Draft Initial Study and Mitigated Negative Declaration Rancho Cielito Residential Development Project

APPENDIX H

Appendix H – Noise Impact Assessment

Noise Impact Assessment

Rancho Cielito Development Project

City of Chino Hills, California

Prepared For:

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February 2020



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Attachment B – Federal Highway Administration Highway Noise Prediction Model (FHWA-RD-77-108) Outputs – Project Traffic Noise

LIST OF ACRONYMS AND ABBREVIATIONS

CNEL Community Noise Equivalent Level

dB Decibel

dBA Decibel is A-weighted

FHWA Federal Highway Administration FTA Federal Transit Administration

Hz Hertz

Ldn Day/Night noise level Leq Equivalent noise level

LIST OF ACRONYMS AND ABBREVIATIONS

OPR Office of Planning and Research

OSHA Occupational Safety and Health Administration

PPV Peak particle velocity
Project Rancho Cielito Project
RM-1 Medium Density Residential

RMS Root mean square SR 71 State Route 71

WEAL Western Electro-Acoustic Laboratory, Inc.

1.0 INTRODUCTION

This report documents the results of a Noise Impact Assessment completed for the Rancho Cielito Development Project (Project), which includes the construction of 354 dwelling units and associated features in the city of Chino Hills, San Bernardino County. This assessment was prepared as a comparison of predicted Project noise levels to noise standards promulgated by the City of Chino Hills General Plan Noise Element and Municipal Code as well as the City of Chino General Plan. The purpose of this report is to estimate Project-generated noise levels and determine the level of impact the Project would have on the environment.

1.1 Project Location and Description

The Project site is located within the city of Chino Hills. The city is located in the southwestern portion of San Bernardino County, and borders parts of Los Angeles, Orange, and Riverside counties. The Project site is generally located north of Los Serranos Boulevard/Valle Vista Drive and south of the Lake Los Serranos Club (Figure 1. Project Vicinity and Figure 2. Project Location). The Project site is located on 29.50 acres of dry land and 18.87 acres of water surface area, which total ±47.34 acres. The property is regionally accessible from State Route 71 (SR 71) at Chino Hills Parkway/Ramona Avenue. The existing site consists primarily of undeveloped land and Lake Los Serranos. In addition, various older buildings occupy the site, including three single-family houses, three garages, one office, one pump house, and one shed, all of which are proposed for demolition.

The Project is proposing to build 354 dwelling units and associated features and facilities including two clubhouses, a leasing/management office, three active recreation areas, passive open spaces, trails, a maintenance garage, and associated infrastructure. The Project site will be accessible from Ramona Avenue and Los Serranos Boulevard. Construction is anticipated to begin in September 2020 and be completed in September 2024. A breakdown of the dwelling units is shown in Table 1-1.

| Table 1-1. Proposed Dwelling Units | | | | |
|------------------------------------|-------------------|---------------------|--|--|
| One-Bedroom Units | Two-Bedroom Units | Three-Bedroom Units | | |
| 129 | 169 | 56 | | |

The Project site is currently designated by the Chino Hills General Plan (2015) as Medium Density Residential (RM-1). The primary purpose of areas designated RM-1 is for single-family attached townhouses, two-story townhouses, condominiums, and low-density apartments.







Map Date: 10/29/2019
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenSteeMaple contributors, and the GIS User Community



Figure 2. Project Location

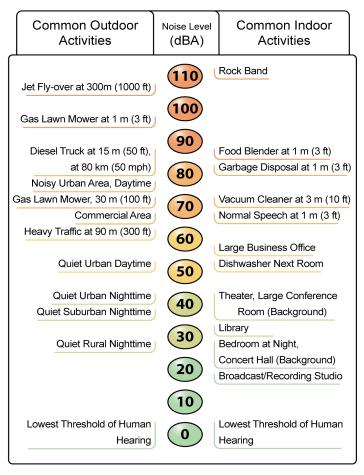
2.0 ENVIRONMENTAL NOISE AND GROUNDBORNE VIBRATION ANALYSIS

2.1 Fundamentals of Noise and Environmental Sound

2.1.1 Addition of Decibels

The decibel (dB) scale is logarithmic, not linear; therefore, sound levels cannot be added or subtracted through ordinary arithmetic. Two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted (dBA), an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound and twice as loud as a 60-dBA sound. When two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be three dB higher than one source under the same conditions (Federal Transit Administration [FTA] 2018). For example, a 65-dB source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by three dB). Under the decibel scale, three sources of equal loudness together would produce an increase of five dB.

Typical noise levels associated with common noise sources are depicted on Figure 3.



Source: California Department of Transportation (Caltrans) 2012

Figure 3. Common Noise Levels

2.1.2 Sound Propagation and Attenuation

Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately six dB for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately three dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics (Federal Highway Administration [FHWA] 2011). No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. For line sources, an overall attenuation rate of three dB per doubling of distance is assumed (FHWA 2011).

Noise levels may also be reduced by intervening structures; generally, a single row of detached buildings between the receptor and the noise source reduces the noise level by about five dBA (FHWA 2008), while a solid wall or berm generally reduces noise levels by 10 to 20 dBA (FHWA 2011). However, noise barriers or enclosures specifically designed to reduce site-specific construction noise can provide a sound reduction 35 dBA or greater (Western Electro-Acoustic Laboratory, Inc. [WEAL] 2000). To achieve the most potent noise-reducing effect, a noise enclosure/barrier must physically fit in the available space, must completely break the "line of sight" between the noise source and the receptors, must be free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces. Noise barriers must be sizable enough to cover the entire noise source and extend lengthwise and vertically as far as feasibly possible to be most effective. The limiting factor for a noise barrier is not the component of noise transmitted through the material, but rather the amount of noise flanking around and over the barrier. In general, barriers contribute to decreasing noise levels only when the structure breaks the line of sight between the source and the receiver.

The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dBA or more.

2.1.3 Noise Descriptors

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise, as well as the time of day when the noise occurs. The L_{eq} is a measure of ambient noise, while the L_{dn} and CNEL (Community Noise Equivalent Level) are measures of community noise. Each is applicable to this analysis and defined in Table 2-1.

| Table 2-1. Common Acoustical Descriptors | | | | |
|---|--|--|--|--|
| Descriptor | Definition | | | |
| Decibel, dB | A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20. | | | |
| Sound Pressure Level | Sound pressure is the sound force per unit area, usually expressed in micropascals (or 20 micronewtons per square meter), where one pascal is the pressure resulting from a force of one newton exerted over an area of one square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micropascals). Sound pressure level is the quantity that is directly measured by a sound level meter. | | | |
| Frequency, Hertz (Hz) | The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and ultrasonic sounds are above 20,000 Hz. | | | |
| A-Weighted Sound Level, dBA | The sound pressure level in decibels as measured on a sound level meter using the A weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. | | | |
| Equivalent Noise Level, Leq | The average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night. | | | |
| L _{max} , L _{min} | The maximum and minimum A-weighted noise level during the measurement period. | | | |
| L01, L10, L50, L90 | The A-weighted noise levels that are exceeded one percent, 10 percent, 50 percent, and 90 percent of the time during the measurement period. | | | |
| Day/Night Noise Level, Ldn or DNL | A 24-hour average L_{eq} with a 10 dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn} . | | | |
| Community Noise Equivalent Level, CNEL | A 24-hour average L_{eq} with a five dBA "weighting" during the hours of 7:00 p.m. to 10:00 p.m. and a 10 dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.7 dBA CNEL. | | | |
| Ambient Noise Level | The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location. | | | |
| Intrusive | That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends on its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level. | | | |
| Decibel, dB | A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20. | | | |

The dBA sound level scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about \pm one dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends on the distance between the receptor and the noise source. Close to the noise source, the models are accurate to within about \pm one to two dBA.

2.1.4 Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in dBA noise levels, the following relationships should be noted in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of one dBA cannot be perceived by humans.
- Outside of the laboratory, a three-dBA change is considered a just-perceivable difference.
- A change in level of at least five dBA is required before any noticeable change in community response would be expected. An increase of five dBA is typically considered substantial.
- A 10-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

2.1.5 Effects of Noise on People

Hearing Loss

While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise.

The Occupational Safety and Health Administration (OSHA) has a noise exposure standard that is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 90 dBA averaged over eight hours. If the noise is above 90 dBA, the allowable exposure time is correspondingly shorter.

Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The L_{dn} as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources. For ground vehicles, a noise level of about 55 dBA L_{dn} is the threshold at which a substantial percentage of people begin to report annoyance.

2.2 Fundamentals of Environmental Groundborne Vibration

2.2.1 Vibration Sources and Characteristics

Sources of earthborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or manmade causes (explosions, machinery, traffic, trains, construction equipment, etc.). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions).

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the peak particle velocity (PPV), another is the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

Table 2-2 displays the reactions of people and the effects on buildings produced by continuous vibration levels. The annoyance levels shown in the table should be interpreted with care since vibration may be found to be annoying at much lower levels than those listed, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high-noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

Ground vibration can be a concern in instances where buildings shake and substantial rumblings occur. However, it is unusual for vibration from typical urban sources such as buses and heavy trucks to be perceptible. For instance, heavy-duty trucks generally generate groundborne vibration velocity levels of

0.006 PPV at 50 feet under typical circumstances, which as identified in Table 4-1 is considered very unlikely to cause damage to buildings of any type. Common sources for groundborne vibration are planes, trains, and construction activities such as earth moving, which requires the use of heavy-duty earth moving equipment.

Table 2-2. Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibration Levels

| PPV (inches/second) | Approximate Vibration Velocity Level (VdB) | Human Reaction | Effect on Buildings |
|---------------------|--|---|--|
| 0.006-0.019 | 64–74 | Range of threshold of perception | Vibrations unlikely to cause damage of any type |
| 0.08 | 87 | Vibrations readily perceptible | Recommended upper level to which ruins and ancient monuments should be subjected |
| 0.1 | 92 | Level at which continuous vibrations may begin to annoy people, particularly those involved in vibration sensitive activities | Virtually no risk of architectural damage to normal buildings |
| 0.2 | 94 | Vibrations may begin to annoy people in buildings | Threshold at which there is a risk of architectural damage to normal dwellings |
| 0.4–0.6 | 98–104 | Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges | Architectural damage and possibly minor structural damage |

Source: Caltrans 2013

For the purposes of this analysis, a PPV descriptor with units of inches per section is used to evaluate construction-generated vibration for building damage and human complaints.

3.0 EXISTING ENVIRONMENTAL NOISE SETTING

3.1 Noise Sensitive Land Uses

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. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as hospitals, historic sites, cemeteries, and certain recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

The Project is proposing the construction of 354 dwelling units and associated features. The nearest sensitive receptors to the Project site are residences directly adjacent to the Project site boundary in multiple directions. The closest residence, located on Circle Park Lane, is located approximately 40 feet to the northeast.

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3.2 Existing Ambient Noise Environment

The noise environment in the proposed Project area is impacted by various noise sources. Mobile sources of noise, especially cars and trucks traveling on area roadways, are the most common and significant sources of noise in the Project area. Other sources of noise are the various land uses (i.e., residential, commercial, and institutional) throughout the area that generate stationary-source noise. The Project site is located outside of any airport land use plan. Furthermore, the Project site is located beyond two miles from any airport. The Chino Airport is the nearest airport to the Project site, located approximately 3.44 miles to the east. Per the Chino Hills General Plan, the city of Chino Hills is located outside the 65 dB CNEL for the Chino Airport.

3.2.1 Existing Ambient Noise Measurements

The Project site can be characterized by flat and undeveloped land. It is surrounded by Lake Los Serranos and residences. In order to quantify existing ambient noise levels in the Project area, ECORP Consulting, Inc. conducted four short-term noise measurements on February 12, 2020. The noise measurement sites were representative of typical existing noise exposure within and immediately adjacent to the Project site (see Attachment A for a visual depiction of the Noise Measurement Locations). The 10-minute measurements were taken between 1:16 p.m. and 2:17 p.m. Short-term (Leq) measurements are considered representative of the noise levels throughout the daytime. The average noise levels and sources of noise measured at each location are listed in Table 3-1

| Table 3-1. Existing (Baseline) Noise Measurements | | | | | |
|---|--|---------------------|-------------|-------------|-------------------|
| Location Number | Location | L _{eq} dBA | Lmin dBA | Lmax dBA | Time |
| 1 | South of fence along Los Serranos Boulevard adjacent to Project site | 56.3 | 39.6 | 72.0 | 1:16 p.m1:26 p.m. |
| 2 | Pipeline/Glen Ridge Drive Intersection | 72.9 | 56.0 | 92.8 | 1:38 p.m1:48 p.m. |
| 3 | El Molino/Los Serrano Boulevard Intersection | 62.8 | 44.2 | 83.9 | 1:54 p.m1:04 p.m. |
| 4 | Valley Vista and Ramona Avenue Intersection | 67.9 | 49.3 | 90.8 | 2:07 p.m2:17 p.m. |

Source: Measurements were taken by ECORP with a Larson Davis SoundExpert LxT precision sound level meter, which satisfies the American National Standards Institute for general environmental noise measurement instrumentation. Prior to the measurements, the SoundExpert LxT sound level meter was calibrated according to manufacturer specifications with a Larson Davis CAL200 Class I Calibrator. See Attachment A for noise measurement outputs.

As shown in Table 3-1, the ambient recorded noise levels range from 56.3 to 72.9 dBA near the Project site. The most common noise in the Project vicinity is produced by automotive vehicles (e.g., cars, trucks, buses, motorcycles). Vehicular noise varies with the volume, speed, and type of traffic. Slower traffic produces less noise than fast-moving traffic. Trucks typically generate more noise than cars. Infrequent or intermittent noise also is associated with vehicles, including sirens, vehicle alarms, slamming of doors, trains, garbage and construction vehicle activity, and honking of horns. These noises add to urban noise and are regulated by a variety of agencies.

3.2.2 Existing Roadway Noise Levels

Existing roadway noise levels were calculated for the roadway segments in the Project vicinity. This task was accomplished using the FHWA Highway Traffic Noise Prediction Model (FHWA-RD-77-108) (see Attachment B) and traffic volumes from the Project's Traffic Impact Analysis (Linscott Law & Greenspan Engineers 2020). The model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) used in the FHWA model have been modified to reflect average vehicle noise rates identified for California by Caltrans. The Caltrans data shows that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels. The average daily noise levels along these roadway segments are presented in Table 3-2.

| Table 3-2. Existing (Baseline) Traffic Noise Levels | | | | |
|---|----------------------------|---|--|--|
| Roadway Segment | Surrounding Uses | CNEL at 100 feet from Centerline of Roadway | | |
| Chino Hills Parkway | | | | |
| West of Peyton Drive | Residential | 59.5 | | |
| Between Peyton Drive and Pipeline Avenue | Residential | 61.8 | | |
| Between Pipeline Avenue | Residential | 62.0 | | |
| Between Ramona Avenue and Central Avenue | Commercial and Residential | 60.7 | | |
| East of Central Avenue | Commercial and Residential | 40.9 | | |
| Rosewood Way/Clubhouse Way | | | | |
| West of Pipeline Avenue | Residential | 45.2 | | |
| East of Pipeline Avenue | Residential | 42.1 | | |
| Glen Ridge Drive | | | | |
| West of Pipeline Avenue | Residential | 47.0 | | |
| Los Serranos Boulevard | | | | |
| Between Pipeline Avenue and Valle Vista Drive | Residential | 42.4 | | |
| Valle Vista Drive | | | | |
| West of Pipeline Avenue | Residential | 45.7 | | |
| Between Pipeline Avenue and Country Club Drive | Residential | 45.6 | | |
| Between Los Serranos Boulevard and Ramona Avenue | Residential | 49.2 | | |
| East of Ramona Avenue | Residential | 48.6 | | |

| Roadway Segment | Surrounding Uses | CNEL at 100 feet from Centerline of Roadway |
|---|----------------------------|---|
| Peyton Drive | | on rounny, |
| North of Chino Hills Parkway | Residential | 59.8 |
| South of Chino Hills Parkway | Residential | 60.4 |
| Pipeline Avenue | | 1 |
| North of Eucalyptus Avenue | Commercial and Residential | 56.1 |
| Between Eucalyptus Avenue and Chino Hills Parkway | Commercial and Residential | 53.6 |
| Between Chino Hills Parkway and Rosewood Way/Clubhouse Way | Residential | 55.1 |
| Between Rosewood Way/Clubhouse Way and Glen Ridge Drive | Residential | 53.8 |
| Between Glen Ridge Drive and Los Serranos Boulevard | Residential | 53.2 |
| Between Los Serranos Boulevard and Vale Vista Drive | Residential | 52.2 |
| Between Vale Vista Drive and Bayberry Drive/Country Club Drive | Residential | 49.8 |
| South of Bayberry Drive/Country Club Drive | Residential | 50.8 |
| Ramona Avenue | | |
| Between Village Drive and Vale Vista Drive | Residential | 56.2 |
| South of Vale Vista Drive | Residential | 50.5 |
| Central Avenue | | |
| South of Chino Hills Parkway | Residential | 62.2 |
| Eucalyptus Avenue | | |
| West of Pipeline Avenue | Residential | 57.8 |
| Between Pipeline Avenue and Ramona Avenue | Residential | 59.2 |
| East of Ramona Avenue | Residential | 58.4 |
| Yorba Avenue | | |
| South of Los Serranos Road | Residential | 49.7 |
| North of Fairway Boulevard | Residential | 44.6 |
| South of Fairway Boulevard | Residential | 49.2 |
| Between Fairway Boulevard and Los Serranos Road | Residential | 48.3 |

| Table 3-2. Existing (Baseline) Traffic Noise Levels | | | | | |
|---|--|--|--|--|--|
| Roadway Segment Surrounding Uses CNEL at 100 feet from Centerlin of Roadway | | | | | |
| Fairway Boulevard | | | | | |
| East of Yorba Avenue Residential 41.0 | | | | | |
| State Route 71 (Chino Hills Parkway Onramp) | | | | | |
| SB on SR 71 Commercial and Residential 59.1 | | | | | |

Source: Traffic noise levels were calculated by ECORP using the FHWA roadway noise prediction model in conjunction with the trip generation rate identified by Linscott Law & Greenspan Engineers (2020). Refer to Attachment B for traffic noise modeling assumptions and results.

Note: A total of 21 intersections were analyzed in the Traffic Impact Study; however, only roadway segments that impact sensitive receptors were included for the purposes of this analysis.

Commercial and Residential

59.3

As shown, the existing traffic-generated noise level on Project-vicinity roadways currently ranges from 41.0 to 62.2 dBA CNEL. As previously described, CNEL is 24-hour average noise level with a five dBA "weighting" during the hours of 7:00 p.m. to 10:00 p.m. and a 10 dBA weighting added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively. It should be noted that the modeled noise levels depicted in Table 3-2 may differ from measured levels in Table 3-1 because the measurements represent noise levels at different locations around the Project site and are also reported in different noise metrics (e.g., noise measurements are the L_{eq} values and traffic noise levels are reported in CNEL).

4.0 REGULATORY FRAMEWORK

4.1 Federal

NB on SR 71

4.1.1 Occupational Safety and Health Act of 1970

OSHA regulates onsite noise levels and protects workers from occupational noise exposure. To protect hearing, worker noise exposure is limited to 90 decibels with A-weighting (dBA) over an eight-hour work shift (29 Code of Regulations 1910.95). Employers are required to develop a hearing conservation program when employees are exposed to noise levels exceeding 85 dBA. These programs include provision of hearing protection devices and testing employees for hearing loss on a periodic basis.

4.2 State

4.2.1 State of California General Plan Guidelines

The State of California regulates vehicular and freeway noise affecting classrooms, sets standards for sound transmission and occupational noise control, and identifies noise insulation standards and airport noise/land-use compatibility criteria. The State of California General Plan Guidelines (State of California 2003), published by the Governor's Office of Planning and Research (OPR), also provides guidance for the acceptability of projects within specific CNEL/L_{dn} contours. The guidelines also present adjustment factors

that may be used in order to arrive at noise acceptability standards that reflect the noise-control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

4.2.2 State Office of Planning and Research Noise Element Guidelines

The State OPR Noise Element Guidelines include recommended exterior and interior noise level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The Noise Element Guidelines contain a land-use compatibility table that describes the compatibility of various land uses with a range of environmental noise levels in terms of the CNEL.

4.3 Local

4.3.1 City of Chino Hills General Plan Noise Element

The Noise Element of the General Plan provides policy direction for minimizing noise impacts on the community and for coordinating with surround jurisdictions and other entities regarding noise control. By identifying noise-sensitive land uses and establishing compatibility guidelines for land use and noises, noise considerations will influence the general distribution, location, and intensity of future land uses. The result is that effective land use planning and mitigation can alleviate the majority of noise problems.

The most basic planning strategy to minimize adverse impacts on new land uses due to noise is to avoid designating certain land uses at locations within the city of Chino Hills that would negatively affect noise-sensitive land uses. Uses such as schools, hospitals, child care, senior care, congregate care, churches, and all types of residential use should be located outside of any area anticipated to exceed acceptable noise levels as defined by the Land Use/Noise Compatibility Matrix, or should be protected from noise through sound attenuation measures such as site and architectural design and sound walls. The City has adopted guidelines as a basis for planning decisions and these guidelines are shown in Table 4-1. In a case where the noise levels identified at a proposed project site fall within levels considered normally acceptable, the project is considered compatible with the existing noise environment.

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| Table 4-1. Land Use/ Noise Compatibility Matrix | | | | | |
|---|--|---------------------------------|-----------------|--|--|
| Land Use | Categories | Community Noise Exposure (CNEL) | | | |
| Categories | Compatible Uses | Interior¹ | Exterior2 | | |
| Residential | Single-Family, Duplex, Multi- Family | 45 ³ | 65 ⁵ | | |
| | Mobile Home | | 65 ⁴ | | |
| | Hotel, Motel, Transit Lodging | 45 ³ | | | |
| | Commercial, Retail, Bank, Restaurant, Health Clubs | 55 | | | |
| Commercial | Office Buildings, Research and Development, Professional Offices | 50 | | | |
| Commercial | Amphitheaters, Concert Hall, Auditorium, Meeting Hall, Movie Theater | 45 | | | |
| | Gymnasium (multi-purpose) | 50 | | | |
| | Manufacturing, Warehousing, Wholesale, Utilities | 65 | | | |
| Open Space | Parks | + | 65 | | |
| | Hospital, Schools, Classrooms | 45³ | 65 | | |
| Institutional/ Public Facility | Churches, Libraries | 45³ | | | |

Source: Chino Hills General Plan

Notes:

The Noise Element also includes goals, policies and actions that support the City's noise plan to maintain and enhance the City's high-quality mix of sustainable land uses and monitor future growth, while reducing existing and future noise levels. The goals, policies, and actions applicable to the proposed Project are listed below.

^{1.} Interior environmental excludes bathrooms, toilets, closets, and corridors.

^{2.} Outdoor environmental limited to private yard of single-family or multi-family residential private patio that is accessed by a means of exit from inside the unit; mobile home parks; hospital patio; park picnic area; school playgrounds; and hotel and motel recreation area.

^{3.} Noise level requirements with closed windows. Mechanical ventilating system or other means of natural ventilation shall be provided pursuant to UBC requirements.

^{4.} Exterior noise level shall be such that interior noise level will not exceed 45 dB CNEL.

Multi-family development with balconies that do not meet the 65 dB CNEL standard are required to provide occupancy disclosure notices to all future tenants.

Goal N-1: Manage Existing Noise Sources

- Policy N-1.1: Protect public health and welfare by eliminating or minimizing the effects of existing noise problems.
 - Action N-1.1.4: Restrict truck traffic to roadways that are located away from sensitive land uses.
 - Action N-1.1.5: Minimize through vehicular traffic in the City's residential areas.
 - Action N-1.1.7: Incorporate sound attenuation measures in residential developments to achieve the City's standards. Such sound attenuation measures may include noise barriers, replacing existing windows and doors with sound-rated assemblies, insulating exterior walls and attics, and/or installing forced air ventilation.
 - Action N-1.2.1: Ensure that equipment, machinery, fan and air conditioning noise does not exceed specific levels, established in the City's Noise Ordinance.

Goal N-2: Limit New Noise Conflicts

- Policy N-2.1: Minimize increase in noise levels due to new land use and transportation facility decisions.
 - Action N-2.1.1: Enforce the standards of [Table 4-1], which specify acceptable exterior and interior noise limits for various land uses throughout the City.
 - Action N-2.1.5: Ensure all new developments provide adequate sound insulation or other protection from existing and projected noise sources.
 - Action N-2.1.7: Ensure that all new hotels, motels, multifamily and single-family dwelling to be developed within an area where he outdoor CNEL exceeds 60 dB are designed to achieve an indoor CNEL of 45 dB or less.

4.3.2 City of Chino Hills Municipal Code

The City of Chino Hills regulations with respect to noise are included in Title 16 Chapter 48 of the Municipal Code, also known as the Noise Regulations. The Noise Regulations provide noise standards within the city. Section 16.48.020 states that the noise standards contained in the Land Use/Noise Compatibility Matrix (Table 4-1) in the Noise Element of the General Plan shall apply to land uses citywide and shall be used to define acceptable and unacceptable noise levels. Additionally, Section 8.08.020 limits the time of construction, repair, remodel, demolition, or grading between the hours of 7:00 a.m. and 7:00 p.m. on weekdays, and between 8:00 a.m. and 6:00 p.m. on Saturdays, excluding federal holidays.

4.3.3 City of Chino General Plan

Noise receptors located within the neighboring city of Chino exist in proximity to the Project site, across SR 71. These consist mostly of residential uses and could be affected by Project noise generated by offsite traffic. Due to the distance from the Project site, the receptors in the city of Chino would not be impacted

by construction noise on the Project site but could experience an increase in traffic noise due to increased trips to the Project site. The General Plan provided exterior and interior noise standards for various land uses impacted by mobile sources. These standards are presented in Table 4-2.

| Table 4-2. City of Chino Mobile-Source Noise Standards | | | | | |
|--|---|---|---|--|--|
| Land Use Category | Specific Land Use | Interior Noise Standard dBA (CNEL/L _{dn}) ^a | Exterior Noise Standard dBA (CNEL/L _{dn}) ^b | | |
| Decidential | Single-Family, Duplex, Multi-Family | 45∘ | 65 | | |
| Residential | Mobile Home | - | 65 ^d | | |
| | Hotel, Motel, Transient Lodging | 45 | 65 | | |
| | Commercial Retail, Bank, Restaurant | 55 | | | |
| | Office Building, Research & Development, Professional Offices, City Office Building | 50 | | | |
| Commercial, Industrial, | Amphitheater, Concert Hall, Auditorium, Meeting Hall | 45 | | | |
| institutional | Gymnasium (multipurpose) | 50 | | | |
| | Sports Club | 55 | | | |
| | Manufacturing, Warehousing, Wholesale, Utilities | 65 | | | |
| | Movie Theaters | 45 | | | |
| | Hospital, Schools, Classroom | 45 | 65 | | |
| Institutional | Church, Library | 45 | | | |
| Open Space | Park | | 65 | | |

Source: City of Chino 2010

Notes:

dBA = (A-weighted Sound Pressure Level). The sound pressure level, in decibels, as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound, placing greater emphasis on those frequencies within the sensitivity range of the human ear.

a Indoor environment excluding bathrooms, toilets, closets, corridors.

b Outdoor environment limited to private yard of single-family or multi-family private patio or balcony that is served by a means of exit from inside, mobile home park, hospital patio, park's picnic area, school's playground, and hotel and motel recreation area.

c Noise level requirement with closed windows. Mechanical ventilation system or other means of natural ventilation shall be provided per the California Building Code.

d Exterior noise level should be such that interior noise levels will not exceed 45 dB L_{dn}.

5.0 IMPACT ASSESSMENT

5.1 Thresholds of Significance

The impact analysis provided below is based on the following California Environmental Quality Act Guidelines Appendix G thresholds of significance. The Project would result in a significant noise-related impact if it would produce the following:

- 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.
- 2) Generation of excessive groundborne vibration or groundborne noise levels.
- 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.

For purposes of this analysis and where applicable, the City of Chino Hills and the City of Chino noise standards were used for evaluation of Project-related noise impacts.

5.2 Methodology

This analysis of the existing and future noise environments is based on noise-prediction modeling and empirical observations. In order to estimate the worst-case construction noise levels that may occur at the nearest noise-sensitive receptors in the Project vicinity, predicted construction noise levels were calculated utilizing the FHWA's Roadway Construction Model (2008). Groundborne vibration levels associated with construction-related activities for the Project were evaluated utilizing typical groundborne vibration levels associated with construction equipment, obtained from the Caltrans guidelines set forth above. Potential groundborne vibration impacts related to structural damage and human annoyance were evaluated, taking into account the distance from construction activities to nearby land uses.

An assessment of the land use compatibility of the Project's proposal to locate sensitive residential noise receptors within the existing noise environment affecting the Project site was completed by conducting existing ambient baseline noise measurements on and around the Project site with the use of a Larson Davis SoundExpert LxT precision sound level meter, which satisfies the American National Standards Institute standard for general environmental noise measurement instrumentation. Prior to the measurements, the SoundExpert LxT sound level meter was calibrated according to manufacturer specifications with a Larson Davis CAL200 Class I Calibrator. In order to quantify existing ambient noise levels on the Project site, ECORP conducted four short-term noise measurements on the afternoon of February 12, 2020. Additionally, roadway noise levels were calculated for the roadway segments in the Project vicinity using the FHWA Highway Traffic Noise Prediction Model (FHWA-RD-77-108) and traffic volumes from the Project's Traffic Impact Analysis.

5.3 Impact Analysis

5.3.1 Project Construction Noise

Would the Project Result in Short-Term Construction-Generated Noise in Excess of Standards?

Construction noise associated with the proposed Project would be temporary and would vary depending on the nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for onsite construction activities as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., building construction, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). During construction, exterior noise levels could negatively affect sensitive receptors in the vicinity of the construction site.

Noise levels associated with individual construction equipment are summarized in Table 5-1.

| Table 5-1. Typical Construction Equipment Noise Levels | | | | | |
|--|---|--|--|--|--|
| Type of Equipment | Maximum Noise (L _{max}) at 50 Feet (dBA) | Maximum 8-Hour Noise (L _{eq}) at 50 Feet (dBA) | | | |
| Crane | 80.6 | 72.6 | | | |
| Dozer | 81.7 | 77.7 | | | |
| Excavator | 80.7 | 76.7 | | | |
| Generator | 80.6 | 77.6 | | | |
| Grader | 85.0 | 81.0 | | | |
| Other Equipment (greater than five horsepower) | 85.0 | 82.0 | | | |
| Paver | 77.2 | 74.2 | | | |
| Roller | 80.0 | 73.0 | | | |
| Tractor | 84.0 | 80.0 | | | |
| Dump Truck | 76.5 | 72.5 | | | |
| Concrete Pump Truck | 81.4 | 74.4 | | | |
| Welder | 74.0 | 70.0 | | | |

Source: FHWA, Roadway Construction Noise Model (FHWA-HEP-05-054), dated January 2008.

Note: Leq is the average acoustic energy content of noise for a stated period of time. Thus, the Leq of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or night, L_{max} is the maximum and minimum A-weighted noise level during the measurement period.

As shown, the noise levels from construction equipment at 50 feet range from 70.0 dBA to 82.0 dBA. The nearest existing noise-sensitive land uses to proposed onsite construction consist of single-family residences adjacent to the Project site boundary at approximately 40 feet. Thus, the noise levels from construction equipment could be experienced at these residences at levels exceeding these values.

The City of Chino Hills does not promulgate numeric thresholds pertaining to the noise associated with construction. Instead, the City limits the time that construction can take place between the hours of 7:00 a.m. and 7:00 p.m. on weekdays, and between 8:00 a.m. and 6:00 p.m. on Saturdays, excluding federal holidays (Municipal Code Section 8.08). It is typical to regulate construction noise in this manner because construction noise is temporary, short term, intermittent in nature, and would cease on completion of a project. Furthermore, the City is a developing urban community and construction noise is generally accepted as a reality within the urban environment. Additionally, construction would occur throughout the Project site and would not be concentrated at one point. Therefore, noise generated during construction activities, as long as conducted within the permitted hours, would not exceed City noise standards.

As previously described, the Project site is located in proximity to noise receptors in the city of Chino. However, due to the distance from the Project site, the receptors in the city of Chino would not be impacted by construction noise on the Project site.

5.3.2 Project Operational Noise

Would the Project Result in a Substantial Permanent Increase in Ambient Noise Levels in Excess of City Standards During Operations?

Project Land Use Compatibility

The City of Chino Hills uses the land use compatibility table presented in the General Plan that provides the City with a tool to gauge the compatibility of new land users relative to existing noise levels. This table, presented as Table 4-2, identifies acceptable interior and exterior noise levels for various land uses, including residential land uses such as those proposed by the Project. In the case that the noise levels identified at the proposed Project site fall within levels presented in the General Plan, the Project is considered compatible with the existing noise environment. As previously stated, the Project site is zoned *RM-1*. The primary purpose of areas designated *RM-1* is for single-family attached townhouses, two-story townhouses, condominiums, and low-density apartments. As shown in Table 4-2, the exterior noise standard for residential land uses is 65 dBA CNEL. In order to quantify existing ambient noise levels in the Project area, ECORP conducted four short-term noise measurements on February 12, 2020. The noise measurement sites were representative of typical existing noise exposure within and immediately adjacent to the Project site and are considered representative of the noise levels throughout the day. As shown in Table 3-1, the ambient noise level recorded on the Project site is 56.3 dBA. As this noise level falls below the exterior noise standard, the Project site is considered an appropriate noise environment to locate the proposed land use.

In addition to baseline noise measurements conducted in the Project vicinity, existing roadway noise levels were calculated for the roadway segments in the Project vicinity, as shown in Table 3-2. The modeled noise levels depicted in Table 3-2 are reported in the noise metric, CNEL, which is the same

noise metric promulgated by City noise compatibility guidelines contained in Table 4-1. As shown in Table 3-2, the noise emanating from the segment of Los Serranos Boulevard traversing a substantial amount of the southern boundary of the Project site (between Pipeline Avenue and Valle Vista Drive) was calculated at 42.4 dBA CNEL under existing conditions. The segment of Valle Vista Drive traversing the other half of the southern boundary of the Project site (between Los Serranos Boulevard and Ramona Avenue) was calculated as generating noise levels of 49.2 dBA CNEL. The segment of Pipeline Avenue traversing the western boundary of the Project site (between Los Serranos Boulevard and Glen Ridge Drive) was calculated as generating noise levels of 53.2 dBA CNEL, and the segment of Ramona Avenue traversing the eastern boundary of the site (between Valle Vista Drive and Village Drive) was calculated at 56.2 dBA CNEL under existing conditions. These noise levels fall within the range considered acceptable.

Therefore, baseline measurements conducted nearest to the Project site and calculated traffic noise levels generated by the nearest roadways fall within the range of sound considered clearly compatible for residences.

Project Operations

As previously described, noise-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would each be considered noise sensitive and may warrant unique measures for protection from intruding noise. The nearest noise-sensitive land uses consist of residences adjacent to the Project site boundary, with the closest one being approximately 40 feet from the Project site. Operational noise sources associated with the proposed Project include mobile and stationary (i.e., mechanical equipment, internal circulation, traffic) sources.

Operational Traffic Noise

Future traffic noise levels throughout the Project vicinity (i.e., vicinity roadway segments that traverse noise sensitive residential land uses) were modeled based on the traffic volumes identified by Linscott Law & Greenspan Engineers (2020) to determine the noise levels along Project vicinity roadways. Table 5-2 shows the calculated offsite roadway noise levels under existing traffic levels compared to future buildout of the Project. The calculated noise levels as a result of the Project at affected sensitive land uses are compared to the noise standards promulgated in the City of Chino Hills General Plan (Table 4-1) for all roadway segments except those located north of SR 71. Those segments are located within the city of Chino and are therefore compared to the City of Chino noise standards presented in that City's General Plan (Table 4-2). In the case that the existing ambient noise levels already exceed the applicable numeric noise threshold within the city, an increase of more than three dBA over the existing ambient noise level is considered significant.

As shown in Table 5-2, no roadway segments currently experience noise that exceeds respective noise standards under existing conditions. Thus, Project-generated roadway noises are compared to the applicable standard. As shown, Project roadway segments do not exceed respective noise standards. No applicable noise standards would be exceeded by Project traffic.

| Roadway Segment | | | 00 feet from of Roadway | Noise | Exceed |
|--|---|-------------------------------|----------------------------|-------------------|-------------------------------------|
| | Surrounding Uses | Existing + Project Conditions | | Standard (dBA) | Standard/ Significant Impact? |
| nino Hills Parkway | | | | | |
| West of Peyton Drive | Residential | 59.5 | 59.6 | 65 | No |
| Between Peyton Drive and Pipeline Avenue | Residential | 61.8 | 61.9 | 65 | No |
| Between Pipeline Avenue | Residential | 62.0 | 62.1 | 65 | No |
| Between Ramona Avenue and Central Avenue | Commercial and Residential (In the City of Chino) | 60.7 | 60.8 | 65 | No |
| East of Central Avenue | Commercial and Residential | 40.9 | 40.9 | 65 | No |
| osewood Way/Clubhouse Way | | | | | |
| West of Pipeline Avenue | Residential | 45.2 | 45.2 | 65 | No |
| East of Pipeline Avenue | Residential | 42.1 | 42.6 | 65 | No |
| en Ridge Drive | | | | | |
| West of Pipeline Avenue | Residential | 47.0 | 47.1 | 65 | No |
| s Serranos Boulevard | | | | | |
| Between Pipeline Avenue and Valle Vista Drive | Residential | 42.4 | 46.1 | 65 | No |
| alle Vista Drive | | | | | |
| West of Pipeline Avenue | Residential | 45.7 | 45.7 | 65 | No |
| Between Pipeline Avenue and Country Club Drive | Residential | 45.6 | 45.6 | 65 | No |
| Between Los Serranos Boulevard and Ramona Avenue | Residential | 49.2 | 49.5 | 65 | No |
| East of Ramona Avenue | Residential | 48.6 | 48.7 | 65 | No |

| Table 5-2. Existing Plus Project Conditions - Predicted Traffic Noise Levels | | | | | | | | |
|--|---|-------------------------------|----------------------------|-------------------|-------------------------------------|--|--|--|
| | | | 00 feet from of Roadway | Noise | Exceed | | | |
| Roadway Segment | Surrounding Uses | Existing + Project Conditions | | Standard (dBA) | Standard/ Significant Impact? | | | |
| Peyton Drive | | | • | | | | | |
| North of Chino Hills Parkway | Residential | 59.8 | 59.8 | 65 | No | | | |
| South of Chino Hills Parkway | Residential | 60.4 | 60.4 | 65 | No | | | |
| Pipeline Avenue | | 1 | 1 | | | | | |
| North of Eucalyptus Avenue | Commercial and Residential (in the city of Chino) | 56.1 | 57.2 | 65 | No | | | |
| Between Eucalyptus Avenue and Chino Hills Parkway | Commercial and Residential | 53.6 | 54.9 | 65 | No | | | |
| Between Chino Hills Parkway and Rosewood Way/Clubhouse Way | Residential | 55.1 | 55.3 | 65 | No | | | |
| Between Rosewood Way/Clubhouse Way and Glen Ridge Drive | Residential | 53.8 | 54.0 | 65 | No | | | |
| Between Glen Ridge Drive and Los Serranos Boulevard | Residential | 53.2 | 53.4 | 65 | No | | | |
| Between Los Serranos Boulevard and Vale Vista Drive | Residential | 52.2 | 52.4 | 65 | No | | | |
| Between Vale Vista Drive and Bayberry Drive/ Country Club Drive | Residential | 49.8 | 51.6 | 65 | No | | | |
| South of Bayberry Drive/ Country Club Drive | Residential | 50.8 | 50.8 | 65 | No | | | |
| Ramona Avenue | | • | • | | • | | | |
| Between Village Drive and Vale Vista Drive | Residential | 56.2 | 57.0 | 65 | No | | | |
| South of Vale Vista Drive | Residential | 50.5 | 50.6 | 65 | No | | | |

| Table 5-2. Existing Plus Project Conditions - Predicted Traffic Noise Levels | | | | | | | |
|--|------------------------------------|------------------------|-------------------------------------|-------------------|---|--|--|
| Roadway Segment | | | 00 feet from of Roadway | Noise | Exceed Standard/ Significant Impact? | | |
| | Surrounding Uses | Existing Conditions | Existing + Project Conditions | Standard (dBA) | | | |
| Central Avenue | | | | | | | |
| South of Chino Hills Parkway | Residential (in the city of Chino) | 62.2 | 62.2 | 65 | No | | |
| Eucalyptus Avenue | | • | | | | | |
| West of Pipeline Avenue | Residential | 57.8 | 59.8 | 65 | No | | |
| Between Pipeline Avenue and Ramona Avenue | Residential (in the city of Chino) | 59.2 | 59.9 | 65 | No | | |
| East of Ramona Avenue | Residential (in the city of Chino) | 58.4 | 59.1 | 65 | No | | |
| Yorba Avenue | | | | | | | |
| South of Los Serranos Road | Residential | 49.7 | 49.8 | 65 | No | | |
| North of Fairway Boulevard | Residential | 44.6 | 44.8 | 65 | No | | |
| South of Fairway Boulevard | Residential | 49.2 | 49.3 | 65 | No | | |
| Between Fairway Boulevard and Los Serranos Road | Residential | 48.3 | 48.4 | 65 | No | | |
| Fairway Boulevard | | | | | | | |
| East of Yorba Avenue | Residential | 41.0 | 41.2 | 65 | No | | |
| State Route 71 (Chino Hills Parky | way Onramp) | | | | | | |
| SB on SR 71 | Commercial and Residential | 59.1 | 62.2 | 65 | No | | |
| NB on SR 71 | Commercial and Residential | 59.3 | 62.3 | 65 | No | | |

Notes: A total of 21 intersections were analyzed in the Traffic Impact Study; however, only roadway segments that impact sensitive receptors were included for the purposes of this analysis.

Source: Traffic noise levels were calculated by ECORP using the FHWA roadway noise prediction model in conjunction with the trip generation rate identified by Linscott Law & Greenspan Engineers 2020. Refer to Attachment B for traffic noise modeling assumptions and results.

Operational Stationary Noise

The main stationary operational noise associated with the Project would be activities occurring on the Project site. Potential stationary noise sources related to long-term operation of residences on the Project site would include mechanical equipment and other typical sources specific to residential neighborhoods such as barking dogs, internal traffic circulation, radios, and people talking. According to field noise measurements conducted by ECORP, mechanical heating, ventilation, and air conditioning equipment generates noise levels less than 45 dBA at 20 feet, which is less than City's noise threshold for protecting residential uses. Urban residential noise, consisting of barking dogs, internal traffic circulation, radios, and people talking, generally registers at 55 to 60 dBA. The proposed Project places residential uses adjacent to other residential uses. The most basic planning strategy to minimize adverse impacts on new land uses due to noise is to avoid designating certain land uses at locations within the community that would negatively affect noise sensitive land uses. The Project is consistent with the types, intensity, and patterns of land use envisioned for the Project area, and as previously described, the Project is considered compatible with the existing noise environment. Operation of the Project would not result in a significant noise-related impact associated with onsite sources.

Would the Project Result in the Generation of Excessive Groundborne Vibration or Groundborne Noise Levels?

Construction-Generated Vibration

Excessive groundborne vibration impacts result from continuously occurring vibration levels. Increases in groundborne vibration levels attributable to the proposed Project would be primarily associated with short-term construction-related activities. Construction on the Project site would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. It is not anticipated that pile drivers would be necessary during Project construction. Vibration decreases rapidly with distance and it is acknowledged that construction activities would occur throughout the Project site and would not be concentrated at the point closest to sensitive receptors. Groundborne vibration levels associated with construction equipment are summarized in Table 5-3.

| Table 5-3. Representative Vibration Source Levels for Construction Equipment | | | | | | |
|--|------------------------------------|--|--|--|--|--|
| Equipment Type | PPV at 25 Feet (inches per second) | | | | | |
| Large Bulldozer | 0.089 | | | | | |
| Pile Driver | 0.170 | | | | | |
| Caisson Drilling | 0.089 | | | | | |
| Loaded Trucks | 0.076 | | | | | |
| Rock Breaker | 0.089 | | | | | |
| Jackhammer | 0.035 | | | | | |
| Small Bulldozer/Tractor | 0.003 | | | | | |

Source: FTA 2018; Caltrans 2013

The City of Chino Hills does not regulate vibrations associated with construction. However, a discussion of construction vibration is included for full disclosure purposes. For comparison purposes, the Caltrans (2013) recommended standard of 0.2 inch per second PPV with respect to the prevention of structural damage for older residential buildings is used as a threshold. This is also the level at which vibrations may begin to annoy people in buildings.

It is acknowledged that construction activities would occur throughout the Project site and would not be concentrated at the point closest to the nearest structure. The nearest structure of concern to the construction site is located approximately 40 feet to the northeast. Based on the vibration levels presented in Table 5-3, ground vibration generated by heavy-duty equipment would not be anticipated to exceed approximately 0.170 inch per second PPV at 25 feet. Thus, the structure located 40 feet away would not be negatively affected. Predicted vibration levels at the nearest structures would not exceed recommended criteria.

Operational Groundborne Vibration

Project operations would not include the use of any stationary equipment that would result in excessive groundborne vibration levels.

Would the Project Expose People Residing or Working in the Project Area to Excessive Airport Noise?

The Project site is located approximately 3.44 miles east of the Chino Airport. The Project site is located outside the 65 dBA CNEL noise impact zone for the Chino Airport per the City of Chino Hills General Plan. Implementation of the proposed Project would not affect airport operations nor result in increased exposure of noise-sensitive receptors to aircraft noise.

Would the Project Result in Cumulatively Considerable Noise Impacts?

Cumulative Construction Noise

Construction activities associated with the proposed Project and other construction projects in the area may overlap, resulting in construction noise in the area. However, construction noise impacts primarily affect the areas immediately adjacent to the construction site. Construction noise for the proposed Project was determined to be less than significant following compliance with the City of Chino Hills Municipal Code. Cumulative development in the vicinity of the Project site could result in elevated construction noise levels at sensitive receptors in the Project area. However, each project would be required to comply with the City's Municipal Code limitations on construction. Therefore, the Project would not contribute to cumulative impacts during construction.

Cumulative Stationary Source Noise Impacts

Long-term stationary noise sources associated with the development at the Project site, combined with other cumulative projects, could cause local noise level increases. Noise levels associated with the proposed Project and related cumulative projects together could result in higher noise levels than considered separately. As previously described, onsite noise sources associated with the proposed Project are not anticipated to not exceed City of Chino Hills noise standards. Therefore, the Project would not contribute to cumulative impacts during operations.

Cumulative Traffic Source Noise Impacts

Cumulative noise impacts represent the "combined" and "incremental" effects of human activities that accumulate over time. A significant impact would result only if *both* the combined and incremental effects criteria have been exceeded. For instance, although there may be a significant noise increase due to the Project in combination with other related projects (Combined effects), it must also be demonstrated that the Project, considered on its own, has an Incremental effect. In other words, a significant portion of the noise increase must be due to the proposed Project.

Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to construction of the Project and other projects in the vicinity. A project's contribution to a cumulative traffic noise increase could be considered substantial when the Combined effect exceeds the perception level (i.e., auditory level increase) threshold. The Combined effect compares the "Cumulative Plus Project" condition to the "Existing without Project" condition. This comparison accounts for the traffic noise increase generated by a project combined with the traffic noise increase generated by other projects in the area. The Incremental effect compares the Cumulative Plus Project condition to the "Cumulative No Project" condition. This comparison accounts for the effect of future traffic noise as a result of the Project only.

The following Combined effect and Incremental effect criteria have been utilized to evaluate the overall effect of the cumulative noise increase.

■ **Combined Effect**. Does the Cumulative Plus Project noise level generate an increase of 3.0 dB (the perception level) over Existing without Project conditions, resulting in noise levels exceeding the applicable exterior standard at a sensitive use?

and

■ **Incremental Effects**. Does the Cumulative Plus Project noise level cause a 1.0 dBA increase in noise over the Cumulative without Project noise level?

Although there may be a significant noise increase due to the Project in combination with other related projects (Combined effects), it must also be demonstrated that the Project has an Incremental effect. In other words, a significant portion of the noise increase must be due to the Project.

Thus, a significant impact would result only if *both* the Combined and Incremental effects criteria have been exceeded at a single roadway segment, resulting noise levels exceeding the applicable exterior standard at a sensitive use. This would indicate that there is a significant noise increase due to the Project in combination with other related projects *and* a significant portion of the noise increase is due to the Project. Noise by definition is a localized phenomenon and reduces as distance from the source increases. Consequently, only the Project and growth due to occur in the Project site's general vicinity would contribute to cumulative noise impacts. Table 5-4 lists the traffic noise effects along roadway segments in the Project vicinity for Existing without Project, Cumulative without Project, and Cumulative Plus Project conditions.

| Table 5-4. Cumulative Traffic Noise Scenario | | | | | | | | |
|--|---|--|--|--|---|--|--|--|
| | Existing | Cumulative No Project | Cumulative Plus Project | Combined Effects | Incremental Effects | | | |
| Roadway Segment | CNEL @ 100 Feet from Roadway Centerline | CNEL @ 100 Feet from Roadway Centerline | CNEL @ 100 Feet from Roadway Centerline | Difference in CNEL Between Existing and Cumulative + Project | Difference in CNEL Between Cumulative No Project and Cumulative + Project | Cumulatively Significant Impact? | | |
| Chino Hills Parkway | | | | | | | | |
| West of Peyton Drive | 59.5 | 60.5 | 60.5 | 1.0 | 0.0 | No | | |
| Between Peyton Drive and Pipeline Avenue | 61.8 | 62.3 | 62.6 | 0.8 | 0.3 | No | | |
| Between Pipeline Avenue | 62.0 | 63.8 | 63.8 | 1.8 | 0.0 | No | | |
| Between Ramona Avenue and Central Avenue | 60.7 | 61.6 | 61.6 | 0.9 | 0.0 | No | | |
| East of Central Avenue | 40.9 | 41.3 | 41.3 | 0.4 | 0.0 | No | | |

| | Factor Co. | Cumulative | Cumulative | Combined | Incremental | |
|--|---|--|--|--|---|--|
| | Existing | No Project | Plus Project | Effects | Effects | |
| Roadway Segment | CNEL @ 100 Feet from Roadway Centerline | CNEL @ 100 Feet from Roadway Centerline | CNEL @ 100 Feet from Roadway Centerline | Difference in CNEL Between Existing and Cumulative + Project | Difference in CNEL Between Cumulative No Project and Cumulative + Project | Cumulatively Significant Impact? |
| Rosewood Way/Clubhouse Way | | | | | | |
| West of Pipeline Avenue | 45.2 | 45.7 | 45.7 | 0.5 | 0.0 | No |
| East of Pipeline Avenue | 42.1 | 43.2 | 43.2 | 1.1 | 0.0 | No |
| Glen Ridge Drive | | | | | | |
| West of Pipeline Avenue | 47.0 | 47.5 | 47.7 | 0.7 | 0.2 | No |
| Los Serranos Boulevard | | | | | | |
| Between Pipeline Avenue and Valle Vista Drive | 42.4 | 46.9 | 47.0 | 4.3 | 0.1 | No |
| Valle Vista Drive | | | | | | |
| West of Pipeline Avenue | 45.7 | 46.2 | 46.2 | 0.5 | 0.0 | No |
| Between Pipeline Avenue and Country Club Drive | 45.6 | 46.1 | 48.0 | 2.4 | 1.9 | No |
| Between Los Serranos Boulevard and Ramona Avenue | 49.2 | 50.2 | 50.5 | 1.3 | 0.3 | No |
| East of Ramona Avenue | 48.6 | 49.3 | 49.3 | 0.7 | 0.0 | No |
| Peyton Drive | | | | | | |
| North of Chino Hills Parkway | 59.8 | 60.4 | 60.4 | 0.6 | 0.0 | No |
| South of Chino Hills Parkway | 60.4 | 60.9 | 60.9 | 0.5 | 0.0 | No |
| Pipeline Avenue | | | | | | |
| North of Eucalyptus Avenue | 56.1 | 57.6 | 57.6 | 1.5 | 0.0 | No |
| Between Eucalyptus Avenue and Chino Hills Parkway | 53.6 | 56.8 | 56.9 | 3.3 | 0.1 | No |
| Between Chino Hills Parkway and Rosewood Way/Clubhouse Way | 55.1 | 55.8 | 56.0 | 0.9 | 0.2 | No |
| Between Rosewood Way/Clubhouse Way and Glen Ridge Drive | 53.8 | 54.5 | 54.7 | 0.9 | 0.2 | No |

| Table 5-4. Cumulative Traffic N | oise Scenario |) | | | | |
|---|---|--|--|--|---|--|
| | Existing | Cumulative No Project | Cumulative Plus Project | Combined Effects | Incremental Effects | |
| Roadway Segment | CNEL @ 100 Feet from Roadway Centerline | CNEL @ 100 Feet from Roadway Centerline | CNEL @ 100 Feet from Roadway Centerline | Difference in CNEL Between Existing and Cumulative + Project | Difference in CNEL Between Cumulative No Project and Cumulative + Project | Cumulatively Significant Impact? |
| Between Glen Ridge Drive and Los Serranos Boulevard | 53.2 | 53.9 | 54.1 | 0.9 | 0.2 | No |
| Between Los Serranos Boulevard and Vale Vista Drive | 52.2 | 54.8 | 55.1 | 2.6 | 0.3 | No |
| Between Vale Vista Drive and Bayberry Drive/ Country Club Drive | 49.8 | 52.4 | 52.4 | 2.6 | 0.0 | No |
| South of Bayberry Drive/ Country Club Drive | 50.8 | 51.7 | 53.1 | 2.3 | 1.4 | No |

| Table 5-4. Cumulative Traffic No | oise Scenario |) | | | | |
|---|---|--|--|--|---|--|
| | Existing | Cumulative No Project | Cumulative Plus Project | Combined Effects | Incremental Effects | |
| Roadway Segment | CNEL @ 100 Feet from Roadway Centerline | CNEL @ 100 Feet from Roadway Centerline | CNEL @ 100 Feet from Roadway Centerline | Difference in CNEL Between Existing and Cumulative + Project | Difference in CNEL Between Cumulative No Project and Cumulative + Project | Cumulatively Significant Impact? |
| Ramona Avenue | | | | | | |
| Between Village Drive and Vale Vista Drive | 56.2 | 57.4 | 57.8 | 1.6 | 0.4 | No |
| South of Vale Vista Drive | 50.5 | 52.4 | 52.5 | 2.0 | 0.1 | No |
| Central Avenue | | | | | | |
| South of Chino Hills Parkway | 62.2 | 63.0 | 63.2 | 1.0 | 0.2 | No |
| Eucalyptus Avenue | | | | | | |
| West of Pipeline Avenue | 57.8 | 60.1 | 60.6 | 2.8 | 0.5 | No |
| Between Pipeline Avenue and Ramona Avenue | 59.2 | 60.4 | 60.4 | 1.2 | 0.0 | No |
| East of Ramona Avenue | 58.4 | 59.1 | 59.6 | 1.2 | 0.5 | No |
| Yorba Avenue | | | | | | |
| South of Los Serranos Road | 49.7 | 50.8 | 50.9 | 1.2 | 0.1 | No |
| North of Fairway Boulevard | 44.6 | 45.3 | 45.4 | 0.8 | 0.1 | No |
| South of Fairway Boulevard | 49.2 | 50.3 | 50.4 | 1.2 | 0.1 | No |
| Between Fairway Boulevard and Los Serranos Road | 48.3 | 49.5 | 49.6 | 1.3 | 0.1 | No |
| Fairway Boulevard | | | | | | |
| East of Yorba Avenue | 41.0 | 41.5 | 41.5 | 0.5 | 0.0 | No |
| SR 71 (Chino Hills Parkway Onra | mp) | | | | | |
| SB on SR 71 | 59.1 | 64.3 | 64.5 | 5.4 | 0.2 | No |
| NB on SR 71 | 59.3 | 64.3 | 64.6 | 5.3 | 0.3 | No |

Source: Traffic noise levels were calculated by ECORP using the FHWA roadway noise prediction model in conjunction with the trip generation rate identified by Linscott Law & Greenspan Engineers, Inc 2020. Refer to Attachment B for traffic noise modeling assumptions and results.

As shown in Table 5-4, no significant cumulative traffic noise impact would result on any of the Project vicinity roadway segments traversing noise-sensitive residential land uses. In neither case would Projectgenerated traffic noise surpass both the Incremental effect threshold of a 1.0-dBA increase over the

2019-194

Cumulative No Project scenario and the Combined effect threshold of a 3.0-dBA increase over Existing Conditions at the same roadway segment. Therefore, no perceptible increase of traffic noise would occur as a result of the Cumulative Plus Project scenario.

6.0 REFERENCES

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|--|
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| Chino, City of. 2010. City of Chino General Plan 2025 |
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| State of California OPR. 2003. California General Plan Guidelines. |
| WEAL. 2000. Sound Transmission Sound Test Laboratory Report No. TL 96-186. |

LIST OF ATTACHMENTS

Attachment A - Baseline (Existing) Noise Measurements - Project Site and Vicinity

Attachment B - Federal Highway Administration Highway Noise Prediction Model (FHWA-RD-77-108) Outputs – Project Traffic Noise

ATTACHMENT A

Baseline (Existing) Noise Measurements – Project Site and Vicinity



Map Date: 2/18/2020 Photo (or Base) Source: Google Earth 2020



Site Number: 1 Recorded By: Lindsay Liegler **Job Number:** 2019-194 Date: 2/12/2020 **Time:** 1:16 p.m. Location: South of fence along Los Serranos Boulevard adjacent to Project site Source of Peak Noise: Vehicles on adjacent roadways Noise Data Lmin (dB) Lmax (dB) Peak (dB) Leq (dB) 56.3 39.6 72.0 95.7

| Equipment | | | | | | | | | |
|-----------|-------------------------|--------------|---------|--------------------------|-----------------|--------------------------|---------|-----------|--|
| Category | Type | Vendor | r Model | | Serial No. | Cert. Date | Note | | |
| | Sound Level Meter | Larson Davis | | Larson Davis | | LxT SE | 0005120 | 8/05/2019 | |
| Sound | Microphone | Larson Davis | | Larson Davis | | 377B02 | 315201 | 9/23/2019 | |
| Souria | Preamp | Larson Davis | | PRMLxT1L | 099947 | 10/10/2019 | | | |
| | Calibrator | Larson Davis | | CAL200 | 17325 | 10/18/2019 | | | |
| | | | 1 | Neather Data | | | | | |
| | Duration: 10 min | utes | | Sky: Clean | | | | | |
| | Note: dBA Offset | = 0.018 | | Sensor Height (ft): 4 ft | | | | | |
| Est. | Wind Ave Spe | ed (mph) | Ter | mperature (degr | ees Fahrenheit) | Barometer Pressure (hPa) | | | |
| | 6 | 6 | | | | 30.05 | | | |

Photo of Measurement Location



Summary

File Name on Meter LxT_Data.190

File Name on PC SLM_0005120_LxT_Data_190.00.ldbin

Serial Number0005120ModelSoundExpert® LxTFirmware Version2.302

User Lindsay Liegler

Location

Job Description

Note

Measurement

Description

 Start
 2020-02-08 05:25:22

 Stop
 2020-02-08 05:35:26

 Duration
 00:10:04.3

 Run Time
 00:10:04.3

 Pause
 00:00:00.0

Pre Calibration2020-02-08 05:20:19Post CalibrationNoneCalibration Deviation---

Overall Settings

RMS Weight A Weighting Z Weighting **Peak Weight** Detector Slow PRMLxT1L Preamp **Microphone Correction** Off **Integration Method** Linear **OBA Range** Low 1/1 and 1/3 **OBA Bandwidth** A Weighting **OBA Freq. Weighting OBA Max Spectrum** Bin Max Overload 122.0 dB

 A
 C
 Z

 Under Range Peak
 78.3
 75.3
 80.3 dB

 Under Range Limit
 26.3
 26.0
 31.2 dB

 Noise Floor
 16.6
 16.9
 22.1 dB

Results

LAeq 56.3
LAE 84.1
EA 28.661 μPa²h

 LZpeak (max)
 2020-02-08 05:25:25
 95.7 dB

 LASmax
 2020-02-08 05:34:57
 72.0 dB

 LASmin
 2020-02-08 05:35:16
 39.6 dB

| SEA | -99.94 d E | 3 | | | | | | |
|--|-------------------|--------------------|--------------------|------------|------------------|----------------------|--------------------|----|
| LAS > 85.0 dB (Exceedance Counts / Duration) | 0 | 0.0 | S | | | | | |
| LAS > 115.0 dB (Exceedance Counts / Duration) | 0 | 0.0 | S | | | | | |
| LZpeak > 135.0 dB (Exceedance Counts / Duration) | 0 | 0.0 | S | | | | | |
| LZpeak > 137.0 dB (Exceedance Counts / Duration) | 0 | 0.0 | S | | | | | |
| LZpeak > 140.0 dB (Exceedance Counts / Duration) | 0 | 0.0 | S | | | | | |
| Community Noise | Ldn | LDay 07:00-22:00 | LNight 22:00-07:00 | Lden | LDay 07:00-19:00 | LEvening 19:00-22:00 | LNight 22:00-07:00 | |
| • | 66.3 | -99.94 | 56.3 | 66.3 | -99.94 | = | _ | dB |
| | | | | | | | | |
| LCeq | 63.0 dE | 3 | | | | | | |
| LAeq | 56.3 dE | 3 | | | | | | |
| LCeq - LAeq | 6.6 dE | 3 | | | | | | |
| LAleq | 59.2 dE | 3 | | | | | | |
| LAeq | 56.3 dE | 3 | | | | | | |
| LAleq - LAeq | 2.9 dE | 3 | | | | | | |
| | A | | С | | | Z | | |
| | dB · | Time Stamp | dB | Time Stamp | dB | Time Stamp | | |
| Leq | 56.3 | | 63.0 | | | | | |
| LS(max) | 72.0 2 | 2020/02/08 5:34:57 | | | | | | |
| LS(min) | 39.6 2 | 2020/02/08 5:35:16 | | | | | | |
| | | | | | | | 1 | |

95.7 2020/02/08 5:25:25

LPeak(max)

| Site Number: 2 | | | |
|------------------------------|---------------------------|-----------|-----------|
| Recorded By: Lindsay Liegl | er | | |
| Job Number: 2019-194 | | | |
| Date: 2/12/2020 | | | |
| Time: 1:38 p.m. | | | |
| Location: Pipeline/Glen Ride | ge Drive Intersection | | |
| Source of Peak Noise: Veh | cles on adjacent roadways | | |
| | Nois | e Data | |
| Leq (dB) | Lmin (dB) | Lmax (dB) | Peak (dB) |
| 72.9 | 56.0 | 92.8 | 113.8 |

| | Equipment | | | | | | | |
|----------|-------------------------|-------------|--------------------------|-------------------|--------------------------|------|--|--|
| Category | Type | Vendor | Model | Serial No. | Cert. Date | Note | | |
| | Sound Level Meter | Larson Davi | s LxT SE | 0005120 | 8/05/2019 | | | |
| Sound | Microphone | Larson Davi | s 377B02 | 315201 | 9/23/2019 | | | |
| Sound | Preamp | Larson Davi | s PRMLxT1L | 099947 | 10/10/2019 | | | |
| | Calibrator | Larson Davi | s CAL200 | CAL200 17325 | | | | |
| | Weather Data | | | | | | | |
| | Duration: 10 min | utes | | Sky: clear | | | | |
| | Note: dBA Offset | = 0.018 | Sensor Height (ft): 4 ft | | | | | |
| Est. | Wind Ave Spe | ed (mph) | Temperature (deg | grees Fahrenheit) | Barometer Pressure (hPa) | | | |
| | 6 | | 6 | 6 | 30.05 | | | |

Photo of Measurement Location



Summary

File Name on Meter LxT_Data.191

File Name on PC SLM_0005120_LxT_Data_191.00.ldbin

Serial Number 0005120

ModelSoundExpert® LxTFirmware Version2.302

User Lindsay Liegler

Location

Job Description

Note

Measurement

Description

 Start
 2020-02-08 05:45:49

 Stop
 2020-02-08 05:56:43

 Duration
 00:10:48.8

 Run Time
 00:10:48.8

 Pause
 00:00:00.0

Pre Calibration2020-02-08 05:20:19Post CalibrationNoneCalibration Deviation---

Overall Settings

RMS Weight A Weighting Z Weighting **Peak Weight** Detector Slow PRMLxT1L Preamp **Microphone Correction** Off **Integration Method** Linear **OBA Range** Low 1/1 and 1/3 **OBA Bandwidth** A Weighting **OBA Freq. Weighting OBA Max Spectrum** Bin Max Overload 122.0 dB

 $\mathsf{A} \qquad \qquad \mathsf{C} \qquad \qquad \mathsf{z}$

 Under Range Peak
 78.3
 75.3
 80.3 dB

 Under Range Limit
 26.3
 26.0
 31.2 dB

 Noise Floor
 16.6
 16.9
 22.1 dB

Results

LAeq 72.9
LAE 101.0
EA 1.393 mPa²h

 LZpeak (max)
 2020-02-08 05:50:57
 113.8 dB

 LASmax
 2020-02-08 05:50:58
 92.8 dB

 LASmin
 2020-02-08 05:46:22
 56.0 dB

| SEA | -99.94 c | lB | | | | | | |
|--|-----------------|--------------------|--------------------|------------|------------------|----------------------|--------------------|----|
| LAS > 85.0 dB (Exceedance Counts / Duration) | 3 | 9.0 s | | | | | | |
| - | | | | | | | | |
| LAS > 115.0 dB (Exceedance Counts / Duration) | 0 | 0.0 s | | | | | | |
| LZ _{peak} > 135.0 dB (Exceedance Counts / Duration) | 0 | 0.0 s | | | | | | |
| LZpeak > 137.0 dB (Exceedance Counts / Duration) | 0 | 0.0 s | | | | | | |
| LZ _{peak} > 140.0 dB (Exceedance Counts / Duration) | 0 | 0.0 s | | | | | | |
| Community Noise | Ldn | LDay 07:00-22:00 | LNight 22:00-07:00 | Lden | LDay 07:00-19:00 | LEvening 19:00-22:00 | LNight 22:00-07:00 | |
| · | 82.9 | -99.94 | 72.9 | 82.9 | • | -99.94 | 72.9 | dB |
| LCeq | 83.7 c | ЯВ | | | | | | |
| LAeq | 72.9 d | | | | | | | |
| LCeq - LAeq | 10.8 (| | | | | | | |
| LAleq | 75.4 (| | | | | | | |
| | | | | | | | | |
| LAeq | 72.9 (| | | | | | | |
| LAleq - LAeq | 2.5 c | iB | | | | | | |
| | Α | | С | | | Z | | |
| | dB | Time Stamp | dB | Time Stamp | dB | Time Stamp | | |
| Leq | 72.9 | | 83.7 | | | | | |
| LS(max) | 92.8 | 2020/02/08 5:50:58 | | | | | | |
| LS(min) | 56.0 | 2020/02/08 5:46:22 | | | | | | |
| LPeak(max) | | | | | 113.8 | 2020/02/08 5:50:57 | | |

| Site Number: 3 | | | | | | | |
|------------------------------|-----------------------------|-----------|-----------|--|--|--|--|
| Recorded By: Lindsay Liegler | | | | | | | |
| Job Number: 2019-194 | | | | | | | |
| Date: 2/12/2020 | | | | | | | |
| Time: 1:54 p.m. | | | | | | | |
| Location: El Molino/Los Ser | rano Boulevard Intersection | | | | | | |
| Source of Peak Noise: Veh | cles on adjacent roadways | | | | | | |
| | Nois | e Data | | | | | |
| Leq (dB) | Lmin (dB) | Lmax (dB) | Peak (dB) | | | | |
| 62.8 | 44.2 | 83.9 | 108.1 | | | | |

| | Equipment | | | | | | | | |
|----------|-------------------------|--------------|-------|-----------------|--------------------------|--------------------------|---------|-----------|--|
| Category | Type | Vendor | Model | | Serial No. | Cert. Date | Note | | |
| | Sound Level Meter | Larson Davis | | Larson Davis | | LxT SE | 0005120 | 8/05/2019 | |
| Sound | Microphone | Larson Davis | | Larson Davis | | 377B02 | 315201 | 9/23/2019 | |
| Souria | Preamp | Larson Day | ris | PRMLxT1L | 099947 | 10/10/2019 | | | |
| | Calibrator | Larson Davis | | CAL200 17325 | | 10/18/2019 | | | |
| | Weather Data | | | | | | | | |
| | Duration: 10 min | utes | | | Sky: clear | | | | |
| | Note: dBA Offset: | = 0.018 | | | Sensor Height (ft): 4 ft | | | | |
| Est. | Wind Ave Spe | ed (mph) | Ter | mperature (degi | rees Fahrenheit) | Barometer Pressure (hPa) | | | |
| | 6 | 6 | | | | 30.05 | | | |

Photo of Measurement Location



Summary

File Name on Meter LxT_Data.192

File Name on PC SLM_0005120_LxT_Data_192.00.ldbin

Serial Number0005120ModelSoundExpert® LxT

Firmware Version 2.302

User Lindsay Liegler

Location

Job Description

Note

Measurement

Description

 Start
 2020-02-08 06:03:04

 Stop
 2020-02-08 06:13:00

 Duration
 00:09:55.5

 Run Time
 00:09:55.5

 Pause
 00:00:00.0

Pre Calibration2020-02-08 05:20:19Post CalibrationNoneCalibration Deviation---

Overall Settings

RMS Weight A Weighting Z Weighting **Peak Weight** Detector Slow PRMLxT1L Preamp **Microphone Correction** Off **Integration Method** Linear **OBA Range** Low 1/1 and 1/3 **OBA Bandwidth** A Weighting **OBA Freq. Weighting OBA Max Spectrum** Bin Max Overload 122.0 dB

 Under Range Peak
 78.3
 75.3
 80.3 dB

 Under Range Limit
 26.3
 26.0
 31.2 dB

 Noise Floor
 16.6
 16.9
 22.1 dB

Results

LAeq 62.8
LAE 90.6
EA 126.528 μPa²h

 LZpeak (max)
 2020-02-08 06:07:40
 108.1 dB

 LASmax
 2020-02-08 06:07:40
 83.9 dB

 LASmin
 2020-02-08 06:04:06
 44.2 dB

| SEA | -99.94 | dB | | | | | | |
|--|--------|--------------------|--------------------|------------|------------------|----------------------|--------------------|----|
| LAS > 85.0 dB (Exceedance Counts / Duration) | 0 | 0.0 | S | | | | | |
| LAS > 115.0 dB (Exceedance Counts / Duration) | 0 | 0.0 | S | | | | | |
| LZpeak > 135.0 dB (Exceedance Counts / Duration) | 0 | 0.0 | S | | | | | |
| LZpeak > 137.0 dB (Exceedance Counts / Duration) | 0 | 0.0 | S | | | | | |
| LZ _{peak} > 140.0 dB (Exceedance Counts / Duration) | 0 | 0.0 | S | | | | | |
| Community Noise | Ldn | LDay 07:00-22:00 | LNight 22:00-07:00 | Lden | LDay 07:00-19:00 | LEvening 19:00-22:00 | LNight 22:00-07:00 | |
| | 72.8 | -99.94 | _ | 72.8 | | = | _ | dB |
| LCeq | 75.9 | dB | | | | | | |
| LAeq | 62.8 | | | | | | | |
| LCeq - LAeq | 13.0 | dB | | | | | | |
| LAleq | 66.0 | dB | | | | | | |
| LAeq | 62.8 | dB | | | | | | |
| LAleq - LAeq | 3.2 | dB | | | | | | |
| | А | | С | | | Z | | |
| | dB | Time Stamp | dB | Time Stamp | dB | Time Stamp | | |
| Leq | 62.8 | | 75.9 | | | | | |
| LS(max) | 83.9 | 2020/02/08 6:07:40 | | | | | | |
| Ls(min) | 44.2 | 2020/02/08 6:04:06 | | | | | | |

LPeak(max)

108.1 2020/02/08 6:07:40

| Site Number: 4 | | | | | | | |
|------------------------------|---------------------------|-----------|-----------|--|--|--|--|
| Recorded By: Lindsay Liegle | er . | | | | | | |
| Job Number: 2019-194 | | | | | | | |
| Date: 2/12/2020 | | | | | | | |
| Time: 2:07 p.m. | Time: 2:07 p.m. | | | | | | |
| Location: Valley Vista and R | amona Avenue Intersection | | | | | | |
| Source of Peak Noise: Vehic | cles on adjacent roadways | | | | | | |
| | Noise | e Data | | | | | |
| Leq (dB) | Lmin (dB) | Lmax (dB) | Peak (dB) | | | | |
| 67.9 | 49.3 | 90.8 | 112.5 | | | | |

| | Equipment | | | | | | | |
|----------|-------------------------|-------------|--------------------------|-------------------|--------------------------|------|--|--|
| Category | Type | Vendor | Model | Serial No. | Cert. Date | Note | | |
| | Sound Level Meter | Larson Davi | s LxT SE | 0005120 | 8/05/2019 | | | |
| Sound | Microphone | Larson Davi | s 377B02 | 315201 | 9/23/2019 | | | |
| Sound | Preamp | Larson Davi | s PRMLxT1L | 099947 | 10/10/2019 | | | |
| | Calibrator | Larson Davi | s CAL200 | CAL200 17325 | | | | |
| | Weather Data | | | | | | | |
| | Duration: 10 min | utes | | Sky: clear | | | | |
| | Note: dBA Offset | = 0.018 | Sensor Height (ft): 4 ft | | | | | |
| Est. | Wind Ave Spe | ed (mph) | Temperature (deg | grees Fahrenheit) | Barometer Pressure (hPa) | | | |
| | 6 | | 6 | 6 | 30.05 | | | |

Photo of Measurement Location



Summary

File Name on Meter LxT_Data.193

File Name on PC SLM_0005120_LxT_Data_193.00.ldbin

Serial Number0005120ModelSoundExpert® LxTFirmware Version2.302

User Lindsay Liegler

Location

Job Description

Note

Measurement

Description

 Start
 2020-02-08 06:19:01

 Stop
 2020-02-08 06:29:09

 Duration
 00:10:07.3

 Run Time
 00:10:07.3

 Pause
 00:00:00.0

Pre Calibration2020-02-08 05:20:19Post CalibrationNoneCalibration Deviation---

Overall Settings

RMS Weight A Weighting Z Weighting **Peak Weight** Detector Slow PRMLxT1L Preamp **Microphone Correction** Off **Integration Method** Linear **OBA Range** Low 1/1 and 1/3 **OBA Bandwidth** A Weighting **OBA Freq. Weighting OBA Max Spectrum** Bin Max Overload 122.0 dB

A C Z

 Under Range Peak
 78.3
 75.3
 80.3 dB

 Under Range Limit
 26.3
 26.0
 31.2 dB

 Noise Floor
 16.6
 16.9
 22.1 dB

Results

LAeq 67.9
LAE 95.7
EA 417.172 μPa²h

 LZpeak (max)
 2020-02-08 06:20:26
 122.5 dB

 LASmax
 2020-02-08 06:20:26
 90.8 dB

 LASmin
 2020-02-08 06:27:41
 49.3 dB

| SEA | 132.5 | dB | | | | | | |
|--|-------|--------------------|--------------------|------------|------------------|----------------------|--------------------|----|
| LAS > 85.0 dB (Exceedance Counts / Duration) | 1 | 2.0 | S | | | | | |
| LAS > 115.0 dB (Exceedance Counts / Duration) | 0 | 0.0 | S | | | | | |
| LZpeak > 135.0 dB (Exceedance Counts / Duration) | 0 | 0.0 | S | | | | | |
| LZpeak > 137.0 dB (Exceedance Counts / Duration) | 0 | 0.0 | S | | | | | |
| LZ _{peak} > 140.0 dB (Exceedance Counts / Duration) | 0 | 0.0 | S | | | | | |
| Community Noise | Ldn | LDay 07:00-22:00 | LNight 22:00-07:00 | Lden | LDay 07:00-19:00 | LEvening 19:00-22:00 | LNight 22:00-07:00 | |
| , | 77.9 | -99.94 | 67.9 | 77.9 | | _ | 67.9 | dB |
| LCeq | 79.1 | dB | | | | | | |
| LAeq | 67.9 | | | | | | | |
| LCeq - LAeq | 11.2 | | | | | | | |
| LAleq | 78.5 | | | | | | | |
| LAeq | 67.9 | | | | | | | |
| LAleq - LAeq | 10.6 | | | | | | | |
| | Д | | С | | | Z | | |
| | dB | Time Stamp | dB | Time Stamp | dB | Time Stamp | | |
| Leq | 67.9 | | 79.1 | | | | | |
| LS(max) | 90.8 | 2020/02/08 6:20:26 | | | | | | |
| Ls(min) | 49.3 | 2020/02/08 6:27:41 | | | | | | |
| LPeak(max) | | | | | 122.5 | 2020/02/08 6:20:26 | | |

ATTACHMENT B

Federal Highway Administration Highway Noise Prediction Model (FHWA-RD-77-108) Outputs – Project Traffic Noise

Project Number: 2019-149
Project Name: Rancho Cielito

Background Information

Model Description: FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.

Source of Traffic Volumes: Lin Community Noise Descriptor:

Linscott Law & Greenspan Engineers 2020

L_{dn}: ____ CNEL: ___ x

| Assumed 24-Hour Traffic Distribution: | Day | Evening | Night |
|---------------------------------------|--------|---------|-------|
| Total ADT Volumes | 77.70% | 12.70% | 9.60% |
| Medium-Duty Trucks | 87.43% | 5.05% | 7.52% |
| Heavy-Duty Trucks | 89.10% | 2.84% | 8.06% |

| rioury Buly Trucke | | 00.1070 | 2.0170 | 0.0070 | | | | | | | | | | | | |
|--|-------|---------|--------|--------|--------|--------|---------|---------|--------------|-------------|------------|-------------|------|-----------|---------|--------|
| | | | | Design | | Vehic | cle Mix | Di | istance from | m Centerlin | e of Roadw | <i>y</i> av | • | Traffic \ | /olumes | 3 |
| Analysis Condition | | Median | ADT | Speed | Alpha | Medium | Heavy | CNEL at | | | to Contour | ay | Calc | Dav | Eve | Night |
| Roadway, Segment | Lanes | Width | Volume | (mph) | Factor | Trucks | Trucks | | 70 CNEL | 65 CNEL | | 55 CNEL | Dist | zu, | | . ugut |
| Existing Conditions | | | | | | | | | | | | | | | | |
| Chino Hills Parkway | | | | | | | | | | | | | | | | |
| West of Peyton Drive | 4 | 0 | 6,642 | 45 | 0.5 | 1.8% | 0.7% | 59.5 | - | - | 93 | 201 | 100 | 5,161 | 844 | 638 |
| Between Peyton Drive and Pipeline Avenue | 4 | 0 | 11,227 | 45 | 0.5 | 1.8% | 0.7% | 61.8 | - | 61 | 132 | 285 | 100 | 8,723 | 1,426 | 1,07 |
| Between Pipeline Avenue | 4 | 0 | 11,767 | 45 | 0.5 | 1.8% | 0.7% | 62.0 | - | 63 | 137 | 294 | 100 | 9,143 | 1,494 | 1,130 |
| Between Ramona Avenue and Central Avenue | 4 | 0 | 8,734 | 45 | 0.5 | 1.8% | 0.7% | 60.7 | - | 52 | 112 | 241 | 100 | 6,786 | 1,109 | 838 |
| East of Central Avenue | 4 | 0 | 90 | 45 | 0.5 | 1.8% | 0.7% | 40.9 | - | - | - | - | 100 | 70 | 11 | 9 |
| Rosewood Way/Clubhouse Way | | | | | | | | | | | | | | | | |
| West of Pipeline Avenue | 2 | 0 | 819 | 25 | 0.5 | 1.8% | 0.7% | 45.2 | - | - | - | - | 100 | 636 | 104 | 79 |
| East of Pipeline Avenue | 2 | 0 | 405 | 25 | 0.5 | 1.8% | 0.7% | 42.1 | - | - | - | - | 100 | 315 | 51 | 39 |
| Glen Ridge Drive | | | | | | | | | | | | | | | | |
| West of Pipeline Avenue | 2 | 0 | 1,260 | 25 | 0.5 | 1.8% | 0.7% | 47.0 | - | - | - | - | 100 | 979 | 160 | 121 |
| Los Serranos Boulevard | | | | | | | | | | | | | | | | |
| Between Pipeline Avenue and Valle Vista Drive | 2 | 0 | 432 | 25 | 0.5 | 1.8% | 0.7% | 42.4 | - | - | - | - | 100 | 336 | 55 | 41 |
| Valle Vista Drive | | | | | | | | | | | | | | | | |
| West of Pipeline Avenue | 2 | 0 | 927 | 25 | 0.5 | 1.8% | 0.7% | 45.7 | - | - | - | - | 100 | 720 | 118 | 89 |
| Between Pipeline Avenue and Country Club Drive | 2 | 0 | 909 | 25 | 0.5 | 1.8% | 0.7% | 45.6 | - | - | - | - | 100 | 706 | 115 | 87 |
| Between Los Serranos Boulevard and Ramona Avenue | 2 | 0 | 2,065 | 25 | 0.5 | 1.8% | 0.7% | 49.2 | - | - | - | 41 | 100 | 1,605 | 262 | 198 |
| East of Ramona Avenue | 2 | 0 | 1,818 | 25 | 0.5 | 1.8% | 0.7% | 48.6 | - | - | - | 38 | 100 | 1,413 | 231 | 175 |
| Peyton Drive | | | | | | | | | | | | | | | | |
| North of Chino Hills Parkway | 4 | 0 | 7,074 | 45 | 0.5 | 1.8% | 0.7% | 59.8 | - | 45 | 97 | 210 | 100 | 5,496 | 898 | 679 |
| South of Chino Hills Parkway | 4 | 0 | 8,082 | 45 | 0.5 | 1.8% | 0.7% | 60.4 | - | 49 | 106 | 229 | 100 | 6,280 | 1,026 | 776 |

| Pipeline Avenue | | | | | | | | | | | | | | | | |
|---|---|---|--------|----|-----|------|------|------|---|----|-----|-----|-----|-------|-------|-------|
| North of Eucalyptus Avenue | 2 | 0 | 7,011 | 30 | 0.5 | 1.8% | 0.7% | 56.1 | - | - | 55 | 118 | 100 | 5,448 | 890 | 673 |
| Between Eucalyptus Avenue and Chino Hills Parkway | 2 | 0 | 3,973 | 30 | 0.5 | 1.8% | 0.7% | 53.6 | - | - | 37 | 81 | 100 | 3,087 | 505 | 381 |
| Between Chino Hills Parkway and Rosewood Way/Clubhouse Way | 2 | 0 | 5,679 | 30 | 0.5 | 1.8% | 0.7% | 55.1 | - | - | 47 | 102 | 100 | 4,413 | 721 | 545 |
| Between Rosewood Way/Clubhouse Way and Glen Ridge Drive | 2 | 0 | 4,212 | 30 | 0.5 | 1.8% | 0.7% | 53.8 | - | - | 39 | 84 | 100 | 3,273 | 535 | 404 |
| Between Glen Ridge Drive and Los Serranos Boulevard | 2 | 0 | 3,586 | 30 | 0.5 | 1.8% | 0.7% | 53.2 | - | - | 35 | 75 | 100 | 2,786 | 455 | 344 |
| Between Los Serranos Boulevard and Vale Vista Drive | 2 | 0 | 2,956 | 30 | 0.5 | 1.8% | 0.7% | 52.3 | - | - | - | 66 | 100 | 2,297 | 375 | 284 |
| Between Vale Vista Drive and Bayberry Drive/ Country Club Drive | 2 | 0 | 1,660 | 30 | 0.5 | 1.8% | 0.7% | 49.8 | - | - | - | 45 | 100 | 1,290 | 211 | 159 |
| South of Bayberry Drive/ Country Club Drive | 2 | 0 | 2,070 | 30 | 0.5 | 1.8% | 0.7% | 50.8 | - | - | - | 52 | 100 | 1,608 | 263 | 199 |
| Ramona Avenue | | | | | | | | | | | | | | | | |
| Between Village Drive and Vale Vista Drive | 2 | 0 | 4,180 | 40 | 0.5 | 1.8% | 0.7% | 56.2 | - | - | 56 | 121 | 100 | 3,248 | 531 | 401 |
| South of Vale Vista Drive | 2 | 0 | 1,116 | 40 | 0.5 | 1.8% | 0.7% | 50.5 | - | - | - | 50 | 100 | 867 | 142 | 107 |
| Central Avenue | | | | | | | | | | | | | | | | |
| South of Chino Hills Parkway | 6 | 0 | 11,655 | 45 | 0.5 | 1.8% | 0.7% | 62.2 | - | 65 | 140 | 302 | 100 | 9,056 | 1,480 | 1,119 |
| Eucalyptus Avenue | | | | | | | | | | | | | | | | |
| West of Pipeline Avenue | 4 | 0 | 4,414 | 45 | 0.5 | 1.8% | 0.7% | 57.8 | - | - | 71 | 153 | 100 | 3,430 | 561 | 424 |
| Between Pipeline Avenue and Ramona Avenue | 4 | 0 | 6,174 | 45 | 0.5 | 1.8% | 0.7% | 59.2 | - | - | 89 | 191 | 100 | 4,797 | 784 | 593 |
| East of Ramona Avenue | 4 | 0 | 5,112 | 45 | 0.5 | 1.8% | 0.7% | 58.4 | - | - | 78 | 169 | 100 | 3,972 | 649 | 491 |
| Yorba Avenue | | | | | | | | | | | | | | | | |
| South of Los Serranos Road | 2 | 0 | 2,313 | 25 | 0.5 | 1.8% | 0.7% | 49.7 | - | - | - | 44 | 100 | 1,797 | 294 | 222 |
| North of Fairway Boulevard | 2 | 0 | 711 | 25 | 0.5 | 1.8% | 0.7% | 44.6 | - | - | - | - | 100 | 552 | 90 | 68 |
| South of Fairway Boulevard | 2 | 0 | 2,088 | 25 | 0.5 | 1.8% | 0.7% | 49.2 | - | - | - | 41 | 100 | 1,622 | 265 | 200 |
| Between Fairway Boulevard and Los Serranos Road | 2 | 0 | 1,674 | 25 | 0.5 | 1.8% | 0.7% | 48.3 | - | - | - | 36 | 100 | 1,301 | 213 | 161 |
| Fairway Boulevard | | | | | | | | | | | | | | | | |
| East of Yorba Avenue | 2 | 0 | 315 | 25 | 0.5 | 1.8% | 0.7% | 41.0 | - | - | - | - | 100 | 245 | 40 | 30 |
| SR 71 (Chino Hills Parkway Onramp) | | | | | | | | | | | | | | | | |
| SB on 71 | 4 | 0 | 2,376 | 65 | 0.5 | 1.8% | 0.7% | 59.1 | - | - | 87 | 188 | 100 | 1,846 | 302 | 228 |
| NB on 71 | 4 | 0 | 2,497 | 65 | 0.5 | 1.8% | 0.7% | 59.3 | - | - | 90 | 194 | 100 | 1,940 | 317 | 240 |

Project Number: 2019-149
Project Name: Ranco Cielito

Background Information

Model Description: FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.

Source of Traffic Volumes: Community Noise Descriptor: Linscott Law & Greenspan Engineers 2020

L_{dn}: _____ CNEL: ___ x

| Assumed 24-Hour Traffic Distribution: | Day | Evening | Night |
|---------------------------------------|--------|---------|-------|
| Total ADT Volumes | 77.70% | 12.70% | 9.60% |
| Medium-Duty Trucks | 87.43% | 5.05% | 7.52% |
| Heavy-Duty Trucks | 89.10% | 2.84% | 8.06% |

| Heavy-Duty Trucks | | 89.10% | 2.84% | 8.06% | | | | | | | | | | | | |
|--|--------|--------|--------|--------|--------|--------|---------|---------|--------------|-------------|------------|---------|------|-----------|---------|-------|
| | | | | Design | | Vehic | ele Mix | D | istance from | m Centerlin | e of Roadw | av | | Traffic \ | olumes/ | 5 |
| Analysis Condition | | Median | ADT | Speed | Alpha | Medium | Heavy | CNEL at | | | to Contour | ц | Calc | Day | Eve | Night |
| Roadway, Segment | Lanes | Width | Volume | (mph) | Factor | Trucks | Trucks | | 70 CNEL | | 60 CNEL | 55 CNEL | Dist | , | _, | |
| Existing + Project Conditions | | | | | | | | | | | | | | | | |
| Chino Hills Parkway | | | | | | | | | | | | | | | | |
| West of Peyton Drive | 4 | 0 | 6,741 | 45 | 0.5 | 1.8% | 0.7% | 59.6 | - | - | 94 | 203 | 100 | 5,238 | 856 | 647 |
| Between Peyton Drive and Pipeline Avenue | 4 | 0 | 11,542 | 45 | 0.5 | 1.8% | 0.7% | 61.9 | - | 63 | 135 | 291 | 100 | 8,968 | 1,466 | 1,108 |
| Between Pipeline Avenue | 4 | 0 | 11,874 | 45 | 0.5 | 1.8% | 0.7% | 62.1 | - | 64 | 137 | 296 | 100 | 9,226 | 1,508 | 1,140 |
| Between Ramona Avenue and Central Avenue | 4 | 0 | 8,824 | 45 | 0.5 | 1.8% | 0.7% | 60.8 | - | 52 | 113 | 243 | 100 | 6,856 | 1,121 | 847 |
| East of Central Avenue | 4 | 0 | 90 | 45 | 0.5 | 1.8% | 0.7% | 40.9 | - | - | - | - | 100 | 70 | 11 | 9 |
| Rosewood Way/Clubhouse Way | \neg | | | | | | | | | | | | | | | |
| West of Pipeline Avenue | 2 | 0 | 819 | 25 | 0.5 | 1.8% | 0.7% | 45.2 | - | _ | - | - | 100 | 636 | 104 | 79 |
| East of Pipeline Avenue | 2 | 0 | 450 | 25 | 0.5 | 1.8% | 0.7% | 42.6 | - | - | - | - | 100 | 350 | 57 | 43 |
| Glen Ridge Drive | | | | | | | | | | | | | | | | |
| West of Pipeline Avenue | 2 | 0 | 1,285 | 25 | 0.5 | 1.8% | 0.7% | 47.1 | - | - | - | - | 100 | 998 | 163 | 123 |
| Los Serranos Boulevard | | | | | | | | | | | | | | | | |
| Between Pipeline Avenue and Valle Vista Drive | 2 | 0 | 1,021 | 25 | 0.5 | 1.8% | 0.7% | 46.1 | - | - | - | - | 100 | 793 | 130 | 98 |
| Valle Vista Drive | | | | | | | | | | | | | | | | |
| West of Pipeline Avenue | 2 | 0 | 927 | 25 | 0.5 | 1.8% | 0.7% | 45.7 | - | - | - | - | 100 | 720 | 118 | 89 |
| Between Pipeline Avenue and Country Club Drive | 2 | 0 | 909 | 25 | 0.5 | 1.8% | 0.7% | 45.6 | - | - | - | - | 100 | 706 | 115 | 87 |
| Between Los Serranos Boulevard and Ramona Avenue | 2 | 0 | 2,232 | 25 | 0.5 | 1.8% | 0.7% | 49.5 | - | - | - | 43 | 100 | 1,734 | 283 | 214 |
| East of Ramona Avenue | 2 | 0 | 1,857 | 25 | 0.5 | 1.8% | 0.7% | 48.7 | - | - | - | 38 | 100 | 1,443 | 236 | 178 |
| Peyton Drive | | | | | | | | | | | | | | | | |
| North of Chino Hills Parkway | 4 | 0 | 7,092 | 45 | 0.5 | 1.8% | 0.7% | 59.8 | - | 45 | 97 | 210 | 100 | 5,510 | 901 | 681 |
| South of Chino Hills Parkway | 4 | 0 | 8,064 | 45 | 0.5 | 1.8% | 0.7% | 60.4 | - | 49 | 106 | 229 | 100 | 6,266 | 1,024 | 774 |

| Pipeline Avenue | | | | | | | | | | | | | | | | |
|---|---|---|--------|----|-----|------|------|------|---|----|-----|-----|-----|-------|-------|-------|
| North of Eucalyptus Avenue | 2 | 0 | 9,045 | 30 | 0.5 | 1.8% | 0.7% | 57.2 | - | - | 65 | 140 | 100 | 7,028 | 1,149 | 868 |
| Between Eucalyptus Avenue and Chino Hills Parkway | 2 | 0 | 5,319 | 30 | 0.5 | 1.8% | 0.7% | 54.9 | - | - | 45 | 98 | 100 | 4,133 | 676 | 511 |
| Between Chino Hills Parkway and Rosewood Way/Clubhouse Way | 2 | 0 | 5,895 | 30 | 0.5 | 1.8% | 0.7% | 55.3 | - | - | 49 | 105 | 100 | 4,580 | 749 | 566 |
| Between Rosewood Way/Clubhouse Way and Glen Ridge Drive | 2 | 0 | 4,392 | 30 | 0.5 | 1.8% | 0.7% | 54.0 | - | - | 40 | 86 | 100 | 3,413 | 558 | 422 |
| Between Glen Ridge Drive and Los Serranos Boulevard | 2 | 0 | 3,766 | 30 | 0.5 | 1.8% | 0.7% | 53.4 | - | - | 36 | 78 | 100 | 2,926 | 478 | 362 |
| Between Los Serranos Boulevard and Vale Vista Drive | 2 | 0 | 3,001 | 30 | 0.5 | 1.8% | 0.7% | 52.4 | - | - | - | 67 | 100 | 2,332 | 381 | 288 |
| Between Vale Vista Drive and Bayberry Drive/ Country Club Drive | 2 | 0 | 2,520 | 30 | 0.5 | 1.8% | 0.7% | 51.6 | - | - | - | 60 | 100 | 1,958 | 320 | 242 |
| South of Bayberry Drive/ Country Club Drive | 2 | 0 | 2,106 | 30 | 0.5 | 1.8% | 0.7% | 50.8 | - | - | - | 53 | 100 | 1,636 | 267 | 202 |
| Ramona Avenue | | | | | | | | | | | | | | | | |
| Between Village Drive and Vale Vista Drive | 2 | 0 | 5,026 | 40 | 0.5 | 1.8% | 0.7% | 57.0 | - | - | 63 | 136 | 100 | 3,905 | 638 | 482 |
| South of Vale Vista Drive | 2 | 0 | 1,143 | 40 | 0.5 | 1.8% | 0.7% | 50.6 | - | - | - | 51 | 100 | 888 | 145 | 110 |
| Central Avenue | | | | | | | | | | | | | | | | |
| South of Chino Hills Parkway | 6 | 0 | 11,655 | 45 | 0.5 | 1.8% | 0.7% | 62.2 | - | 65 | 140 | 302 | 100 | 9,056 | 1,480 | 1,119 |
| Eucalyptus Avenue | | | | | | | | | | | | | | | | |
| West of Pipeline Avenue | 4 | 0 | 7,002 | 45 | 0.5 | 1.8% | 0.7% | 59.8 | - | 45 | 97 | 208 | 100 | 5,441 | 889 | 672 |
| Between Pipeline Avenue and Ramona Avenue | 4 | 0 | 7,195 | 45 | 0.5 | 1.8% | 0.7% | 59.9 | - | 46 | 98 | 212 | 100 | 5,591 | 914 | 691 |
| East of Ramona Avenue | 4 | 0 | 5,982 | 45 | 0.5 | 1.8% | 0.7% | 59.1 | - | - | 87 | 187 | 100 | 4,648 | 760 | 574 |
| Yorba Avenue | | | | | | | | | | | | | | | | |
| South of Los Serranos Road | 2 | 0 | 2,349 | 25 | 0.5 | 1.8% | 0.7% | 49.8 | - | - | - | 45 | 100 | 1,825 | 298 | 226 |
| North of Fairway Boulevard | 2 | 0 | 756 | 25 | 0.5 | 1.8% | 0.7% | 44.8 | - | - | - | - | 100 | 587 | 96 | 73 |
| South of Fairway Boulevard | 2 | 0 | 2,124 | 25 | 0.5 | 1.8% | 0.7% | 49.3 | - | - | - | 42 | 100 | 1,650 | 270 | 204 |
| Between Fairway Boulevard and Los Serranos Road | 2 | 0 | 1,719 | 25 | 0.5 | 1.8% | 0.7% | 48.4 | - | - | - | 36 | 100 | 1,336 | 218 | 165 |
| Fairway Boulevard | | | | | | | | | | | | | | | | |
| East of Yorba Avenue | 2 | 0 | 325 | 25 | 0.5 | 1.8% | 0.7% | 41.2 | - | - | - | - | 100 | 253 | 41 | 31 |
| SR 71 (Chino Hills Parkway Onramp) | | | | | | | | | | | | | | | | |
| SB on 71 | 4 | 0 | 4,872 | 65 | 0.5 | 1.8% | 0.7% | 62.2 | - | 65 | 141 | 304 | 100 | 3,786 | 619 | 468 |
| NB on 71 | 4 | 0 | 4,965 | 65 | 0.5 | 1.8% | 0.7% | 62.3 | - | 66 | 143 | 307 | 100 | 3,858 | 631 | 477 |

Project Number: 2019-149
Project Name: Rancho Cielito

Background Information

Model Description: FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.

Source of Traffic Volumes: Community Noise Descriptor: Linscott Law & Greenspan Engineers 2020 L_{dn}: CNEL: x

Assumed 24-Hour Traffic Distribution: Evening Night Day Total ADT Volumes 77.70% 12.70% 9.60% Medium-Duty Trucks 87.43% 5.05% 7.52% Heavy-Duty Trucks 89.10% 2.84% 8.06%

| Heavy-Duty Trucks | | 69.10% | 2.04% | 6.00% | | | | | | | | | | | | |
|--|-------|--------|--------|--------|--------|--------|--------|---------|-------------|--------------|------------|------------|------|-----------|---------|---------------|
| | | | | Design | | Vehic | le Mix | Di | stance fron | n Centerline | e of Roadw | av | | Traffic V | olumes/ | ; |
| Analysis Condition | | Median | ADT | Speed | Alpha | Medium | Heavy | CNEL at | | | to Contour | ~ <i>y</i> | Calc | Day | Eve | Night |
| Roadway, Segment | Lanes | Width | Volume | (mph) | Factor | Trucks | Trucks | | 70 CNEL | 65 CNEL | | 55 CNEL | Dist | , | | · · · · · · · |
| 2025 Without Project Conditions | | | | | | | | | | | | | | | | |
| Chino Hills Parkway | | | | | | | | | | | | | | | | |
| West of Peyton Drive | 4 | 0 | 8,190 | 45 | 0.5 | 1.8% | 0.7% | 60.5 | - | 50 | 107 | 231 | 100 | 6,364 | 1,040 | 786 |
| Between Peyton Drive and Pipeline Avenue | 4 | 0 | 12,587 | 45 | 0.5 | 1.8% | 0.7% | 62.3 | - | 66 | 143 | 308 | 100 | 9,780 | 1,599 | 1,208 |
| Between Pipeline Avenue | 4 | 0 | 17,643 | 45 | 0.5 | 1.8% | 0.7% | 63.8 | - | 83 | 179 | 386 | 100 | 13,709 | 2,241 | 1,694 |
| Between Ramona Avenue and Central Avenue | 4 | 0 | 10,669 | 45 | 0.5 | 1.8% | 0.7% | 61.6 | - | 59 | 128 | 276 | 100 | 8,290 | 1,355 | 1,024 |
| East of Central Avenue | 4 | 0 | 99 | 45 | 0.5 | 1.8% | 0.7% | 41.3 | - | - | - | - | 100 | 77 | 13 | 10 |
| Rosewood Way/Clubhouse Way | | | | | | | | | | | | | | | | |
| West of Pipeline Avenue | 2 | 0 | 918 | 25 | 0.5 | 1.8% | 0.7% | 45.7 | _ | - | _ | - | 100 | 713 | 117 | 88 |
| East of Pipeline Avenue | 2 | 0 | 522 | 25 | 0.5 | 1.8% | 0.7% | 43.2 | - | - | - | - | 100 | 406 | 66 | 50 |
| Glen Ridge Drive | | | | | | | | | | | | | | | | |
| West of Pipeline Avenue | 2 | 0 | 1,413 | 25 | 0.5 | 1.8% | 0.7% | 47.5 | - | - | - | - | 100 | 1,098 | 179 | 136 |
| Los Serranos Boulevard | | | | | | | | | | | | | | | | |
| Between Pipeline Avenue and Valle Vista Drive | 2 | 0 | 1,224 | 25 | 0.5 | 1.8% | 0.7% | 46.9 | - | - | - | - | 100 | 951 | 155 | 118 |
| Valle Vista Drive | | | | | | | | | | | | | | | | |
| West of Pipeline Avenue | 2 | 0 | 1,044 | 25 | 0.5 | 1.8% | 0.7% | 46.2 | - | - | - | - | 100 | 811 | 133 | 100 |
| Between Pipeline Avenue and Country Club Drive | 2 | 0 | 1,017 | 25 | 0.5 | 1.8% | 0.7% | 46.1 | - | - | _ | - | 100 | 790 | 129 | 98 |
| Between Los Serranos Boulevard and Ramona Avenue | 2 | 0 | 2,610 | 25 | 0.5 | 1.8% | 0.7% | 50.2 | - | - | - | 48 | 100 | 2,028 | 331 | 251 |
| East of Ramona Avenue | 2 | 0 | 2,097 | 25 | 0.5 | 1.8% | 0.7% | 49.3 | - | - | - | 41 | 100 | 1,629 | 266 | 201 |
| Peyton Drive | | | | | | | | | | | | | | | | |
| North of Chino Hills Parkway | 4 | 0 | 8,055 | 45 | 0.5 | 1.8% | 0.7% | 60.4 | - | 49 | 106 | 229 | 100 | 6,259 | 1,023 | 773 |
| South of Chino Hills Parkway | 4 | 0 | 9,063 | 45 | 0.5 | 1.8% | 0.7% | 60.9 | - | 53 | 115 | 247 | 100 | 7,042 | 1,151 | 870 |

| Pipeline Avenue | | | | | | | | | | | | | | | | |
|---|---|---|--------|----|-----|------|------|------|---|----|-----|-----|-----|--------|-------|-------|
| North of Eucalyptus Avenue | 2 | 0 | 9,947 | 30 | 0.5 | 1.8% | 0.7% | 57.6 | - | 32 | 69 | 149 | 100 | 7,729 | 1,263 | 955 |
| Between Eucalyptus Avenue and Chino Hills Parkway | 2 | 0 | 8,374 | 30 | 0.5 | 1.8% | 0.7% | 56.8 | - | - | 62 | 133 | 100 | 6,507 | 1,063 | 804 |
| Between Chino Hills Parkway and Rosewood Way/Clubhouse Way | 2 | 0 | 6,675 | 30 | 0.5 | 1.8% | 0.7% | 55.8 | - | - | 53 | 114 | 100 | 5,186 | 848 | 641 |
| Between Rosewood Way/Clubhouse Way and Glen Ridge Drive | 2 | 0 | 4,945 | 30 | 0.5 | 1.8% | 0.7% | 54.5 | - | - | 43 | 93 | 100 | 3,842 | 628 | 475 |
| Between Glen Ridge Drive and Los Serranos Boulevard | 2 | 0 | 4,243 | 30 | 0.5 | 1.8% | 0.7% | 53.9 | - | - | 39 | 84 | 100 | 3,297 | 539 | 407 |
| Between Los Serranos Boulevard and Vale Vista Drive | 2 | 0 | 5,274 | 30 | 0.5 | 1.8% | 0.7% | 54.8 | - | - | 45 | 97 | 100 | 4,098 | 670 | 506 |
| Between Vale Vista Drive and Bayberry Drive/ Country Club Drive | 2 | 0 | 3,001 | 30 | 0.5 | 1.8% | 0.7% | 52.4 | - | - | - | 67 | 100 | 2,332 | 381 | 288 |
| South of Bayberry Drive/ Country Club Drive | 2 | 0 | 2,565 | 30 | 0.5 | 1.8% | 0.7% | 51.7 | - | - | - | 60 | 100 | 1,993 | 326 | 246 |
| Ramona Avenue | | | | | | | | | | | | | | | | |
| Between Village Drive and Vale Vista Drive | 2 | 0 | 5,526 | 40 | 0.5 | 1.8% | 0.7% | 57.4 | - | - | 67 | 145 | 100 | 4,294 | 702 | 530 |
| South of Vale Vista Drive | 2 | 0 | 1,746 | 40 | 0.5 | 1.8% | 0.7% | 52.4 | - | - | - | 67 | 100 | 1,357 | 222 | 168 |
| Central Avenue | | | | | | | | | | | | | | | | |
| South of Chino Hills Parkway | 6 | 0 | 14,157 | 45 | 0.5 | 1.8% | 0.7% | 63.0 | - | 74 | 159 | 343 | 100 | 11,000 | 1,798 | 1,359 |
| Eucalyptus Avenue | | | | | | | | | | | | | | | | |
| West of Pipeline Avenue | 4 | 0 | 7,468 | 45 | 0.5 | 1.8% | 0.7% | 60.1 | - | 47 | 101 | 217 | 100 | 5,803 | 948 | 717 |
| Between Pipeline Avenue and Ramona Avenue | 4 | 0 | 8,136 | 45 | 0.5 | 1.8% | 0.7% | 60.4 | - | 50 | 107 | 230 | 100 | 6,322 | 1,033 | 781 |
| East of Ramona Avenue | 4 | 0 | 6,057 | 45 | 0.5 | 1.8% | 0.7% | 59.1 | - | - | 88 | 189 | 100 | 4,706 | 769 | 581 |
| Yorba Avenue | | | | | | | | | | | | | | | | |
| South of Los Serranos Road | 2 | 0 | 2,997 | 25 | 0.5 | 1.8% | 0.7% | 50.8 | - | - | - | 53 | 100 | 2,329 | 381 | 288 |
| North of Fairway Boulevard | 2 | 0 | 846 | 25 | 0.5 | 1.8% | 0.7% | 45.3 | - | - | - | - | 100 | 657 | 107 | 81 |
| South of Fairway Boulevard | 2 | 0 | 2,664 | 25 | 0.5 | 1.8% | 0.7% | 50.3 | - | - | - | 49 | 100 | 2,070 | 338 | 256 |
| Between Fairway Boulevard and Los Serranos Road | 2 | 0 | 2,218 | 25 | 0.5 | 1.8% | 0.7% | 49.5 | - | - | - | 43 | 100 | 1,723 | 282 | 213 |
| Fairway Boulevard | | | | | | | | | | | | | | | | |
| East of Yorba Avenue | 2 | 0 | 351 | 25 | 0.5 | 1.8% | 0.7% | 41.5 | - | - | - | - | 100 | 273 | 45 | 34 |
| SR 71 (Chino Hills Parkway Onramp) | | | | | | | | | | | | | | | | |
| SB on 71 | 4 | 0 | 7,875 | 65 | 0.5 | 1.8% | 0.7% | 64.3 | - | 90 | 194 | 418 | 100 | 6,119 | 1,000 | 756 |
| NB on 71 | 4 | 0 | 7,753 | 65 | 0.5 | 1.8% | 0.7% | 64.3 | - | 89 | 192 | 414 | 100 | 6,024 | 985 | 744 |

Project Number: 2019-149 Project Name: Ranco Cielito

Background Information

Model Description: FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.

Source of Traffic Volumes:

Linscott Law & Greenspan Engineers 2020

L_{dn}: ____ CNEL: ___ x Community Noise Descriptor:

| Assumed 24-Hour Traffic Distribution: | Day | Evening | Night |
|---------------------------------------|--------|---------|-------|
| Total ADT Volumes | 77.70% | 12.70% | 9.60% |
| Medium-Duty Trucks | 87.43% | 5.05% | 7.52% |
| Heavy-Duty Trucks | 89.10% | 2.84% | 8.06% |

| | | | | | | | | | | | | | | Traffic V | olumes/ | 3 |
|--|-------|--------|--------|--------|--------|--------|--------|----------|--------------|-------------|------------|---------|------|-----------|---------|------|
| | | | | Design | | Vehic | le Mix | D | istance fror | m Centerlin | e of Roadw | ay | | | orannoc | |
| Analysis Condition | | Median | ADT | Speed | Alpha | Medium | Heavy | CNEL at | | | to Contour | | Calc | Day | Eve | Nigh |
| Roadway, Segment | Lanes | Width | Volume | (mph) | Factor | Trucks | Trucks | 100 Feet | 70 CNEL | 65 CNEL | 60 CNEL | 55 CNEL | Dist | | | |
| 2025 With Project Conditions | | | | | | | | | | | | | | | | |
| Chino Hills Parkway | | | | | | | | | | | | | | | | |
| West of Peyton Drive | 4 | 0 | 8,289 | 45 | 0.5 | 1.8% | 0.7% | 60.5 | - | 50 | 108 | 233 | 100 | 6,441 | 1,053 | 79 |
| Between Peyton Drive and Pipeline Avenue | 4 | 0 | 13,423 | 45 | 0.5 | 1.8% | 0.7% | 62.6 | - | 69 | 149 | 321 | 100 | 10,430 | 1,705 | 1,2 |
| Between Pipeline Avenue | 4 | 0 | 17,856 | 45 | 0.5 | 1.8% | 0.7% | 63.8 | - | 84 | 180 | 389 | 100 | 13,874 | 2,268 | 1,7 |
| Between Ramona Avenue and Central Avenue | 4 | 0 | 10,759 | 45 | 0.5 | 1.8% | 0.7% | 61.6 | - | 60 | 129 | 277 | 100 | 8,360 | 1,366 | 1,0 |
| East of Central Avenue | 4 | 0 | 99 | 45 | 0.5 | 1.8% | 0.7% | 41.3 | - | - | - | - | 100 | 77 | 13 | 10 |
| Rosewood Way/Clubhouse Way | | | | | | | | | | | | | | | | |
| West of Pipeline Avenue | 2 | 0 | 918 | 25 | 0.5 | 1.8% | 0.7% | 45.7 | - | - | - | - | 100 | 713 | 117 | 8 |
| East of Pipeline Avenue | 2 | 0 | 524 | 25 | 0.5 | 1.8% | 0.7% | 43.2 | - | - | - | - | 100 | 407 | 67 | 50 |
| Glen Ridge Drive | | | | | | | | | | | | | | | | |
| West of Pipeline Avenue | 2 | 0 | 1,453 | 25 | 0.5 | 1.8% | 0.7% | 47.7 | - | - | - | 32 | 100 | 1,129 | 185 | 13 |
| Los Serranos Boulevard | | | | | | | | | | | | | | | | |
| Between Pipeline Avenue and Valle Vista Drive | 2 | 0 | 1,259 | 25 | 0.5 | 1.8% | 0.7% | 47.0 | - | - | - | - | 100 | 978 | 160 | 12 |
| Valle Vista Drive | | | | | | | | | | | | | | | | |
| West of Pipeline Avenue | 2 | 0 | 1,044 | 25 | 0.5 | 1.8% | 0.7% | 46.2 | - | - | - | - | 100 | 811 | 133 | 10 |
| Between Pipeline Avenue and Country Club Drive | 2 | 0 | 1,567 | 25 | 0.5 | 1.8% | 0.7% | 48.0 | - | - | - | 34 | 100 | 1,218 | 199 | 15 |
| Between Los Serranos Boulevard and Ramona Avenue | 2 | 0 | 2,774 | 25 | 0.5 | 1.8% | 0.7% | 50.5 | - | - | - | 50 | 100 | 2,155 | 352 | 26 |
| East of Ramona Avenue | 2 | 0 | 2,106 | 25 | 0.5 | 1.8% | 0.7% | 49.3 | - | - | - | 42 | 100 | 1,636 | 267 | 20 |
| Peyton Drive | | | | | | | | | | | | | | | | |
| North of Chino Hills Parkway | 4 | 0 | 8,073 | 45 | 0.5 | 1.8% | 0.7% | 60.4 | - | 49 | 106 | 229 | 100 | 6,273 | 1,025 | 77 |
| South of Chino Hills Parkway | 4 | 0 | 9,087 | 45 | 0.5 | 1.8% | 0.7% | 60.9 | - | 53 | 115 | 248 | 100 | 7,061 | 1,154 | 87 |

| Pipeline Avenue | | | | | | | | | | | | | | | | |
|---|---|---|--------|----|-----|------|------|------|---|----|-----|-----|-----|--------|-------|-------|
| North of Eucalyptus Avenue | 2 | 0 | 9,956 | 30 | 0.5 | 1.8% | 0.7% | 57.6 | - | 32 | 69 | 149 | 100 | 7,736 | 1,264 | 956 |
| Between Eucalyptus Avenue and Chino Hills Parkway | 2 | 0 | 8,582 | 30 | 0.5 | 1.8% | 0.7% | 56.9 | - | - | 63 | 135 | 100 | 6,668 | 1,090 | 824 |
| Between Chino Hills Parkway and Rosewood Way/Clubhouse Way | 2 | 0 | 6,844 | 30 | 0.5 | 1.8% | 0.7% | 56.0 | - | - | 54 | 116 | 100 | 5,318 | 869 | 657 |
| Between Rosewood Way/Clubhouse Way and Glen Ridge Drive | 2 | 0 | 5,125 | 30 | 0.5 | 1.8% | 0.7% | 54.7 | - | - | 44 | 96 | 100 | 3,982 | 651 | 492 |
| Between Glen Ridge Drive and Los Serranos Boulevard | 2 | 0 | 4,423 | 30 | 0.5 | 1.8% | 0.7% | 54.1 | - | - | 40 | 87 | 100 | 3,437 | 562 | 425 |
| Between Los Serranos Boulevard and Vale Vista Drive | 2 | 0 | 5,586 | 30 | 0.5 | 1.8% | 0.7% | 55.1 | - | - | 47 | 101 | 100 | 4,340 | 709 | 536 |
| Between Vale Vista Drive and Bayberry Drive/ Country Club Drive | 2 | 0 | 3,046 | 30 | 0.5 | 1.8% | 0.7% | 52.4 | - | - | - | 68 | 100 | 2,367 | 387 | 292 |
| South of Bayberry Drive/ Country Club Drive | 2 | 0 | 3,567 | 30 | 0.5 | 1.8% | 0.7% | 53.1 | - | - | 35 | 75 | 100 | 2,772 | 453 | 342 |
| Ramona Avenue | | | | | | | | | | | | | | | | |
| Between Village Drive and Vale Vista Drive | 2 | 0 | 5,967 | 40 | 0.5 | 1.8% | 0.7% | 57.8 | - | 33 | 71 | 153 | 100 | 4,636 | 758 | 573 |
| South of Vale Vista Drive | 2 | 0 | 1,773 | 40 | 0.5 | 1.8% | 0.7% | 52.5 | - | - | - | 68 | 100 | 1,378 | 225 | 170 |
| Central Avenue | | | | | | | | | | | | | | | | |
| South of Chino Hills Parkway | 6 | 0 | 14,837 | 45 | 0.5 | 1.8% | 0.7% | 63.2 | - | 76 | 164 | 354 | 100 | 11,528 | 1,884 | 1,424 |
| Eucalyptus Avenue | | | | | | | | | | | | | | | | |
| West of Pipeline Avenue | 4 | 0 | 8,496 | 45 | 0.5 | 1.8% | 0.7% | 60.6 | - | 51 | 110 | 237 | 100 | 6,601 | 1,079 | 816 |
| Between Pipeline Avenue and Ramona Avenue | 4 | 0 | 8,139 | 45 | 0.5 | 1.8% | 0.7% | 60.4 | - | 50 | 107 | 230 | 100 | 6,324 | 1,034 | 781 |
| East of Ramona Avenue | 4 | 0 | 6,655 | 45 | 0.5 | 1.8% | 0.7% | 59.6 | - | - | 93 | 201 | 100 | 5,171 | 845 | 639 |
| Yorba Avenue | | | | | | | | | | | | | | | | |
| South of Los Serranos Road | 2 | 0 | 3,033 | 25 | 0.5 | 1.8% | 0.7% | 50.9 | - | - | - | 53 | 100 | 2,357 | 385 | 291 |
| North of Fairway Boulevard | 2 | 0 | 855 | 25 | 0.5 | 1.8% | 0.7% | 45.4 | - | - | - | - | 100 | 664 | 109 | 82 |
| South of Fairway Boulevard | 2 | 0 | 2,700 | 25 | 0.5 | 1.8% | 0.7% | 50.4 | - | - | - | 49 | 100 | 2,098 | 343 | 259 |
| Between Fairway Boulevard and Los Serranos Road | 2 | 0 | 2,263 | 25 | 0.5 | 1.8% | 0.7% | 49.6 | - | - | - | 44 | 100 | 1,758 | 287 | 217 |
| Fairway Boulevard | | | | | | | | | | | | | | | | |
| East of Yorba Avenue | 2 | 0 | 351 | 25 | 0.5 | 1.8% | 0.7% | 41.5 | - | - | - | - | 100 | 273 | 45 | 34 |
| SR 71 (Chino Hills Parkway Onramp) | | | | | | | | | | | | | | | | |
| SB on 71 | 4 | 0 | 8,217 | 65 | 0.5 | 1.8% | 0.7% | 64.5 | - | 93 | 200 | 430 | 100 | 6,385 | 1,044 | 789 |
| NB on 71 | 4 | 0 | 8,354 | 65 | 0.5 | 1.8% | 0.7% | 64.6 | - | 94 | 202 | 435 | 100 | 6,491 | 1,061 | 802 |