
13	Volume Combined	17.0	1312.0	0.0	459.0	842.0	0.0	0.0	145.0	180.0	32.0	55.0	0.0
14	Volume Separate Left	17.0	1312.0		459.0	842.0		143.0	2.0		32.0	55.0	
15	Lane Utilization Factor	1.000	0.952	1.000	0.971	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
16	Turning Factor Adjust	0.950	0.966	0.850	0.950	0.998	0.850	0.950	0.951	0.850	0.950	0.855	0.850
17	Saturated Flow Combined	1805.0	3496.0	0.0	3505.3	3610.5	0.0	0.0	3612.6	1615.0	1805.0	1625.4	0.0
18	Saturated Flow Separate	1805.0	3496.0		3505.3	3610.5		3610.0	1900.0		1805.0	1625.4	
19	Pedestrian Interference Time		0.3	1.2		0.0	1.2		0.0	1.2		1.2	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			100.0%	
21	**Protected Option Allowed**		TRUE			TRUE			FALSE			FALSE	
22	Reference Time	1.1	45.3	0.0	15.7	28.0	0.0	NA	NA	13.4	NA	NA	0.0
23	Adjusted Reference Time	5.0	49.3	9.0	18.7	32.0	9.0	NA	NA	16.4	NA	NA	8.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.99		1	0.00	
25	Volume Left Lane	17	656		229.5	421		0	145		32	55	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.99		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.1		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	0.07		1.07	1.00	
29	Permitted Sat Flow	120.3	1748.0		116.8	1805.3		0.0	243.0		1925.3	1625.4	
30	Reference Time A	17.0	45.3		235.7	28.0		0.0	71.6		2.1	5.3	
31	Adjusted Saturation B		3496.0			3610.5			0.0			1625.4	
32	Reference Time B		NA			NA			12.8			5.3	
33	Reference Time Lefts	NA			NA			12.8			10.1		
34	Reference Time		45.3			235.7			12.8			5.3	
35	Adjusted Reference Time		49.3			239.7			18.7			8.3	
	Split Timing												
36	Ref Time Combined		45.3			28.0			4.8			5.3	
37	Ref Time By Movement	1.1	45.3		15.7	28.0		4.8	0.1		2.1	5.3	
38	Reference Time		45.3			28.0			4.8			5.3	
39	Adjusted Reference Time	49.3	49.3		32.0	32.0		13.1	13.1		8.3	8.3	

	Summary	**East West**	**North South**
40	Protected Option	68.0	NA
41	Permitted Option	239.7	18.7
42	Split Option	81.3	21.4
43	Minimum	68.0	18.7
44	Combined	86.7	

	Right Turns	**EBR**	**WBR**	**NBR**	**SBR**
45	Adjusted Reference Time	9.0	9.0	16.4	8.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	13.1	8.3	32.0	49.3
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	18.7	5.0	8.3	13.1
50	Combined	40.8	22.3	56.6	70.4

51	**Intersection Capacity Utilization**	**72.3%**
52	**Level Of Service**	**C**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / Pancho
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: PM Peak
City: Ventura County
Alternative: Cumulative Year 2030 Plus Project
Project: Pacific Rock

		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	2	0	2	2	0	1	1	1	1	1	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☑ Yes			☐ Yes		
4	Volume	34	891	179	123	970	26	483	6	469	14	4	31
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☑ Yes			☑ Yes			☐ Yes	
7	Pedestrian Timing Required		17			17			23			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	4	4	3	4	4	2	3	3	2	3	3
11	Minimum Green	2	5	5	2	5	5	3	5	5	3	5	5
12	Reference Cycle Length	120											
13	Volume Combined	34.0	1070.0	0.0	123.0	996.0	0.0	0.0	489.0	469.0	14.0	35.0	0.0
14	Volume Separate Left	34.0	1070.0		123.0	996.0		483.0	6.0		14.0	35.0	
15	Lane Utilization Factor	1.000	0.952	1.000	0.971	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
16	Turning Factor Adjust	0.950	0.975	0.850	0.950	0.996	0.850	0.950	0.951	0.850	0.950	0.867	0.850
17	Saturated Flow Combined	1805.0	3526.8	0.0	3505.3	3603.4	0.0	0.0	3612.3	1615.0	1805.0	1647.6	0.0
18	Saturated Flow Separate	1805.0	3526.8		3505.3	3603.4		3610.0	1900.0		1805.0	1647.6	
19	Pedestrian Interference Time		0.2	1.2		0.0	1.2		0.0	1.2		1.1	1.2
20	Pedestrian Frequency		28.3%			28.3%			28.3%			100.0%	
21	**Protected Option Allowed**		TRUE			TRUE			FALSE			FALSE	
22	Reference Time	2.3	36.6	0.0	4.2	33.2	0.0	NA	NA	34.8	NA	NA	0.0
23	Adjusted Reference Time	5.3	40.6	9.0	7.2	37.2	9.0	NA	NA	37.8	NA	NA	8.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.99		1	0.00	
25	Volume Left Lane	34	535		61.5	498		0	489		14	35	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.99		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.1		0.9	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	0.07		1.07	1.00	
29	Permitted Sat Flow	120.3	1763.4		116.8	1801.7		0.0	242.7		1925.3	1647.6	
30	Reference Time A	33.9	36.6		63.2	33.2		0.0	241.8		0.9	3.6	
31	Adjusted Saturation B		3526.8			3603.4			0.0			1647.6	
32	Reference Time B		NA			NA			24.2			3.6	
33	Reference Time Lefts	NA			NA			24.1			8.9		
34	Reference Time		36.6			63.2			24.2			3.6	
35	Adjusted Reference Time		40.6			67.2			27.2			8.0	
	Split Timing												
36	Ref Time Combined		36.6			33.2			16.2			3.6	
37	Ref Time By Movement	2.3	36.6		4.2	33.2		16.1	0.4		0.9	3.6	
38	Reference Time		36.6			33.2			16.2			3.6	
39	Adjusted Reference Time	40.6	40.6		37.2	37.2		21.2	21.2		8.0	8.0	

	Summary	**East West**	**North South**
40	Protected Option	47.8	NA
41	Permitted Option	67.2	27.2
42	Split Option	77.8	29.2
43	Minimum	47.8	27.2
44	Combined	75.1	

	Right Turns	**EBR**	**WBR**	**NBR**	**SBR**
45	Adjusted Reference Time	9.0	9.0	37.8	8.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	21.2	8.0	37.2	40.6
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	7.2	5.3	8.0	21.2
50	Combined	37.4	22.3	83.0	69.8

51	**Intersection Capacity Utilization**	**69.2%**
52	**Level Of Service**	**C**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / US 101 SB Ramps
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: AM Peak
City: Ventura County
Alternative: Cumulative Year 2030 Plus Project
Project: Pacific Rock

1	**Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	1	1	1	1	0	0	3	0	1	2	1
3	Shared LT Lane (y/n)	☑ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	1092	4	230	3	0	9	0	1325	5	21	1087	1083
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☐ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		14			0			14			14	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	3	3	3	3	3	0	3.5	3.5	3	3.5	3.5
11	Minimum Green	4	4	4	4	4	4	0	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	0.0	1096.0	230.0	3.0	9.0	0.0	0.0	1330.0	0.0	21.0	1087.0	1083.0
14	Volume Separate Left	1092.0	4.0		3.0	9.0		0.0	1330.0		21.0	1087.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.908	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	0.950	0.850	0.950	0.850	0.850	0.950	0.999	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	3610.7	1615.0	1805.0	1615.0	0.0	0.0	5172.7	0.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3610.0	1900.0		1805.0	1615.0		0.0	5172.7		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		1.2	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			100.0%			28.3%			28.3%	
21	**Protected Option Allowed**		FALSE			FALSE			TRUE			TRUE	
22	Reference Time	NA	NA	17.1	NA	NA	0.0	0.0	30.9	0.0	1.4	36.1	80.5
23	Adjusted Reference Time	NA	NA	20.1	NA	NA	7.0	0.0	34.4	13.5	7.0	39.6	84.0
	Permitted Option												
24	Proportion Lefts	1	1.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	1096		3	9		0	443		21	544	
26	Proportion Lefts Left	1	1.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	0.07		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	0.0	241.3		120.3	1615.0		0.0	1724.2		1925.3	1808.8	
30	Reference Time A	0.0	545.1		3.0	1.9		0.0	30.9		1.4	36.1	
31	Adjusted Saturation B		0.0			1615.0			5172.7			3617.6	
32	Reference Time B		44.4			1.9			NA			NA	
33	Reference Time Lefts	44.3			8.2			NA			NA		
34	Reference Time		44.4			3.0			30.9			36.1	
35	Adjusted Reference Time		47.4			7.0			34.4			39.6	
	Split Timing												
36	Ref Time Combined		36.4			1.9			30.9			36.1	
37	Ref Time By Movement	36.3	0.3		0.2	1.9		0.0	30.9		1.4	36.1	
38	Reference Time		36.4			1.9			30.9			36.1	
39	Adjusted Reference Time	39.4	39.4		7.0	7.0		34.4	34.4		39.6	39.6	

	Summary	**East West**	**North South**
40	Protected Option	NA	41.4
41	Permitted Option	47.4	39.6
42	Split Option	46.4	73.9
43	Minimum	46.4	39.6
44	Combined	86.0	

	Right Turns	**EBR**	**WBR**	**NBR**	**SBR**
45	Adjusted Reference Time	20.1	7.0	13.5	84.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	34.4	39.6	7.0	39.4
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	7.0	39.4	7.0	0.0
50	Combined	61.4	86.0	27.5	123.4

51	**Intersection Capacity Utilization**	**102.8%**
52	**Level Of Service**	**G**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location:	Pleasant Valley / US 101 SB Ramps	**City:**	Ventura County
Analyzed by:	VRPA Technologies, Inc	**Alternative:**	Cumulative Year 2030 Plus Project
Date and Time of Data:	PM Peak	**Project:**	Pacific Rock

#	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	1	1	1	1	1	0	0	3	0	1	2	1
3	Shared LT Lane (y/n)	☑ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	1228	4	124	12	0	12	0	1411	5	25	1142	945
5	Pedestrians			10			10			10			10
6	Ped Button (y/n)		☑ Yes			☐ Yes			☑ Yes			☑ Yes	
7	Pedestrian Timing Required		14			0			14			14	
8	Free Right (y/n)			☐ Yes			☐ Yes			☐ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	3	3	3	3	3	3	0	3.5	3.5	3	3.5	3.5
11	Minimum Green	4	4	4	4	4	4	0	10	10	4	10	10
12	Reference Cycle Length	120											
13	Volume Combined	0.0	1232.0	124.0	12.0	12.0	0.0	0.0	1416.0	0.0	25.0	1142.0	945.0
14	Volume Separate Left	1228.0	4.0		12.0	12.0		0.0	1416.0		25.0	1142.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.908	1.000	1.000	0.952	1.000
16	Turning Factor Adjust	0.950	0.950	0.850	0.950	0.850	0.850	0.950	0.999	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	3610.6	1615.0	1805.0	1615.0	0.0	0.0	5172.9	0.0	1805.0	3617.6	1615.0
18	Saturated Flow Separate	3610.0	1900.0		1805.0	1615.0		0.0	5172.9		1805.0	3617.6	
19	Pedestrian Interference Time		0.0	1.2		1.2	1.2		0.0	1.2		0.0	1.2
20	Pedestrian Frequency		28.3%			100.0%			28.3%			28.3%	
21	**Protected Option Allowed**		FALSE			FALSE			TRUE			TRUE	
22	Reference Time	NA	NA	9.2	NA	NA	0.0	0.0	32.9	0.0	1.7	37.9	70.2
23	Adjusted Reference Time	NA	NA	12.2	NA	NA	7.0	0.0	36.4	13.5	7.0	41.4	73.7
	Permitted Option												
24	Proportion Lefts	1	1.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	1232		12	12		0	472		25	571	
26	Proportion Lefts Left	1	1.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		0.9	15.0	
28	Left turn Factor	0.07	0.07		0.07	1.00		0.07	1.00		1.07	1.00	
29	Permitted Sat Flow	0.0	241.2		120.3	1615.0		0.0	1724.3		1925.3	1808.8	
30	Reference Time A	0.0	612.9		12.0	2.1		0.0	32.9		1.7	37.9	
31	Adjusted Saturation B		0.0			1615.0			5172.9			3617.6	
32	Reference Time B		48.9			2.1			NA			NA	
33	Reference Time Lefts	48.8			8.8			NA			NA		
34	Reference Time		48.9			8.8			32.9			37.9	
35	Adjusted Reference Time		51.9			11.8			36.4			41.4	
	Split Timing												
36	Ref Time Combined		40.9			2.1			32.9			37.9	
37	Ref Time By Movement	40.8	0.3		0.8	2.1		0.0	32.9		1.7	37.9	
38	Reference Time		40.9			2.1			32.9			37.9	
39	Adjusted Reference Time	43.9	43.9		7.0	7.0		36.4	36.4		41.4	41.4	

#	Summary	East West	North South
40	Protected Option	NA	43.4
41	Permitted Option	51.9	41.4
42	Split Option	50.9	77.7
43	Minimum	50.9	41.4
44	Combined	92.3	

#	Right Turns	EBR	WBR	NBR	SBR
45	Adjusted Reference Time	12.2	7.0	13.5	73.7
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	36.4	41.4	7.0	43.9
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	7.0	43.9	7.0	0.0
50	Combined	55.6	92.3	27.5	117.7

#		
51	**Intersection Capacity Utilization**	**98.1%**
52	**Level Of Service**	**F**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location: Pleasant Valley / US 101 NB Off Ra
Analyzed by: VRPA Technologies, Inc
Date and Time of Data: AM Peak
City: Ventura County
Alternative: Cumulative Year 2030 Plus Project
Project: Pacific Rock

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1 **Movement**	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2 Lanes	0	0	0	1	0	2	0	3	1	0	3	0
3 Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4 Volume	0	0	0	437	0	708	0	1604	166	0	2030	0
5 Pedestrians			0			0			0			0
6 Ped Button (y/n)		☐ Yes			☐ Yes			☐ Yes			☐ Yes	
7 Pedestrian Timing Required		0			0			0			0	
8 Free Right (y/n)			☐ Yes			☐ Yes			☑ Yes			☐ Yes
9 Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10 Lost Time	0	0	0	3	0	3	0	3.5	3.5	0	3.5	0
11 Minimum Green	0	0	0	4	0	4	0	10	10	0	10	0
12 Reference Cycle Length	120											
13 Volume Combined	0.0	0.0	0.0	437.0	0.0	708.0	0.0	1604.0	166.0	0.0	2030.0	0.0
14 Volume Separate Left	0.0	0.0		437.0	0.0		0.0	1604.0		0.0	2030.0	
15 Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	0.885	1.000	0.908	1.000	1.000	0.908	1.000
16 Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17 Saturated Flow Combined	0.0	0.0	0.0	1805.0	0.0	2858.6	0.0	5175.6	1615.0	0.0	5175.6	0.0
18 Saturated Flow Separate	0.0	0.0		1805.0	0.0		0.0	5175.6		0.0	5175.6	
19 Pedestrian Interference Time		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
20 Pedestrian Frequency		0.0%			0.0%			0.0%			0.0%	
21 **Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22 Reference Time	0.0	0.0	0.0	29.1	0.0	29.7	0.0	37.2	12.3	0.0	47.1	0.0
23 Adjusted Reference Time	0.0	0.0	0.0	32.1	0.0	32.7	0.0	40.7	15.8	0.0	50.6	0.0
Permitted Option												
24 Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25 Volume Left Lane	0	0		437	0		0	535		0	677	
26 Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27 Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
28 Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		0.07	1.00	
29 Permitted Sat Flow	0.0	0.0		120.3	0.0		0.0	1725.2		0.0	1725.2	
30 Reference Time A	0.0	0.0		435.8	0.0		0.0	37.2		0.0	47.1	
31 Adjusted Saturation B		0.0			0.0			5175.6			5175.6	
32 Reference Time B		0.0			0.0			NA			NA	
33 Reference Time Lefts	0.0			37.1			NA			NA		
34 Reference Time		0.0			37.1			37.2			47.1	
35 Adjusted Reference Time		0.0			37.1			40.7			50.6	
Split Timing												
36 Ref Time Combined		0.0			0.0			37.2			47.1	
37 Ref Time By Movement	0.0	0.0		29.1	0.0		0.0	37.2		0.0	47.1	
38 Reference Time		0.0			29.1			37.2			47.1	
39 Adjusted Reference Time	0.0	0.0		29.1	29.1		40.7	40.7		50.6	50.6	

Summary	East West	North South
40 Protected Option	32.1	50.6
41 Permitted Option	37.1	50.6
42 Split Option	29.1	91.3
43 Minimum	29.1	50.6
44 Combined	79.6	

Right Turns	EBR	WBR	NBR	SBR
45 Adjusted Reference Time	0.0	32.7	15.8	0.0
46 Cross Through Direction	NBT	SBT	WBT	EBT
47 Cross Through Adj Ref Time	40.7	50.6	0.0	0.0
48 Oncoming Left Direction	WBL	EBL	SBL	NBL
49 Oncoming Left Adj Ref Time	29.1	0.0	0.0	0.0
50 Combined	69.7	83.3	15.8	0.0

51 **Intersection Capacity Utilization**	**69.4%**
52 **Level Of Service**	**C**

Revision 2003.0

Intersection Capacity Utilization Worksheet

Intersection Location:	Pleasant Valley / US 101 NB Off Ra	**City:**	Ventura County
Analyzed by:	VRPA Technologies, Inc	**Alternative:**	Cumulative Year 2030 Plus Project
Date and Time of Data:	PM Peak	**Project:**	Pacific Rock

#	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2	Lanes	0	0	0	1	0	2	0	3	1	0	3	0
3	Shared LT Lane (y/n)	☐ Yes			☐ Yes			☐ Yes			☐ Yes		
4	Volume	0	0	0	485	0	757	0	1855	255	0	1946	0
5	Pedestrians			0			0			0			0
6	Ped Button (y/n)		☐ Yes			☐ Yes			☐ Yes			☐ Yes	
7	Pedestrian Timing Required		0			0			0			0	
8	Free Right (y/n)			☐ Yes			☐ Yes			☑ Yes			☐ Yes
9	Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
10	Lost Time	0	0	0	3	0	3	0	3.5	3.5	0	3.5	0
11	Minimum Green	0	0	0	4	0	4	0	10	10	0	10	0
12	Reference Cycle Length	120											
13	Volume Combined	0.0	0.0	0.0	485.0	0.0	757.0	0.0	1855.0	255.0	0.0	1946.0	0.0
14	Volume Separate Left	0.0	0.0		485.0	0.0		0.0	1855.0		0.0	1946.0	
15	Lane Utilization Factor	1.000	1.000	1.000	1.000	1.000	0.885	1.000	0.908	1.000	1.000	0.908	1.000
16	Turning Factor Adjust	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850	0.950	1.000	0.850
17	Saturated Flow Combined	0.0	0.0	0.0	1805.0	0.0	2858.6	0.0	5175.6	1615.0	0.0	5175.6	0.0
18	Saturated Flow Separate	0.0	0.0		1805.0	0.0		0.0	5175.6		0.0	5175.6	
19	Pedestrian Interference Time		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
20	Pedestrian Frequency		0.0%			0.0%			0.0%			0.0%	
21	**Protected Option Allowed**		TRUE			TRUE			TRUE			TRUE	
22	Reference Time	0.0	0.0	0.0	32.2	0.0	31.8	0.0	43.0	18.9	0.0	45.1	0.0
23	Adjusted Reference Time	0.0	0.0	0.0	35.2	0.0	34.8	0.0	46.5	22.4	0.0	48.6	0.0
	Permitted Option												
24	Proportion Lefts	1	0.00		1	0.00		1	0.00		1	0.00	
25	Volume Left Lane	0	0		485	0		0	618		0	649	
26	Proportion Lefts Left	1	0.00		1	0.00		1	0.00		1	0.00	
27	Left turn Equivalents	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
28	Left turn Factor	0.07	1.00		0.07	1.00		0.07	1.00		0.07	1.00	
29	Permitted Sat Flow	0.0	0.0		120.3	0.0		0.0	1725.2		0.0	1725.2	
30	Reference Time A	0.0	0.0		483.7	0.0		0.0	43.0		0.0	45.1	
31	Adjusted Saturation B		0.0			0.0			5175.6			5175.6	
32	Reference Time B		0.0			0.0			NA			NA	
33	Reference Time Lefts	0.0			40.2			NA			NA		
34	Reference Time		0.0			40.2			43.0			45.1	
35	Adjusted Reference Time		0.0			40.2			46.5			48.6	
	Split Timing												
36	Ref Time Combined		0.0			0.0			43.0			45.1	
37	Ref Time By Movement	0.0	0.0		32.2	0.0		0.0	43.0		0.0	45.1	
38	Reference Time		0.0			32.2			43.0			45.1	
39	Adjusted Reference Time	0.0	0.0		32.2	32.2		46.5	46.5		48.6	48.6	

#	**Summary**	**East West**	**North South**
40	Protected Option	35.2	48.6
41	Permitted Option	40.2	48.6
42	Split Option	32.2	95.1
43	Minimum	32.2	48.6
44	Combined	80.9	

#	**Right Turns**	**EBR**	**WBR**	**NBR**	**SBR**
45	Adjusted Reference Time	0.0	34.8	22.4	0.0
46	Cross Through Direction	NBT	SBT	WBT	EBT
47	Cross Through Adj Ref Time	46.5	48.6	0.0	0.0
48	Oncoming Left Direction	WBL	EBL	SBL	NBL
49	Oncoming Left Adj Ref Time	32.2	0.0	0.0	0.0
50	Combined	78.8	83.4	22.4	0.0

#		
51	**Intersection Capacity Utilization**	**69.5%**
52	**Level Of Service**	**C**

Revision 2003.0

APPENDIX F-2

VCAPCD DATA FOR PACIFIC ROCK QUARRY, EXTEC USAGE 2015—2016

VCAPCD Data for Pacific Rock Quarry

EXTEC Usage 2015 - 2016

PACIFIC ROCK EQUIPMENT USAGE LOG - [redacted] 2015

DESCRIPTION OF EQUIPMENT: EXTEC, MODEL S-5, SERIAL NO. 9542, STARPN NO. 278-55-0501 MAXWELL NO. AA0011

STATE PORTABLE EQUIPMENT REGISTRATION NO.: 120144

EQUIPMENT OPERATOR AND CONTROLLER OF LOG SHEET: ______________________

DATE	TIME ON	TIME OFF	BREAKDOWNS	METER	FUEL	TONS PROCESSED	NOTES
7-14-15	9:00	3:00	X		6	270	
7-15-15	7:00	3:00	X		12	540	
7-16-15	7:00	3:00	X		11	560	
7-17-15	7:00	3:00	X		11	555	
7-21-15	7:00	3:00	X		11	520	
7-22-15	8:00	3:00	X		9	470	
7-24-15	7:00	3:00	X		11	550	
7-21-15	7:00	3:00	X		11	570	
7-27-15	7:00	3:00	X		11	555	
7-28-15	7:00	1:00	✓		6	280	6" screen broken
7-30-15	8:00	3:00	X		11	530	
7-31-15	7:00	3:00	X		11	560	
8-3-15	7:00	3:00	X		11	560	
8-4-15	7:00	3:00	X		12	550	
8-5-15	7:00	3:00	X		11	545	
8-6-15	8:00	3:00	X		11	480	Rollers required
8-7-15	7:00	3:00	X		11	530	Major service required
8-10-15	7:00	3:00	X		12	500	check pump (hydraulic)
8-11-15	7:00	3:00	X		11	540	
8-12-15	7:00	3:00	X		13	550	
8-13-15	7:00	11:00	✓		7	260	electrical problem (pu...
			Screen Top Soil				
9-8-15	8:00	3:00	X		11	560	
9-9-15	7:00	3:00	X		12	540	
9-10-15	7:00	3:00	X		12	560	Finished Change to Sand
9-28-15	7:00	3:00	X		11	440	Material (Sand) too wet
9-29-15	7:00	3:00	X		13	460	
9-30-15	8:00	3:00	X		8	355	

7430

EXTEC S-5

Pacific Rock Equipment Log Year: 2015
Description of Equipment: EXTEC, MODEL S-5, SERIAL NO. 9542, STABEN NO. 778-55-0501, MAXWELL NO. AA0001
State Portable Equipment Registration No.: 130144

Equipment Operator and Controller of Log Sheet:

Date	Time On	Time Off	Breakdowns	Meter	Fuel	Tons Processed	Notes
10-1-15	7:00 AM	3:00 PM	X		12	430	Material still wet slow
10-2-15	7:00 AM	2:00 PM	X		9	370	Move screen ahead on [illegible]
10-5-15	10:00 AM	3:00 PM	X		12#	280	
10-6-15	7:00 AM	3:00 PM	X		11	450	One more day of material
10-7-15	7:00 AM	3:00 PM	X		12	400	No more material
11-6-15	9:30 AM	3:00 PM	X		10	495	Mix this material for tree
11-9-15	7:00 AM	3:00 PM	X		13	520	
11-10-15	7:00 AM	3:00 PM	X		12	515	
11-11-15	7:00 AM	3:00 PM	X		12	520	
11-12-15	7:00 AM	3:00 PM	X		13	520	
11-13-15	7:00 AM	11:00 AM	X		6	260	starter fault.
11-18-15	8:00 AM	3:00 AM	X		11	500	
11-19-15	7:00 AM	3:00 PM	X		13	520	Move to basement [illegible]
11-20-15	7:00 AM	12:00 PM	X		8	240	
12-09-15	8:00 AM	3:00 PM	X		10	500	
12-10-15	7:00 AM	3:00 PM	X		13	540	
12-11-15	7:00 AM	3:00 PM	X		12	525	

7585

EXTEC S-5

Pacific Rock Equipment Log Year: 2016
Description of Equipment: EXTEC, MODEL S-5, SERIAL NO. 9542, STABEN NO. 776-55-0501, MAXWELL NO. AA0001
State Portable Equipment Registration No.: 130144

Equipment Opoerator and Controller of Log Sheet:

Date	Time On	Time Off	Breakdowns	Meter	Fuel	Tons Processed	Notes
1-12-16	9:00	3:00	X		11	490	
1-13-16	7:00	3:00	X		13	520	
1-14-16	7:00	3:00	X		13	510	Move to Palm trees.
1-28-16	7:00	3:00	X		12	500	
1-29-16	7:00	3:00	X		13	530	Major clean up under st
2-3-16	7:00	3:00	X		12	500	
2-4-16	7:00	3:00	X		13	520	
2-5-16	7:00	3:00	X		12	490	too wet material
2-10-16	9:00	3:00	X		10	400	still wet material leak
2-18-16	7:00	3:00	X		13	520	
2-19-16	7:00	3:00	X		13	500	[illegible] left top [illegible]
2-22-16	7:00	3:00	X		12	520	
2-23-16	7:00	3:00	X		13	520	bearing is gone, shut do
3-3-16	8:00	3:00	X		12	500	
3-4-16	7:00	3:00	X		13	520	
3-9-16	7:00	3:00	X		12	500	
3-10-16	7:00	3:00	X		12	500	material for 3 [illegible]
3-14-16	8:00	3:00	X		12	460	
3-15-16	7:00	3:00	X		12	430	
3-16-16	7:00	1:00	X		10	390	material is gone, move ext
4-20-16	9:00	3:00	Yes		9	340	fold it & clean it, for mov
4-25-16	8:00	3:00	X		10	460	
4-26-16	7:00	3:00	X		13	480	

11150

EXTEC S-5

Pacific Rock Equipment Log Year: 2016
Description of Equipment: EXTEC, MODEL S-5, SERIAL NO. 9542, STABEN NO. 776-55-0501, MAXWELL NO. AA0001
State Portable Equipment Registration No.: 130144

Equipment Opperator and Controller of Log Sheet:

Date	Time On	Time Off	Breakdowns	Meter	Fuel	Tons Processed	Notes
5-3-16	7:00	3:00	X		12	480	
5-4-16	7:00	3:00	X		12	500	
5-5-16	7:00	3:00	X		13	500	
5-17-16	8:00	3:00	X		13	480	
5-18-16	7:00	3:00	X		13	520	
5-19-16	7:00	3:00	X		13	520	move elec to new pile
5-26-16	7:00	3:00	X		13	520	
5-27-16	7:00	3:00	X		12	520	
5-30-16	7:00	3:00	X		12	500	
5-31-16	7:00	2:00	YES		10	380	electrical problems, h[illegible]
6-8-16	9:00	3:00	X		8	420	
6-10-16	7:00	3:00	X		12	480	
6-21-16	7:00	3:00	X		13	500	
6-22-16	7:00	3:00	X		13	500	
6-23-16	7:00	3:00	X		12	490	
7-5-16	10:00	3:00	X		12	340	
7-7-16	7:00	3:00	X		12	490	
7-8-16	7:00	3:00	X		12	500	Change screens next week
7-19-16	7:00	3:00	X		13	520	
7-20-16	7:00	3:00	X		13	500	
7-21-16	7:00	3:00	X		13	500	
7-22-16	7:00	3:00	X		13	500	
7-29-16	7:00	3:00	X		13	520	

Total: 37,345 Tons 11180

APPENDIX G

WATER QUALITY IMPACT ASSESSMENT, STORAGE AND USE OF BLASTING AGENTS, PACIFIC ROCK QUARRY

SESPE
CONSULTING, INC.

MEMORANDUM

374 Poli Street, Suite 200 • Ventura, California 93001

Date: March 8, 2019

To: Mr. Brian McCarthy, Ventura County Planning Division

From: Mr. Brian Anderson, P.G., Sespe Consulting, Inc.

Cc:

Re: Water Quality Impact Assessment, Storage and Use of Blasting Agents, Pacific Rock Quarry, Camarillo, CA

Background and Objectives

The Pacific Rock Quarry is a hard rock quarry located at the end of Pancho Road in Camarillo, California. The quarry site constitutes a 111 acre property, which slopes towards the west from an elevation of 940 feet above mean sea level (amsl) to 165 feet amsl, along the southwest side of Conejo Mountain. Mining of rock at and in the vicinity of the quarry dates back to the late 1800s, with the current quarry footprint having been initiated sometime during the 1950s.

As part of ongoing and future quarrying operations, the stone mined at the site is initially retrieved and sized using blasting agents. Blasting is a common mining method used at hard rock quarries to access the material and initially size the rock for further processing.

The purpose of this technical memo is to evaluate the relationship between the blasting conducted at the Pacific Rock Quarry and the groundwater quality, using information presented in prior site-specific studies and review of available literature pertaining to the geologic and hydrogeologic setting, and types of blasting agents used at the site.

Geologic Setting

The following description of the Pacific Rock Quarry geology is taken from an engineering geologic report prepared by Gold Coast Geoservices, Inc. (GCG) in 2010, the quarry produces a variety of construction materials rock products from the Canejo Volcanics, specifically a dacitic breccia. The Canejo Volcanics are estimated to be as much as 3,000 meters thick (Yerkes and Campbell, 1979), and consist of three volcanic units: 1) dark extrusive basaltic rocks; 2) light gray to pinkish gray dacitic breccia; and 3) dark intrusive basaltic rocks. The light gray dacitic breccia is reportedly the principal rock type mined at the quarry, which is described as consisting of unsorted angular fragments of hard, fine-grained dacite to andesite within a detrital matrix of the same composition. Intrusive, generally vertically orientated basaltic dikes 10 to 20 feet in width occur in the northeast and southeast areas of the quarry.

Based on geologic mapping of quarry exposures completed by GCG (2010), along with map information prepared by Dibblee and Ehrenspeck (1990), the underlying igneous rocks are characterized as massive and unstratified. However, the Canejo Volcanics reportedly exhibit high angle, intersecting joint sets. Gold Coast Geoservices, Inc. (2010) indicates that the joint surfaces strike north 20 to 45 degrees east, dipping at 55 to 85 degrees to the northwest or southeast; and strike north 35 to 70 degrees west, and dip 80 to 90 degrees southwest. The vertical dikes strike approximately north 45 to 60 degrees west. While this structural fabric has been determined by GCG (2010) as having created conditions for wedge failure and shear zones within several areas of the quarry, the pervasiveness of the structural fabric is unknown at depth. However, these features are reportedly limited in extent and are associated with the basaltic dikes (GCG, 2010). Additionally, jointing can tend to be more pronounced at the margins of intrusive rock bodies, as magma emplacement and cooling at the edges (Balk, 1937). Thus, the rock competency is expected to generally increase, with less joint surfaces at depth.

Groundwater Conditions

Given the type and nature of the site geologic setting, groundwater is anticipated to be primarily attributed to a fracture flow system, hosted within the intrusive igneous rocks. A well completion report prepared by Valley well Drilling for a well located onsite indicates that beyond about 15 feet below ground surface (bgs), varying competency rock occurs to a depth of approximately 200 feet bgs. From 200 feet to 278 feet bgs, the driller reported hard to total depth. Based on this log, the surface lithologies are consistent with the interpreted hydrogeologic conditions; that is, the indurated rock would not be considered to produce appreciable qualities of groundwater, and is likely limited to the fracture water at depth. According to a well completion report prepared by Hopkins Groundwater Consultants dated April 2004, following well completion and development, static groundwater was measured at 84.4 feet bgs. Based on a pump test, the well was estimated to produce about 10 gallons per minute (gpm). This relatively low yield is typical of a heterogenous/anisotropic fractured rock, with relatively low permeability and marginal conductivity. Consequently, this type of hydrogeologic regime would not be expected to provide significant recharge capacity, nor readily communicate with other aquifers, except in instances where there are preferential flow paths.

Environmental Characteristics of ANFO

For the Pacific Rock quarry, blasting agents are used to size the rock so that it can be processed using onsite equipment. The primary blasting agent is ammonium nitrate fuel oil (ANFO), which is typically used at mine sites. Other ancillary materials used at the quarry include detonator sensitive emulsion and nitroglycerine based explosives, detonating cord, DC cast boosters (primers), detonators, delays, relays, starters, lead-in-lines, shock tubes.

At mine sites, bulk ANFO is placed into blasting holes, which upon detonation break apart the rock to initially size the material. Compositionally, ANFO products typically consist of ammonium nitrate

(NH^4NO^3) and fuel oil. Environmental risks associated with ANFO are site-specific and are related to characteristics such as the type of soil, the depth of the groundwater, presence of surface water, and the amount and infiltration rates of precipitation (Degnan et al., 2016). With respect to environmental impact, ANFO can pose a significant risk to groundwater. Specifically, in groundwater, ANFO can be a source of nitrogen as ammonium (NH^4) and nitrate ($NO3^-$) contamination. These constituents are the direct products of NH^4NO^3, which constitutes about 90% of commonly used commercial explosives by weight (Degnan et al., 2016). Additionally, the ammonia (NH^4) can also affect groundwater quality.

According to Forsyth et al. (1995), the following mechanisms for the release of nitrates to the environment from blasting agents are:

1) Spillage during transport;
2) Dissolution (leaching) of explosives agents in “wet” blast holes; and
3) Undetonated explosives agents remaining in the rock following the blast.

A study by Defence R&D Canada (2010) found that the detonation of ANFO in saturated conditions is often incomplete. Consequently, due to its high solubility in wet environments ANFO can be lost directly due to dissolution. However, the relative potential risk to water quality can vary based on the type of ANFO product. For example, a study by Revey (1996) evaluated the leachability of several types of ANFO, including gels and emulsions, which found that $NO3^-$ releases from emulsions and gels are considerably lower than ANFO; however even these products will leach over time (Cameron et al., 2007; Golder Associates, 2014), resulting in contamination.

Mitigation Approaches

Considering the hydrogeologic setting at the Pacific Rock quarry and relative depth of groundwater, with the proper storage, handling and use of ANFO, the potential for impacts to groundwater quality can be mitigated. In order to reduce the risk of release to groundwater, the practices and procedures listed below are to be implemented at the Pacific Rock quarry site:

1) Handling of all blasting agents shall be limited to qualified and licensed blasting contractors at all times.
2) All blasting products shall be stored only in approved containers, specifically designed for the sake keeping of explosives.
3) Any spillage of ANFO or other explosives shall be immediately cleaned up, and properly disposed of in strict accordance with applicable state and federal regulations.
4) The type of ANFO agent selected shall be appropriate for the specific environmental conditions.
5) Inspect the blast holes prior to placement of the ANFO to determine water is present. In cases where the boreholes have standing water or are moist, no material shall be placed into the holes until dry conditions are observed.

6) Blast designs and loading controls shall be reviewed to minimize the length of explosive columns, select proper stemming and to ensure to optimize complete detonation.
7) A current inventory of the types and quantities, along with Material Safety Data Sheets, shall be maintained onsite by qualified personnel. Relevant information shall be included in the site's pollution prevention plans, including the Hazardous Materials Business Plan and Stormwater Pollution Prevention Plan.

References

Balk, R., 1937. Structural behavior of igneous rocks: Geological Society of America Memoir 5, 177 p.

Cameron, A., Corkey, D., MacDonald, G., Forsyth, B., and Gong, T., 2007. An investigation of ammonium nitrate loss to mine discharge water at Davik Diamond Mines, EXPLO Conference, Wollongong, NSW, pp. 3-4.

Defence R&D Canada, 2010. Assessment of ANFO on the environment, Technical Investigation 09-01, DRDC Valcartier TM-2009-195, 52 p.

Degnan, J. R., Bohlke, J. K., Pelham, K., Langlais, D. M., and Walsh, G. J., 2016. Identification of groundwater nitrate contamination from explosives used in road construction: isotopic, chemical and hydrologic evidence, Environmental Science and Technology, pp. 593-603.

Dibblee, T. W. Jr., and Ehrenspeck, H. E., 1990. Geologic Map of the Camarillo and Newbury Park Quadrangles, Ventura County, California, Dibblee Foundation Map DF-28, scale 1:24000.

Forsyth, W., Cameron, A., and Miller, S., 1995. Explosives and water quality, Sudbury '95 Proceedings of the Conference on Mining and the Environment, Sudbury, Ontario, vol. 2, pp 795-803.

Gold Coat Geoservices, Inc., 2010. Engineering Geologic Report, Modification to Conditional Use Permit (CUP #3817-3), Pacific Rock Quarry, 185 p.

Golder Associates, 2014., Technical Memorandum, Amulsar gold project: estimate of nitrate and ammonia concentrations in mine water as a product of blasting, 14 p.

Hopkins Groundwater Consultants, Inc., 2004. Summary of operations report, water supply well construction project, Canejo Mountain Memorial Park, Ventura County, California, 14 p.

Revey, G. F., 1996. Practical methods to control explosives losses and reduce ammonia and nitrate levels in mine water, Mining Engineering, vol. 48, p. 61-65.

APPENDIX H

RESPONSE TO PACIFIC ROCK QUARRY:
LU10-0003 UPDATED STATUS OF OUTSTANDING INVOICES AND ENVIRONMENTAL IMPACT REPORT INFORMATION DELAYS DATED MARCH 12, 2019, PACIFIC ROCK QUARRY EXPANSION

BENCHMARK RESOURCES

SESPE
CONSULTING, INC.
374 Poli Street, Suite 200 • Ventura, CA 93001
Office (805) 275-1515 • Fax (805) 667-8104

April 1, 2019

Mr. Brian McCarthy
Mining Program Manager
Ventura County Resource Management Agency
800 South Victoria Avenue
Ventura, California 93009

Re: Response to Pacific Rock Quarry: LU10-0003 Updated Status of Outstanding Invoices and Environmental Impact Report Information Delays dated March 12, 2019, Pacific Rock Quarry Expansion

Dear Mr. McCarthy,

Sespe Consulting, Inc. (Sespe) is pleased to provide this response on behalf of Pacific Rock, Inc. (Pacific Rock) to address the comments received on March 12, 2019 pertaining to the Pacific Rock Quarry Conditional Use Permit (CUP) modification. We have organized this response letter to include the comments in italics, followed by our response. In addition to our responses, we have included a revised Project Description, Reclamation Plan, and select Weight Tickets as attachments.

<u>Environmental Setting Comments</u>

Comment 1: Annual Production Environmental Setting
Based on the County's review of the data provided (from the Mining Operation Annual Reports) and scenarios outlined by our EIR Consultant, Benchmark Resources, the annual production baseline environmental setting will be based on an average production over the previous 10 years, 2008 through 2017. Data provided in the Operator Annual Reports show an average annual production of 20,900 tons.

No new information was provided to support the assertion that 2005 production levels as provided in the Project Operating Parameters document submitted February 12, 2019 represents an appropriate baseline under CEQA.

According to the current Air Protection Control District's Permit to Operate (No. 00489), Pacific Rock is authorized to produce up to 500,000 tons per year for combined material throughput. Recent and historical production values have been provided in the revised Project Description dated April 1, 2019. Pacific Rock is proposing maximum annual production of 468,000. Please refer to the revised Project Description for additional details regarding Annual Production.

Comment 2: Daily Production and Traffic Environmental Setting
To establish the daily production and traffic environmental setting, you submitted a series of weigh ticket summaries and weigh tickets, which document daily loads (truck tips). This data shows the maximum daily truck trips achieved was 30 loads (60 one-way truck trips), which occurred on March 31, 2017. As such, 60 one-way truck trips will be used as the daily truck traffic baseline environmental setting.

The assertion that the environmental setting for truck traffic is 120 one-way truck trips (60 truckloads) as provided in the Project Operating Parameters document is not supported by the weight tickets and data that has been submitted.

Pacific Rock has provided job and weight tickets that demonstrate the achievement of 60 loads a day or 120 one way trips a day. Pacific Rock continues to find and review data and we expect to be able to provide additional backup soon. Please refer to the below table for a summation of days and loads.

Daily Loads	
Date	**Number of Loads**
1/13/2005	60
1/16/2005	60
1/21/2005	60
1/22/2005	60
1/25/2005	60
1/27/2005	60
1/29/2005	60
2/19/2005	60
2/20/2005	60
2/21/2005	60
2/22/2005	60
2/25/2005	60
5/20/2005	60
5/23/2005	60
3/10/2016	60

Most recently, Pacific Rock has achieved the maximum 60 loads (120 one-way trips) on March 10, 2016, one year before the Notice of Preparation (NOP) was published on August 23, 2017. Select weight tickets have been attached for reference. The remaining weight tickets can be furnished upon request.

Comment 3: Peak Hour Traffic Environmental Setting

In the Project Operating Parameters document, you've asserted that the environmental setting for truck traffic is 30 loads per hour between 7 AM and 9 AM (total of 60 loads, 120 one-way truck trips), and that 15 loads occurred per hour between 4 PM and 6 PM (total of 30 loads, 60 one-way truck trips). First, the maximum level reached for any one day was 30 loads for the entire day on March 31, 2017. Based on the evidence provided, the AM truck trip volume you are claiming to have achieved could not have been possible. Second, your assertions regarding your existing PM truck traffic generation represent a violation of your Conditional Use Permit conditions of approval, which stipulate a daily 4 PM closing time.

Over the course of this application processing, necessary documentation has not been submitted to support your assertions of a baseline environmental setting. Absent any further evidence, the baseline environmental setting for AM and PM peak hour truck trips are assumed to be zero.

The environmental setting for truck traffic that was proposed in the Project Operating Parameters document reflected the maximum trips that Pacific Rock could generate during the AM peak hours. Pacific Rock has the ability to load 1 truck every 30 seconds and generate 120 loads per hour. They are not currently required to keep records of when the trucks depart the site, however for the purpose of this analysis, the existing and future AM peak hour trips should be 30 loads or 60 one-way trips per hour. In the proposed PM peak hour, Pacific Rock expects to generate 15 loads or 30 one-way trips per hour.

Currently, Pacific Rock does not generate any truck trips during the PM peak hours. However, due to the proposed extended hours of operation, there is potential to increase truck trips during the PM peak hours. The extended hours will be utilized on an as-needed basis and daily operations will continue to cease at 4:00 pm unless there is a demand for “after-hours” or post 4:00 pm shipping.

Pacific Rock is not proposing any changes to the maximum daily number of trips.

Comment 4: Water and Energy
With respect to annual and daily water use, evidence provided on February 12, 2019 does not support your assertion that the usage factors should be calculated based on the single year 2005 production data.

As with the annual production describe above, the Annual Reports show that over the previous 10 years, the existing operation has averaged approximately 20,911 tons annually as the baseline environmental setting.

No evidence has been submitted to inform the EIR baseline environmental setting for electrical use of the existing operation.

<u>Water</u>
Pacific Rock primarily utilizes recycled water from an irrigation pond for onsite operations. The tertiary water is supplied by the Camarillo Sanitary District. Currently, it is estimated that approximately 27.9-acre feet per year (AFY) of recycled water is utilized onsite. The proposed modification and expansion will consume roughly 83.5 AFY of recycled water. The non-potable water is drawn from the irrigation pond and is held in a 12,000-gallon tank. An onsite well is proposed to provide potable water for the 24-hour security trailer and will not provide resources for mining and reclamation operations.

<u>Fuel</u>
Diesel fuel invoices from 2016 have been reviewed and compiled into the below table. Please refer below for details regarding the annual and average daily fuel use.

Energy - Diesel Fuel Consumption		
Date	**Diesel (gal)**	**Monthly Total (gal)**
1/13/2016	3,148.6	4,192.0
1/19/2016	1,043.4	
2/5/2016	4,198.9	4,198.9
3/3/2016	1,000.5	7,425.5
3/4/2016	4,020.8	
3/21/2016	2,404.2	
4/6/2016	4,402.9	14,229.0
4/21/2016	4,915.6	
4/26/2016	4,910.5	
5/18/2016	3,901.3	3,901.3

6/1/2016	5,026.5	7,242.2
6/20/2016	2,215.7	
7/8/2016	3,001.5	7,033.6
7/26/2016	4,032.1	
8/9/2016	4,087.2	4,087.2
9/7/2016	2,959.6	6,917.5
9/22/2016	3,957.9	
10/20/2016	4,661.1	4661.1
11/10/2016	3,035.1	3,035.1
12/7/2016	4,304.6	4,304.6

Total Fuel Consumed (gal)	**71,228**
Average Monthly Use (gal)	**5936**
Average Daily Use (gal)	**228**

In 2016, Pacific Rock consumed 71,228 gallons of fuel or 228 gallons per day (assuming a 312-day operational year). Fuel use is generally proportional to production.

Electricity

Pacific Rock has also provided the electricity usage information from January 2018 to February 2019. The below table provides a monthly breakdown of use and a total kWh annual use. We have provided overall averages for monthly and daily use.

Energy – Electricity Consumption		
Billing Period	**kWh**	**Average daily use during specified period**
1/4/2018 to 2/4/2018	762	24.58
2/2/2018 to 3/6/2018	913	28.53
4/5/2018 to 5/4/2018	875	30.17
5/4/2018 to 6/5/2018	691	21.59
6/5/2018 to 7/5/2018	694	23.13
7/5/2018 to 8/3/2018	688	23.72
8/3/2018 to 9/4/2018	651	20.34
9/4/2018 to 10/3/2018	547	18.86
10/3/2018 to 11/1/2018	583	20.10
11/1/2018 to 12/4/2018	745	22.58
12/4/2018 to 1/4/2019	866	27.94
1/4/2019 to 2/4/2019	494	15.94

Total Year kWh usage	**8509**

Average Monthly kWh usage	**709**

Average Daily kWh usage	27

The Noise and Air Quality Analysis have been submitted under separate cover.

Please call me or Helen Eloyan at (805) 275-1515 if you have any questions or if you need additional information.

Respectfully submitted,

John Hecht
President
Sespe Consulting, Inc.

Attachments
1. Project Description, dated 04/01/19
2. Reclamation Plan, dated 04/01/19
3. Select Weight Tickets

Attachment 3 of Sespe 4/1/2019 Memorandum – Select Weight Tickets

Attachments 1 and 2 of Sespe 4/1/2019 memorandum are on file at Ventura County and available for review on request.

STABEN BROS. INC. • License #981942
P.O. BOX 2459 • MOORPARK, CALIFORNIA 93021 • (805) 445-6433

CONTRACTOR / OWNER: Fair Feild Homes

ADDRESS:

JOB NAME / LOCATION: 3M / Camarillo

DESCRIPTION OF WORK: Import & Stockpile dirt

JOB#: 15B-05A

DATE PERFORMED: 3-10-16

WEATHER CONDITIONS: Clear

DAY OF WEEK: thur

PHONE: ——

☐ ~~DAY WORK~~
☐ ~~CONTRACT~~
☐ ~~EXTRA~~

QTY.	DESCRIPTION	PRICE	AMOUNT
1	Labor		
1	Case w/BG 8hrs.		
1	street sweeper 8hr		
60	Loads imported		60
		TOTAL	

The Contractor/Owner identified above agrees as follows:
Equipment and operator are under the exclusive authority and supervision of Contractor/Owner. Contractor/Owner is responsible for all underground services and Contractor/Owner is liable for all damages to persons or property arising from or in any manner connected with the operation of equipment.
The total amount due as set forth above will be billed to Contractor/Owner by separated statement. All invoices are due in full upon receipt. An addition one and one-half percent service charge (or the maximum amount permitted by applicable law) will be charged to all accounts not paid within thirty (30) days after due date and similarly each month thereafter until paid.
In the even it becomes necessary to place this account with an attorney for collection, Contractor/Owner will pay the cost of said attorney, including all related costs of collection, whether or not legal proceedings are commenced. If suit is instituted, then in addition, Contractor/Owner will pay all court costs as allowed by applicable law.

ACCEPTED AS SATISFACTORY BY:____________________

JOB INVOICE
№ 05263

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

48006

PACIFIC ROCK, INC.
P.O. BOX 257
SOMIS, CA 93066
1(805) 389-0250

WEIGHED AT: 1000 Pancho Road, Camarillo

~~Watershed~~ Turf

SELLER/ WEIGHED FOR: **PACIFIC ROCK, INC.**

BUYER/ DELIVERED TO: Philla Springs Ventura

WEIGHT IN LBS.	
349280	Gross
176300	Tare
172980	Net
86.49	Tons

LOADS	POUNDS	MARK	COMMODITY
1	65380	15.06	~~[illegible]~~
2	67900	16.32	3/4"
3	73340	18.99	"
4	71320	18.07	"
5	71440	18.09	"

CARRIER: Green Mtn

DRIVER: Lee — EQUIPT. NO.: 21

TRUCK I.D. No

TRAILER I.D. No.

TRAILER I.D. No.

PACIFIC ROCK, INC., Weighmaster

GROSS BY [signature] DEPUTY DATE Mth Day Year 5 / 23 / 5

TARE BY [signature] DEPUTY DATE Mth Day Year 5 / 23 / 5

[signature]

DRIVER ☐ ON GROSS & TARE

MULTIPLE LOAD CERTIFICATE: TARE 35260 X 5 LOADS

FILE COPY

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

48007

PACIFIC ROCK, INC.
P.O. BOX 257
SOMIS, CA 93066
1(805) 389-0250

WEIGHED AT: 1000 Pancho Road, Camarillo

WATER SHED

SELLER/
WEIGHED FOR:
PACIFIC ROCK, INC.

BUYER/
DELIVERED TO: MOOR PARK

WEIGHT IN LBS.	
384150	Gross
173900	Tare
210250	Net
105.13	Tons

LOADS	POUNDS	MARK	COMMODITY
1	72800	19.01	F-7 Tow
2	73500	19.36	"
3	78580	21.40	"
4	79320	22.27	"
5	79950	22.58	"

CARRIER
SAIMA

DRIVER	EQUIPT. NO.
SAIME	2431

TRUCK I.D. No

TRAILER I.D. No.

TRAILER I.D. No.

PACIFIC ROCK, INC., Weighmaster

GROSS BY [signature] Mth Day Year 5 / 23 / 5

DEPUTY DATE

TARE BY [signature] DEPUTY DATE Mth Day Year 5 / 23 / 5

DRIVER ☐ ON GROSS & TARE

MULTIPLE LOAD CERTIFICATE: **TARE** 34780 **X** 5 **LOADS** 5

FILE COPY

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

48008

PACIFIC ROCK, INC.
P.O. BOX 257
SOMIS, CA 93066
1(805) 389-0250

WEIGHED AT: 1000 Pancho Road, Camarillo
WATER SHED

SELLER/ WEIGHED FOR: **PACIFIC ROCK, INC.**

BUYER/ DELIVERED TO: MOORPARK

WEIGHT IN LBS.

367580	Gross
165500	Tare
202080	Net
161.04	Tons

CARRIER

LOADS	POUNDS	MARK	COMMODITY
1	74840	20.42	1-3 TON
2	70500	18.70	"
3	72560	19.73	"
4	76120	21.51	"
5	73460	24.17	"

DRIVER	EQUIPT. NO.
ROBERTO	22

TRUCK I.D. No
TRAILER I.D. No.
TRAILER I.D. No.

PACIFIC ROCK, INC., Weighmaster

GROSS BY [signature] DEPUTY DATE Mth. 5 Day 23 Year 5

TARE BY [signature] DEPUTY DATE Mth 5 Day 23 Year 5

DRIVER ☐ ON GROSS & TARE
MULTIPLE LOAD CERTIFICATE: TARE 33100 X 5 LOADS Roberto B. TRUCKING

FILE COPY

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

48009

PACIFIC ROCK, INC.
P.O. BOX 257
SOMIS, CA 93066
1(805) 389-0250

WEIGHED AT: 1000 Pancho Road, Camarillo

Water Shed

SELLER/ WEIGHED FOR: **PACIFIC ROCK, INC.**

BUYER/ DELIVERED TO: Moorpark Hitch

WEIGHT IN LBS.

272410	Gross
145560	Tare
136850	Net
68.43	Tons

LOADS	POUNDS	MARK	COMMODITY
1	69220	11:11	1-2 TON
2	65320	15.04	"
3	71220	12.04	"
4	71650	12:26	"

CARRIER: Tanner

DRIVER	EQUIPT. NO.
Rick	913

TRUCK I.D. No

TRAILER I.D. No.

TRAILER I.D. No.

PACIFIC ROCK, INC., Weighmaster

GROSS BY Bill Jakes — Mth 5 / Day 23 / Year 5

DEPUTY DATE

TARE BY Bill Jakes — DEPUTY DATE — Mth 5 / Day 23 / Year 5

DRIVER ☐ ON GROSS & TARE

MULTIPLE LOAD CERTIFICATE: **TARE** 35140 **X** 2 **LOADS** 2

FILE COPY

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

48010

PACIFIC ROCK, INC.
P.O. BOX 257
SOMIS, CA 93066
1(805) 389-0250

WEIGHED AT: 1000 Pancho Road, Camarillo
Terre Crest

SELLER/
WEIGHED FOR:
PACIFIC ROCK, INC.

BUYER/
DELIVERED TO: Thille & Ridge

WEIGHT IN LBS.

262020	Gross
122900	Tare
188120	Net
99.56	Tons

LOADS	POUNDS	MARK	COMMODITY
1	22220	11.01	3/4
2	22820	15.02	"
3	24160	19.29	"
4	24260	19.34	"
5	23260	19.09	"

CARRIER
GT Gavin

DRIVER	EQUIPT. NO.
Robbie	30

TRUCK I.D. No

TRAILER I.D. No.

TRAILER I.D. No.

PACIFIC ROCK, INC., Weighmaster [signature]

GROSS BY Bill Fisher — Mth. 5 / Day 23 / Year 5

DEPUTY DATE

TARE BY Bill Fisher — DEPUTY DATE — Mth 5 / Day 23 / Year 5

DRIVER ☐ ON GROSS & TARE

MULTIPLE LOAD CERTIFICATE: ______ **TARE** 25580 **X** 5 Bobtail **LOADS**

FILE COPY

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

48011

PACIFIC ROCK, INC.
P.O. BOX 257
SOMIS, CA 93066
1(805) 389-0250

WEIGHED AT: 1000 Pancho Road, Camarillo

SELLER/ WEIGHED FOR: **PACIFIC ROCK, INC.**

BUYER/ DELIVERED TO: Phillips & Ringo Ventura

WEIGHT IN LBS.

332530	Gross
173200	Tare
159330	Net
79.67	Tons

LOADS	POUNDS	MARK	COMMODITY
1	65040	15:20	[illegible]
2	65440	15:40	11
3	65120	15:24	"
4	68800	17:08	"
5	68130	16:20	"

CARRIER: Chatter

DRIVER	EQUIPT. NO.
Tony	302

TRUCK I.D. No

TRAILER I.D. No.

TRAILER I.D. No.

PACIFIC ROCK, INC., Weighmaster

GROSS BY [signature] Mth 5 / Day 23 / Year 5

DEPUTY DATE

TARE BY [signature] DEPUTY DATE Mth 5 / Day 23 / Year 5

DRIVER ☑ ON GROSS & TARE

MULTIPLE LOAD CERTIFICATE: TARE 34640 **X** **LOADS**

FILE COPY

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

48012

PACIFIC ROCK, INC.
P.O. BOX 257
SOMIS, CA 93066
1(805) 389-0250

WEIGHED AT: 1000 Pancho Road, Camarillo
Rano Vuhilston

SELLER/ WEIGHED FOR: **PACIFIC ROCK, INC.**

BUYER/ DELIVERED TO: VaeTRA

WEIGHT IN LBS.	
293020	Gross
128640	Tare
164380	Net
82.19	Tons

LOADS	POUNDS	MARK	COMMODITY
1	71220	14.56	1/2 Ton
2	73620	20.73	"
3	74900	21.37	"
4	73220	20.53	"
	Luu P.		

CARRIER: F. Lipeslan

DRIVER	EQUIPT. NO.
Folipi JR	24

TRUCK I.D. No

TRAILER I.D. No.

TRAILER I.D. No.

PACIFIC ROCK, INC., Weighmaster

GROSS BY Bill Lukes — Mth 5 / Day 23 / Year 5

DEPUTY DATE

TARE BY Bill Lukes — DEPUTY DATE — Mth 5 / Day 23 / Year 5

FILE COPY

DRIVER ☐ ON GROSS & TARE

MULTIPLE LOAD CERTIFICATE: TARE 32160 X LOADS

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

48013

PACIFIC ROCK, INC.
P.O. BOX 257
SOMIS, CA 93066
1(805) 389-0250

WEIGHED AT: 1000 Pancho Road, Camarillo

TURS Const.

SELLER/ WEIGHED FOR: **PACIFIC ROCK, INC.**

BUYER/ DELIVERED TO: Thills & Ringo Ventura

WEIGHT IN LBS.

351860	Gross
178200	Tare
173360	Net
86.88	Tons

CARRIER: Rivas & Son

DRIVER	EQUIPT. NO.
Fernando	104

TRUCK I.D. No
TRAILER I.D. No.
TRAILER I.D. No.

LOADS	POUNDS	MARK	COMMODITY
1	69140	16.75	3/4"
2	69640	17.40	"
3	68200	16.53	"
4	73140	16.75	"
5	71340	17.85	"

PACIFIC ROCK, INC., Weighmaster

GROSS BY Bill Jahn — Mth 5 / Day 23 / Year 5

DEPUTY DATE

TARE BY Bill Jahn DEPUTY DATE — Mth 5 / Day 23 / Year 5

DRIVER ☐ ON GROSS & TARE

MULTIPLE LOAD CERTIFICATE: **TARE** 3560 **X** 5 **LOADS**

FILE COPY

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

48014

PACIFIC ROCK, INC.
P.O. BOX 257
SOMIS, CA 93066
1(805) 389-0250

WEIGHED AT: 1000 Pancho Road, Camarillo

PARAGON

SELLER/ WEIGHED FOR: **PACIFIC ROCK, INC.**

BUYER/ DELIVERED TO: HUENEME ROAD OXNARD

WEIGHT IN LBS.	
456820	Gross
202440	Tare
254430	Net
127.22	Tons

LOADS	POUNDS	MARK	COMMODITY
1	24228	26.24	6" GRAVEL
2	28340	22.76	"
3	24560	20.41	"
4	26950	21.61	"
5	25640	20.95	"
6	22160	21.21	"

CARRIER: SCR

DRIVER: EFRAIN | EQUIPT. NO.: 6

TRUCK I.D. No

TRAILER I.D. No.

TRAILER I.D. No.

PACIFIC ROCK, INC., Weighmaster

GROSS BY Bill Lekas | Mth Day Year 5 / 23 / 5

DEPUTY DATE

TARE BY Bill Lekas | DEPUTY DATE | Mth Day Year 5 / 23 / 5

DRIVER ☑ ON GROSS & TARE

MULTIPLE LOAD CERTIFICATE: **TARE** 33740 **X** 6 **LOADS**

FILE COPY

WEIGHMASTER CERTIFICATE

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48016

PACIFIC ROCK, INC.
P.O. BOX 257
SOMIS, CA 93066
1(805) 389-0250

WEIGHED AT: 1000 Pancho Road, Camarillo
PARAGON

SELLER/
WEIGHED FOR:
PACIFIC ROCK, INC.

BUYER/
DELIVERED TO: OXNARD

WEIGHT IN LBS.

440880	Gross
190680	Tare
250200	Net
125.10	Tons

LOADS	POUNDS	MARK	COMMODITY
1	73580	20.90	6" minus
2	72280	20.50	"
3	73300	20.78	"
4	70760	19.49	"
5	75120	21.67	"
6	75300	21.76	"

CARRIER
CRUZ

DRIVER	EQUIPT. NO.
Bob	2

TRUCK I.D. No

TRAILER I.D. No.

TRAILER I.D. No.

PACIFIC ROCK, INC., Weighmaster

GROSS BY [illegible] Mth Day Year 5/23/15

DEPUTY DATE

TARE BY [illegible] 6 DEPUTY DATE Mth Day Year 5/23/15

DRIVER ☐ ON GROSS & TARE
MULTIPLE LOAD CERTIFICATE: **TARE** 31780 **X** [illegible] **LOADS**

FILE COPY

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

48017

PACIFIC ROCK, INC.
P.O. BOX 257
SOMIS, CA 93066
1(805) 389-0250

WEIGHED AT: 1000 Pancho Road, Camarillo

Demo Unlimited

SELLER/ WEIGHED FOR: **PACIFIC ROCK, INC.**

BUYER/ DELIVERED TO: Ventura

WEIGHT IN LBS.	
297220	**Gross**
153040	**Tare**
144180	**Net**
72.09	**Tons**

LOADS	**POUNDS**	**MARK**	**COMMODITY**
1	71140	1644	1/2 Ton
2	73480	17.41	"
3	75680	18.71	"
4	76920	19.23	"

CARRIER
E Sam

DRIVER	EQUIPT. NO.
Fabian SR	3

TRUCK I.D. No

TRAILER I.D. No.

TRAILER I.D. No.

PACIFIC ROCK, INC., Weighmaster

GROSS BY Bill Lukes — Mth. 5 / Day 23 / Year 5

DEPUTY DATE

TARE BY Bill Lukes — DEPUTY DATE — Mth 5 / Day 23 / Year 5

DRIVER ☐ ON GROSS & TARE

MULTIPLE LOAD CERTIFICATE: **TARE** 38260 **X** **LOADS**

FILE COPY

WEIGHMASTER CERTIFICATE

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48019

PACIFIC ROCK, INC.
P.O. BOX 257
SOMIS, CA 93066
1(805) 389-0250

WEIGHED AT: 1000 Pancho Road, Camarillo

PARAGON

SELLER/ WEIGHED FOR: **PACIFIC ROCK, INC.**

BUYER/ DELIVERED TO: OXNARD

WEIGHT IN LBS.

448420	Gross
195240	Tare
253180	Net
126.59	Tons

LOADS	POUNDS	MARK	COMMODITY
1	75380	2117	6" minus
2	75460	31.46	"
3	73580	20.82	"
4	72200	19.82	"
5	77200	22.33	"
6	74600	21.03	"

CARRIER: ZAVIN

DRIVER	EQUIPT. NO.
ANDY	10

TRUCK I.D. No

TRAILER I.D. No.

TRAILER I.D. No.

PACIFIC ROCK, INC., Weighmaster

GROSS BY: Bob Jahn — Mth 5 / Day 23 / Year 5

DEPUTY DATE

TARE BY: Bob Jahn — DEPUTY DATE — Mth 5 / Day 23 / Year 5

DRIVER ☐ ON GROSS & TARE

MULTIPLE LOAD CERTIFICATE: **TARE** 32540 **X** 6 **LOADS**

FILE COPY