

July 28, 2011

Mr. Bentley T. Kerr BLUESTONE COMMUNITIES 41 Corporate Park, Suite 380 Irvine, CA 92606

Subject: Arantine Hills Specific Plan Existing Plus Project Supplemental Letter

Dear Mr. Kerr:

Urban Crossroads, Inc. is pleased to provide this letter which provides an analysis of off-site traffic noise level impacts for existing plus project conditions for the Arantine Hills Specific Plan. This letter supplements the Arantine Hills EIR Noise Analysis dated May 13, 2011.

Noise Standards

The City of Corona addresses two separate types of noise sources through the CEQA process: (1) mobile, and (2) stationary. The mobile, or transportation related, noise impacts are analyzed using the 24-hour Community Noise Equivalent Level (CNEL) to assess the land use compatibility for community noise exposure. To analyze community noise impacts from stationary (non-transportation) noise sources (such as truck deliveries, speakerphones, trash compactors, etc.) the City of Corona has identified the worst-case noise levels for daytime and nighttime activities. In the context of this noise analysis, the noise impacts associated with the commercial / office land use activities found in the proposed Arantine Hills Development are governed by the City noise standards for stationary sources. The off-site Project-related vehicular traffic is governed by the CNEL noise level standards.

Transportation Noise Standards

For noise sensitive residential uses, the City noise element requires an exterior noise level of 65 dBA CNEL or lower for the outdoor living areas including outdoor patio areas and an interior noise level of 45 dBA CNEL or lower. In the context of this noise analysis, the traffic noise impacts associated with the project are governed by the City noise element presented in Appendix 1.



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Community Noise Assessment Criteria

The noise criteria presented in this section is based on well documented criteria and research into human response to community noise. In community noise assessment, changes in noise levels greater than 3 dBA are often identified as "barely perceptible," while changes of 5 dBA are "readily perceptible." Studies show that a relative noise impact of 5 dBA triggers community reaction (sporadic complaints to widespread complaints to several legal threats to vigorous action). In the range of 1 dBA to 3 dBA, people who are very sensitive to noise may perceive a slight change in noise level. In laboratory testing situations, humans are able to detect noise level changes of slightly less than 1 dBA. However, in a community situation the noise exposure is extended over a long time period, and changes in noise levels occur over years rather than the immediate comparison made in a laboratory situation. Therefore, the level at which changes in community noise levels become discernible is likely to be some value greater than 1 dBA, and 3 dBA appears to be appropriate for most people. While a 1dBA increase may be perceptible to a minority of very noise sensitive people, noise increases of up to 3dBA are "barely perceptible" to most people. The 3 dBA increase criteria represents a balance of community benefits and reasonableness.

Thresholds of Significance

In accordance with Appendix G to the State CEQA Guidelines, a Project may be deemed to have a significant adverse noise impact if it would result in:

Off-site cumulative noise impacts describes how much noise levels are projected to increase over existing conditions with the development of the proposed Project and all other traffic growth Projected with buildout of the General Plan. Long-term cumulative off-site impacts from traffic noise are also measured against two criteria. Both criteria must be met for a significant impact to be identified:



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> Future traffic noise levels must create a "readily perceptible" increase of 5 dBA CNEL or more compared to existing conditions on a roadway segment adjacent to a noise sensitive land use.

> The resulting future with Project noise level must exceed the criteria level for the
> noise sensitive land use. In this case, the criteria level is 65 dBA CNEL for
> residential land uses. The Project would considerably contribute to this increase
> if it contributes a "barely perceptible" 3 dBA CNEL or more to the increase.

Methods and Procedures

The following section outlines the methods and procedures used to model and analyze the future traffic noise environment.

FHWA Traffic Noise Prediction Model

The roadway noise impacts from vehicular traffic were projected using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108 (the "FHWA Model"). The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period.

Traffic Noise Prediction Model Inputs

Table 1 presents the FHWA Traffic Noise Prediction Model roadway parameters used in this analysis. Soft site conditions were used to develop the noise contours to analyze the traffic



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noise impacts to the study area. Soft site conditions account for the sound propagation loss

over natural surfaces such as normal earth and ground vegetation. Based on our experience,

soft site conditions better represent the noise level contours.

The existing and existing plus project average daily traffic volumes used for this study and

presented in Table 2 were provided by the Arantine Hills Specific Plan Addendum prepared by

Urban Crossroads, Inc. in July 2011.

Table 3 presents the hourly traffic flow distribution (vehicle mix) used for this analysis. The mix for

the city roads are based on a typical Southern California vehicle mix. The vehicle mix provides the

hourly distribution percentages of automobile, medium trucks and heavy trucks for input into the

FHWA Model.

Off-Site Transportation Noise Impacts

To assess the unmitigated reference off-site noise level impacts associated with development of the

proposed Project, noise contours were developed for the following traffic scenarios:

Existing: This scenario refers to the existing traffic noise conditions, without the proposed

Project.

Existing Plus Project: This scenario refers to the existing traffic noise conditions with the

proposed Project.

Traffic Noise Contour Boundaries

Traffic noise contour boundaries are often desired by local land planning and zoning authorities

to represent sound level exposures on land that is being considered for development and is

adjacent to highways. Noise contour boundaries represent the equal levels of noise exposure and are measured from the center of the roadway. Traffic noise contour boundaries are typically

calculated at distances of 100 feet from a roadway centerline. CNEL noise contour boundaries

are also determined below for the 55, 60, 65 and 70 dBA noise levels.

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The distance from the centerline of the roadway to the CNEL contour boundaries for roadways in the proposed Project's vicinity are presented in Tables 4 and 5 and shown in Appendix 2. The noise contour boundaries do not take into account the effect of any existing or proposed noise barriers or topography that may affect noise levels.

Existing Roadway Noise Levels

Table 4 presents the existing noise contour boundaries. Table 4 shows for existing traffic volumes all segments currently do not exceed the City of Corona 65 dBA CNEL standard for noise sensitive residential areas at 100 feet from each roadway's centerline.

Existing Plus Project Roadway Noise Levels

Table 5 presents the existing plus project noise contour boundaries. Table 5 shows for existing traffic volumes with the project, most segments will do not exceed the City of Corona 65 dBA CNEL standard for noise sensitive residential areas at 100 feet from each roadway's centerline.

Existing Plus Project Traffic Noise Level Contributions

Table 6 presents a comparison of existing conditions without and with the proposed Project noise levels shown in Tables 4 and 5. The roadway noise impacts will increase on all segments from 0.0 dBA CNEL to 3.5 dBA CNEL with the development of the proposed Project.

Off-Site Transportation Related Project Noise Impacts

Project-related vehicular source noise may affect permanent and on-going ambient noise conditions and would not be considered a temporary or periodic noise source. Applying the Thresholds of Significance discussed above, unmitigated potentially permanent increases in the ambient noise levels generated by Project traffic will be considered potentially significant if:

- a) Vehicular source noise exceeds applicable City standards;
- Ambient conditions are within the normally acceptable community noise exposure levels identified in the Noise Element, and the Project increases the



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noise to levels above the normally acceptable community noise exposure at any sensitive receptor; or

c) Ambient conditions exceed the normally acceptable community noise exposure level identified in the Noise Element, *and* the Project increases the ambient noise at any sensitive receptor by an audible amount (3 dB or more).

As indicated above, for the existing and existing plus project scenarios, one roadway segment on Cajalco Road may experience an unmitigated noise increase greater than 3.0 dBA CNEL at a distance of 100 feet from roadway centerline or the project related transportation noise level impacts may cause ambient noise levels that are below the City of Corona exterior noise level standard for transportation of 65 dBA CNEL to increase above the acceptable noise level standard. These levels are calculated to show the potential transportation related noise increase with the addition of the proposed project and are not meant to provide specific noise level impacts at any noise sensitive private living area. In order to provide a proper assessment of the significance of the expected transportation noise increase, an analysis shall be completed at the specific noise sensitive uses along each segment expected to have a "potentially significant" impact, however there are no current or planned noise sensitive uses along Cajalco Road from Bedford Canyon to the I-15 Freeway. For all other roadway segments, the Project's incremental vehicular-source noise contributions will be considered "barely perceptible" (less than 3.0 dBA CNEL) or impacts will remain below the City of Corona exterior noise level standard of 65 dBA CNEL with the proposed project and therefore, no mitigation is required.

If you have any questions, please contact me at (949) 660-1994, ext. 203.

Respectfully submitted,

URBAN CROSSROADS, INC.

JT Stephens, E.I.T., INCE Acoustical Engineer

Bill Lawson, PE, AICP, INCE Principal

JS:BL



Table 1

Off-Site Roadway Parameters

Roadway	Segment	Roadway Classification ¹	Vehicle Speed (MPH)	Site Conditions
California Drive	w/o Masters Drive	Collector	40	Soft
California Drive	e/o Masters Drive	Collector	40	Soft
El Cerrito Road	w/o Bedford Cayon	Seconday	40	Soft
El Cerrito Road	Bedford Cayon to I-15 Freeway	Seconday	40	Soft
El Cerrito Road	I-15 Freeway to Temescal Canyon Road	Seconday	40	Soft
Bennett Avenue	Eagle Glen Parkway to Masters Drive	Collector	40	Soft
Bennett Avenue	n/o Masters Drive	Collector	40	Soft
Georgetown Drive	w/o Bedford Cayon	Collector	40	Soft
Eagle Glen Parkway	Bennett Avenue to Masters Drive	Seconday	40	Soft
Eagle Glen Parkway	Masters Drive to Bedford Canyon	Seconday	40	Soft
Cajalco Road	Bedford Canyon to I-15 Freeway	Major Arterial	40	Soft
Cajalco Road	I-15 Freeway to Grand Oaks	Major Arterial	45	Soft
Cajalco Road	Grand Oaks to Temescal Canyon Road	Major Arterial	45	Soft
Cajalco Road	e/o Temescal Canyon Road	Major Arterial	45	Soft
Masters Drive	n/o California Drive	Collector	45	Soft
Masters Drive	California Drive to Bennett Avenue	Collector	40	Soft
Masters Drive	Bennett Avenue to Eagle Glen Parkway	Collector	40	Soft
Bedford Canyon	El Cerrito Road to Georgetown Drive	Divided Collector	40	Soft
Bedford Canyon	Georgetown Drive to Eagle Glen Parkway	Divided Collector	40	Soft
Temescal Canyon Road	n/o Cajalco Road	Major	45	Soft
Temescal Canyon Road	s/o Cajalco Road	Major	45	Soft

¹ According to the City of Corona General Plan Circulation Element.



Table 2

Average Daily Traffic For Existing And Existing Plus Project Conditions

		Average Dai	ly Traffic (1,000's)
Roadway	Segment	Existing	Existing Plus Project
California Drive	w/o Masters Drive	4.1	5.3
California Drive	e/o Masters Drive	8.3	9.5
El Cerrito Road	w/o Bedford Cayon	19.2	20.8
El Cerrito Road	Bedford Cayon to I-15 Freeway	19.4	20.3
El Cerrito Road	I-15 Freeway to Temescal Canyon Road	8.5	9.4
Bennett Avenue	Eagle Glen Parkway to Masters Drive	1.4	1.4
Bennett Avenue	n/o Masters Drive	0.9	0.9
Georgetown Drive	w/o Bedford Cayon	2.2	2.5
Eagle Glen Parkway	Bennett Avenue to Masters Drive	7.7	12.8
Eagle Glen Parkway	Masters Drive to Bedford Canyon	11.0	19.2
Cajalco Road	Bedford Canyon to I-15 Freeway	17.3	39.0
Cajalco Road	I-15 Freeway to Grand Oaks	12.3	16.1
Cajalco Road	Grand Oaks to Temescal Canyon Road	11.5	15.0
Cajalco Road	e/o Temescal Canyon Road	10.9	12.9
Masters Drive	n/o California Drive	4.5	5.0
Masters Drive	California Drive to Bennett Avenue	7.8	10.7
Masters Drive	Bennett Avenue to Eagle Glen Parkway	5.9	9.3
Bedford Canyon	El Cerrito Road to Georgetown Drive	6.0	8.5
Bedford Canyon	Georgetown Drive to Eagle Glen Parkway	6.0	8.8
Temescal Canyon Road	n/o Cajalco Road	10.4	10.9
Temescal Canyon Road	s/o Cajalco Road	13.0	14.0

¹ According to the Arantine Hills Traffic Impact Analysis by Urban Crossroads, Inc. in July 2011.

Table 3

Hourly Traffic Flow Distribution ¹

Motor-Vehicle Type	Daytime (7 am to 7 pm)	Evening (7 pm to 10 pm)	Night (10 pm to 7 am)	Total % Traffic Flow
City of Corona Roadways ¹				
Automobiles	77.5%	12.9%	9.6%	97.42%
Medium Trucks	84.8%	4.9%	10.3%	1.84%
Heavy Trucks	86.5%	2.7%	10.8%	0.74%

¹ Typical Southern California vehicle mix.

Table 4

Existing Conditions Noise Contours

			Distance to Contour (Feet)					
Road	Segment	CNEL at 100 Feet (dBA)	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL		
California Drive	w/o Masters Drive	56.8	RW	RW	61	132		
California Drive	e/o Masters Drive	59.9	21	46	98	212		
El Cerrito Road	w/o Bedford Cayon	63.6	38	81	174	375		
El Cerrito Road	Bedford Cayon to I-15 Freeway	63.7	RW	RW	RW	RW		
El Cerrito Road	I-15 Freeway to Temescal Canyon Road	60.1	RW	47	101	218		
Bennett Avenue	Eagle Glen Parkway to Masters Drive	52.2	RW	RW	RW	65		
Bennett Avenue	n/o Masters Drive	50.2	RW	RW	RW	48		
Georgetown Drive	w/o Bedford Cayon	54.1	RW	RW	RW	87		
Eagle Glen Parkway	Bennett Avenue to Masters Drive	59.6	RW	RW	95	204		
Eagle Glen Parkway	Masters Drive to Bedford Canyon	61.2	RW	56	120	259		
Cajalco Road	Bedford Canyon to I-15 Freeway	64.8	45	98	211	454		
Cajalco Road	I-15 Freeway to Grand Oaks	63.4	36	78	168	361		
Cajalco Road	Grand Oaks to Temescal Canyon Road	63.1	RW	74	160	345		
Cajalco Road	e/o Temescal Canyon Road	62.8	RW	72	155	333		
Masters Drive	n/o California Drive	57.2	RW	RW	RW	141		
Masters Drive	California Drive to Bennett Avenue	59.6	RW	RW	94	203		
Masters Drive	Bennett Avenue to Eagle Glen Parkway	58.4	RW	RW	78	169		
Bedford Canyon	El Cerrito Road to Georgetown Drive	58.5	RW	RW	80	171		
Bedford Canyon	Georgetown Drive to Eagle Glen Parkway	58.5	RW	37	80	171		
Temescal Canyon Road	n/o Cajalco Road	62.4	RW	67	144	309		
Temescal Canyon Road	s/o Cajalco Road	63.3	36	77	167	359		

¹ "RW" = Location of the respective noise contour falls within the right-of-way of the road

Table 5

Existing Plus Project Conditions Noise Contours

			Distance to Contour (Feet)					
Road	Segment	CNEL at 100 Feet (dBA)	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL		
California Drive	w/o Masters Drive	57.9	RW	RW	73	157		
California Drive	e/o Masters Drive	60.5	23	50	107	232		
El Cerrito Road	w/o Bedford Cayon	64.0	40	85	184	396		
El Cerrito Road	Bedford Cayon to I-15 Freeway	63.9	RW	RW	RW	RW		
El Cerrito Road	I-15 Freeway to Temescal Canyon Road	60.5	RW	50	108	233		
Bennett Avenue	Eagle Glen Parkway to Masters Drive	52.2	RW	RW	RW	65		
Bennett Avenue	n/o Masters Drive	50.2	RW	RW	RW	48		
Georgetown Drive	w/o Bedford Cayon	54.7	RW	RW	RW	95		
Eagle Glen Parkway	Bennett Avenue to Masters Drive	61.9	RW	62	133	286		
Eagle Glen Parkway	Masters Drive to Bedford Canyon	63.6	38	81	174	375		
Cajalco Road	Bedford Canyon to I-15 Freeway	68.4	78	168	362	780		
Cajalco Road	I-15 Freeway to Grand Oaks	64.5	43	93	201	432		
Cajalco Road	Grand Oaks to Temescal Canyon Road	64.2	RW	89	191	412		
Cajalco Road	e/o Temescal Canyon Road	63.6	RW	80	173	373		
Masters Drive	n/o California Drive	57.7	RW	RW	70	151		
Masters Drive	California Drive to Bennett Avenue	61.0	RW	RW	116	251		
Masters Drive	Bennett Avenue to Eagle Glen Parkway	60.4	RW	RW	106	228		
Bedford Canyon	El Cerrito Road to Georgetown Drive	60.0	RW	RW	100	216		
Bedford Canyon	Georgetown Drive to Eagle Glen Parkway	60.2	RW	48	103	221		
Temescal Canyon Road	n/o Cajalco Road	62.6	RW	69	148	319		
Temescal Canyon Road	s/o Cajalco Road	63.6	38	81	175	377		

¹ "RW" = Location of the respective noise contour falls within the right-of-way of the road



Table 6

Existing Plus Project Off-Site Project Related Traffic Noise Impacts

		CNE	L at 100 Fe	et (dBA)	
Roadway	Segment	No Project	With Project	Project Contribution	Potential Significant Impact? ¹
California Drive	w/o Masters Drive	56.8	57.9	1.1	NO
California Drive	e/o Masters Drive	59.9	60.5	0.6	NO
El Cerrito Road	w/o Bedford Cayon	63.6	64.0	0.3	NO
El Cerrito Road	Bedford Cayon to I-15 Freeway	63.7	63.9	0.2	NO
El Cerrito Road	I-15 Freeway to Temescal Canyon Road	60.1	60.5	0.4	NO
Bennett Avenue	Eagle Glen Parkway to Masters Drive	52.2	52.2	0.0	NO
Bennett Avenue	n/o Masters Drive	50.2	50.2	0.0	NO
Georgetown Drive	w/o Bedford Cayon	54.1	54.7	0.6	NO
Eagle Glen Parkway	Bennett Avenue to Masters Drive	59.6	61.9	2.2	NO
Eagle Glen Parkway	Masters Drive to Bedford Canyon	61.2	63.6	2.4	NO
Cajalco Road	Bedford Canyon to I-15 Freeway	64.8	68.4	3.5	YES
Cajalco Road	I-15 Freeway to Grand Oaks	63.4	64.5	1.2	NO
Cajalco Road	Grand Oaks to Temescal Canyon Road	63.1	64.2	1.2	NO
Cajalco Road	e/o Temescal Canyon Road	62.8	63.6	0.7	NO
Masters Drive	n/o California Drive	57.2	57.7	0.5	NO
Masters Drive	California Drive to Bennett Avenue	59.6	61.0	1.4	NO
Masters Drive	Bennett Avenue to Eagle Glen Parkway	58.4	60.4	2.0	NO
Bedford Canyon	El Cerrito Road to Georgetown Drive	58.5	60.0	1.5	NO
Bedford Canyon	Georgetown Drive to Eagle Glen Parkway	58.5	60.2	1.7	NO
Temescal Canyon Road	n/o Cajalco Road	62.4	62.6	0.2	NO
Temescal Canyon Road	s/o Cajalco Road	63.3	63.6	0.3	NO

 $^{^{1}}$ A significant impact is considered both a level above 65 dBA CNEL and an increase of 3.0 dBA CNEL or greater.



Appendix 1

City of Corona Noise Element



11.3.4

With the assistance of the Riverside County, determine Corona's long-term need for hazardous materials management facilities including the proper collection, transport, treatment, and disposal of such materials. (*Imp 15d*)

11.3.5

If it is determined that a hazardous materials management facility is required, develop and implement strict land use controls, performance standards, and structure and property design requirements on this facility including development setbacks from existing and planned schools, hospitals and medical offices, day care and elder care facilities, residential areas, and other sensitive land uses. (Imp 2, 6)

11.3.6

Require property owners of contaminated sites to develop and implement, at their expense, a site remediation plan to the satisfaction of Riverside County and the Department of Toxic Substances Control. (Imp 6)

11.3.7

Minimize the potential risk of contamination to surface water and groundwater resources and implement restoration efforts to resources adversely impacted by past urban and rural land use activities. (*Imp 6*)

HOISE

CONTEXT

This section identifies noise sensitive land uses, at-source noise generators, and the geographic extent of noise impacts for the purposes of protecting residents and businesses from excessive and persistent noise intrusions.

California State law, Government Code Section 65302(g), requires the preparation and adoption of a Noise Element, as follows:

The General Plan shall include a Noise Element that shall identify and appraise noise problems in the community. The Noise Element shall recognize the guidelines adopted by the Office of Noise Control in the State Department of Health Services and shall analyze and quantify to the extent practicable, as determined by the legislative body, current and projected noise levels for all of the following sources:

- Highways and freeways
- Primary arterials and major local streets
- Passenger and freight on-line railroad operations and ground rapid transit systems
- Aviation and airport related operations
- Local industrial plants
- Other ground stationary noise sources contributing to community noise environment"

A local Noise Element should accurately reflect the noise environment, the stationary sources of noise, and the impacts of noise on local residents.

Freeways and Arterial Roadways

Throughout the City of Corona, the dominant noise sources are transportation related. Two major, region-serving freeways bisect Corona and numerous major surface streets carry vehicles throughout the developed portions of the City. Motor vehicle noise commonly causes sustained noise levels and often in close proximity of sensitive land uses.

The major sources of traffic noise in Corona are the Riverside Freeway (SR-91) and I-15 Freeway. Many of the residential uses built near the freeways include some level of noise attenuation, provided by either a sound barrier or grade separation. As highway projects are implemented on the freeways, Caltrans policies regarding environmental protection are implemented and noise mitigation strategies are developed as necessary to meet Caltrans and/or FHWA goals.

Railroad Traffic

The Burlington Northern/Santa Fe (BNSF) Railroad main line also bisects Corona. This rail line carries heavy east-west freight train traffic, and about fifteen daily Metrolink and Amtrak passenger trains, from Los Angeles and Orange Counties through Riverside County to points east. During any typical 24-hour period, 75 to 90 freight trains use this line. Because freight train traffic occurs around the clock, nighttime traffic on the railroad has the potential to be the most disruptive to the community noise environment.

Aircraft A

The Corona Municipal Airport is a recreational airport that experiences more than 60,000 annual operations per year. Because the airport generally serves small aircraft and it is located in the Prado Flood Control Basin approximately one-half mile from the nearest residential neighborhoods to the north of Rincon Street, it is not a substantial source of noise at any sensitive land use, and noise from the airport does not affect most of the City.

Stationary Sources

Stationary sources of noise include common building or home mechanical equipment, such as air conditioners, ventilation systems, or pool pumps, and industrial facilities, such as manufacturing plants, power plants, or processing plants. Industry in Corona and near Corona city limits includes a variety of light manufacturing, rail and truck transportation-related businesses, some heavy manufacturing, and, in the eastern portion of the City, surface mining operations.

Sensitive Land Uses

Noise-sensitive land uses are defined in the Corona Municipal Code, Section 17.84.040. Sensitive land uses are those uses that have associated human activities that may be subject to stress or significant interference from noise. Sensitive land uses include single family residential, multiple family residential, churches, hospitals and similar health care institutions, convalescent homes, libraries, and school classroom areas.

Noise Standards

The Corona Municipal Code establishes standards for transportation noise sources in relation to sensitive uses. These standards are used by the City to guide project-level development to a

community noise environment that does not disrupt sensitive uses. New sensitive uses are prohibited from locating in areas where aircraft noise exceeds 65 CNEL, and mitigation is required for projects proposing to locate where roadway noise exceeds 65 CNEL.

The land use compatibility standards for community noise levels recommended in the guidelines established by the State of California, Governor's Office of Planning and Research. In addition, the California Noise Insulation Standards identify an interior noise standard of 45 dBA CNEL for new multi-family residential units.

2002 Noise Levels

Ambient noise levels were measured in the City of Corona to characterize existing daytime noise conditions caused by various noise sources. The locations were selected to characterize conditions caused by unique noise sources in the community (freeways, industry, the airport, and the railroad). Refer to Figure 18(1) through Figure 18(4).

SR-91 and I-15 are the greatest source of noise within the City. Yuma Drive located east of I-15 and Ontario Avenue located east of Rimpau Avenue also generate high levels of roadway noise. Existing residential uses in close proximity to these freeway and roadway segments could be exposed to high noise levels on a regular basis.

In addition to the noise levels identified above, there are currently several active surface aggregate mines within the City. Noise is generated by heavy vehicles within the mining sites, processing plant equipment, and transport trucks traveling to and from the mines. Most of the mines are located directly east of I-15 and SR-91.

As with locations in the City of Corona, motor vehicles are the primary source of noise within the SOI. Existing roadway noise levels in the Sphere of Influence Area are lower than within the City of Corona. As there are few existing residential uses in close proximity to the roadway segments, it is unlikely that these residents are exposed to high noise levels on a regular basis. There are currently several active surface aggregate mines within the South and East SOI areas. The noise generated by these mines is not known to adversely affect residential uses or other sensitive uses at the present time.

Comprehensive descriptions and maps of noise related issues in Corona are available in the *Corona General Plan Update Technical Background Report*. The following noise related policies are intended to be a comprehensive program that addresses noise control and mitigation in the planning and development process. The underlying purpose is to minimize exposure of excessive noise sources to the greatest number of residents and visitors of Corona as possible.

Goal II.4

Insure that appropriate actions are taken to protect residents, visitors, and noise sensitive land uses from adverse human health and environmental impacts created by excessive noise levels from ambient sources.

Policies

11.4.1

Provide for the reduction in noise impacts from transportation noise sources through the following actions:

- Implement noise mitigation measures in the design and daily operation of arterial road improvement projects consistent with funding capabilities.
- Require the use of site design and architectural design measures in the development of residential and other "noise-sensitive" land uses that are to be located adjacent to major roads or railroads.

 Measures that may be appropriate include increased building setbacks and dedicated noise easements, use of "noise-tolerant" land uses and buildings to serve as compatible buffers, landscaped earthen berms, walls, and clustering of buildings, to reduce interior open space noise levels.
- Encourage the enforcement of State Motor Vehicle noise standards for cars, vans, trucks, and motorcycles through coordination with the California Highway Patrol and the Corona Police Department.
- Ensure that the Zoning Ordinance, Circulation Element, and Land Use Element of the General Plan fully integrate the policies adopted as part of the Noise Element.

(Imp 1 to 9, 12, 13)

11.4.2

Minimize vehicle noise impacts from streets and freeways through proper route location and sensitive roadway design through the following strategies:

- Assess the impacts of truck routes, the effects of a variety of truck traffic, and future motor vehicle volumes on noise levels adjacent to roadways when improvements to the circulation system are being planned.
- Mitigate traffic volumes and vehicle speed through residential neighborhoods and school districts.
- Work closely with Caltrans in the early stages of highway improvements and design modifications to ensure that proper consideration is being given to potential noise impacts.

(Imp 15c, 17)

11.4.3

Encourage Caltrans to install and maintain mitigation (e.g., noise walls) and/or landscaping elements along highways under their jurisdiction that are adjacent to existing residential subdivisions or other noise-sensitive areas in order to reduce adverse noise impacts. (Imp 15c, 17)

11.4.4

Require municipal vehicles and noisegenerating mechanical equipment purchased or used by the City of Corona to comply with noise performance standards consistent with the latest available noise reduction technology. (Imp 19)

11.4.5

Require local and regional public transit providers to ensure that equipment used does not create excessive noise impacts on the community. (Imp 15d, 17)

11.4.6

Require new nonresidential development to design and configure onsite ingress and egress points to divert traffic away from "noisesensitive" land uses, to the greatest extent practicable. (Imp 6)

11.4.7

Provide for the development of alternate transportation modes, such as bicycle paths and pedestrian walkways, to minimize the number of noise generating automobile trips. (Imp 2, 6)

11.4.8

Restrict development of land uses located within the 65 dBA CNEL contour of the Corona Municipal Airport to industrial, agricultural, or other open space activities and that all development in the vicinity of the Corona Municipal Airport comply with the noise standards contained in the Corona Municipal Airport Master Plan. (*Imp 1, 2*)

11.4.9

Work closely with the Corona Municipal Airport to ensure that the airport's operations do not generate adverse noise conditions in the City of Corona. (Imp 15d)

Goal II.5

Prevent and mitigate the adverse impacts of excessive ambient noise exposure on residents, employees, visitors, and "noise-sensitive" land uses within the City of Corona.

Policies

11.5.1

Require that in areas where existing or future ambient noise levels exceed an exterior noise level of 65 dB(A) L_{dn} , all development of new housing, health care facilities, schools, libraries, religious facilities, and other "noise sensitive" land uses shall include satisfactory buffering

and/or construction mitigation measures to reduce noise exposure to levels within acceptable limits. (*Imp 2 to 6, 9, 12*)

11.5.2

Require new industrial and new commercial land uses or the major expansion of such uses to demonstrate that ambient noise levels will not exceed an exterior noise level of 65 dB(A) L_{dn} on areas containing "noise sensitive" land uses as depicted on Table 4. (Imp 2 to 6, 9, 12)

11.5.3

Require development in all areas where the existing or future ambient noise level exceeds 65 dB(A) L_{dn} to conduct an acoustical analysis and incorporate special design measures in their construction, thereby, reducing interior noise levels to the 45 dB(A) L_{dn} level, as depicted on Table 5. (*Imp 2 to 6, 9, 12*)

11.5.4

Encourage existing "noise sensitive uses," including schools, libraries, health care facilities, and residential uses in areas where existing or future noise levels exceed 65 dB(A) L_{dn} to incorporate fences, walls, landscaping, and/or other noise buffers and barriers, where appropriate and feasible. (*Imp 2 to 6, 9, 12*)

11.5.5

Require development that generates increased traffic and substantial increases in ambient noise levels adjacent to noise sensitive land uses, to provide appropriate mitigation measures in accordance with the acceptable limits of the City Noise Ordinance. (Imp 2 to 6, 9, 12)

11.5.6

Require construction activities that occur in close proximity to existing "noise sensitive" uses, including schools, libraries, health care facilities, and residential uses to limit the hours and days of operation in accordance with City Noise Ordinance. (*Imp 2–6, 9, 12*)

Т	able 4	Land Use Noise Compa	atibilit	у М	atrix				
	Land	Use Categories	Community Noise Equivalent Level CNEL						NEL
Categories	on the second	Uses	<55		60	65	70 7	80>	
RESIDENTIAL		Single Family, Duplex	Α	Α	В	В	D	D	D
RESIDEITINE		Multiple Family	Α	Α	В	В	С	D	D
RESIDENTIAL		Mobile Home	Α	Α	В	С	С	D	D
COMMERCIAL Regional, District		Hotel, Motel Transient Lodging	A	Α	В	В	С	С	D
COMMERCIAL Regional, Village District, S	pecial	Commercial Retail, Bank, Restaurant, Movie Theatre	A	Α	A	А	В	В	С
COMMERCIAL OFFICE INSTITUTIONAL		Office Building, Research and Development, Professional Offices, City Office Building	A	Α	A	В	В	С	D
COMMERCIAL Recreation INSTITUTIONAL Civic Center		Amphitheatre, Concert Hall Auditorium, Meeting Hall	В	В	С	С	D	D	D
COMMERCIAL Recreation		Children's Amusement Park, Miniature Golf Course, Go-cart Track, Equestrian Center, Sports Club	A	Α	А	В	В	D	D
COMMERCIAL General, Special INDUSTIRAL, INSTITUTION	VAL	Automobile Service Station, Auto Dealership, Manufacturing, Warehousing, Wholesale, Utilities	А	Α	A	A	В	В	В
INSTITUTIONAL General		Hospital, Church, Library, Schools' Classroom	Α	Α	В	С	С	D	D
OPEN SPACE		Parks	Α	Α	Α	В	С	D	D
OPEN SPACE		Golf Course, Cemeteries, Nature Centers Wildlife Reserves, Wildlife Reserves, Wildlife Habitat	A	Α	Α	A	В	С	С
AGRICULTURE		Agriculture	Α	Α	Α	Α	А	Α	Α
Interpretation				-			(Washington States and	Adjunicas and Colors	discontrapion de la contraction de la contractio
Zone A Sp		d use is satisfactory, based upon the assumption that any special noise insulation requirements.	buildings i	nvolve	d are of	normal	conventi	onal cor	struction
Zone B Normally Compatible ma	ew constru ade and ne	action or development should be undertaken only after seded noise insulation features in the design are determin ply systems or air conditioning, will normally suffice. No	ned. Conv	ention	al consti	ruction,	with clo	sed win	dows and
Normally Incompatible de	etailed analy	uction or development should generally be discouraged ysis of noise reduction requirements must be made and no	eeded noi				•		
Zone D No Clearly Incompatible	ew constru	iction of development should generally not be undertaker).						

Table 5	Interior and	Exterior	Noise	Standar	.ds
labics	miceror and	LACCI IOI	140120	Jeanuar	us

	Land Use Categories	Energy Ave	erage CNEL
Categories	Uses	Interior	Exterior ²
RESIDENTIAL	Single Family, Duplex, Multiple Family	453	65
	Mobile Home	NA	654
COMMERCIAL	Hotel, Motel, Transient Lodging	45	65 5
industrial Institutional	Commercial Retail, Bank, Restaurant	55	NA
INSTITUTIONAL	Office Building, Research and Development, Professional Offices, City Office Building	50	NA
	Amphitheatre, Concert Hall Auditorium, Meeting Hall	45	NA
	Gymnasium (Multipurpose)	50	NA
	Sports Club	55	NA
	Manufacturing, Warehousing, Wholesale, Utilities	65	NA
	Movie Theatres	45	NA
INSTITUTIONAL	Hospital, Schools' classroom	45	65
	Church, Library	45	NA
OPEN SPACE	Parks	NA	65

INTERPRETATION

- 1. Indoor environment excluding bathrooms, toilets, closets, corridors.
- 2. Outdoor environment limited to:

Private yard of single family

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

Hotel and motel recreation area

- Noise level requirement with closed windows. Mechanical ventilating system or other means of natural ventilation shall be provided as of Chapter 12, Section 1205 of UBC
- 4. Exterior noise level should be such that interior noise level will not exceed 45 CNEL
- 5. Except those areas affected by aircraft noise.

Source: Mestre Greve Associates

Goal II.6

Provide sufficient information concerning community noise levels to ensure that noise can be objectively considered and incorporated into land use planning.

Policies

11.6.1

Monitor and update available data regarding the City's existing and projected ambient and stationary noise levels. (*Imp 13*)

11.6.2

Undertake modifications and updates to the City's noise ordinances, regulations, and

guidelines, on an ongoing basis, as required, in response to new Federal, State and County standards and guidelines. (Imp 1 to 6)

11.6.3

Incorporate noise considerations into land use planning decisions in order to prevent future noise and land use incompatibilities. Considerations may include, but not necessarily be limited to standards that specify acceptable noise limits for various land uses, noise reduction features, acoustical design in new construction, and enforcement of the State of California Uniform Building Code provisions for indoor and outdoor noise levels. (*Imp 2 to 6, 9, 12*)

Goal II.7

Provide for the reduction of noise spillover or encroachment where the noise environment from commercial and industrial land uses is unacceptable; and protect and maintain adjoining residential areas and other "noise sensitive" areas having acceptable noise environments.

Policies

11.7.1

Provide for the reduction in noise impacts from commercial and industrial noise sources as controlled and enforced through the Community Noise Ordinance. (Imp 2 to 6, 9, 12)

11.7.2

Require that new commercial structures located adjacent to existing and planned residential areas shield HVAC units so as to limit adverse noise impacts to the greatest extent possible. (Imp 6)

11.7.3

Require that parking areas for commercial and industrial land operations be set back from adjacent residential areas to the maximum extent feasible or be buffered and shielded by walls, fences, berms, and/or adequate landscaping. (Imp 6)

11.7.4

Require that parking structures serving commercial or industrial land uses be designed to minimize potential noise impacts of vehicles using these structures to both on-site and adjacent properties. (*Imp 2, 6*)

11.7.5

Require that automobile and truck access to commercial or industrial land uses abutting existing or planned residential areas be located at the maximum practical distance from residential areas. (Imp 2, 6)

11.7.6

Prohibit the siting of loading and shipping facilities for commercial and industrial operations adjacent to existing or planned residential areas. (Imp 2, 6)

11.7.7

Require that restaurant/bar establishments take appropriate steps to control the activities of their patrons on-site and within a reasonable and legally justified distance from the establishment in order to minimize potential noise-related impacts on adjacent residential neighborhoods. (Imp 2)

Goal II.8

inimize potentially adverse noise impacts associated with the development of mixed-use structures in which residential dwelling units are proposed above ground floor commercial or institutional uses.

Policies

11.8.1

Require that mixed-use structures incorporating both commercial or institutional and residential uses minimize through design and construction technology, the transfer or transmission of noise and vibration from the commercial or institutional use to the residential land use. (Imp 6)

11.8.2

Prohibit the development of new nightclubs and other high noise-generating entertainment uses directly adjacent to existing and planned residential neighborhoods, residential dwelling units, schools, health care facilities, or other "noise-sensitive" land uses. Such uses may be permitted, at the direction of the City Council, if it can be satisfactorily demonstrated to the City through a noise analysis prepared by an

acoustical expert that effective measures can be installed and employed on an ongoing basis by the establishment to satisfactorily mitigate the potential impacts of onsite operations and/or offsite customer activities upon these areas. (*Imp 2*)

11.8.3

Prohibit the location of uses characterized by excessive noise, such as fast food restaurants with drive-through speakers, adjacent to existing and planned residential neighborhoods. (*Imp 2*)

Goal II.9

inimize noise impacts created by the Santa Fe railroad transit on residential areas and other "noisesensitive" land use areas.

Policies

11.9.1

Continue to work closely with the Santa Fe Railroad operators to install and maintain noise mitigation features where operations impact existing and planned residential areas or other "noise-sensitive" areas. (*Imp 15d*)

11.9.2

Coordinate with rail planners to properly maintain lines within the municipal boundaries of the City of Corona and establish operational restrictions including hours of operation and speed limits during the early morning and late evening hours to reduce adverse noise impacts in residential areas and other "noise-sensitive" areas. (*Imp 15d*)

11.9.3

Require that all new development of new housing, health care facilities, schools, libraries, religious facilities, and other "noise sensitive" land uses in close proximity to the railroad line include satisfactory buffering and/or construction mitigation measures to reduce noise exposure to levels within acceptable limits (i.e., 65 dB(A) L_{dn} interior and 45 dB(A) L_{dn} exterior). (*Imp 2–6, 9, 12*)

EMERGENCY/DISASTER PREPAREDNESS

CONTEXT

Municipalities use emergency/disaster preparedness plans in order to identify planning processes, organizations, response, and recovery policies and procedures to address a range of emergencies/disasters including seismic, flooding, urban and wildfires, and hazardous waste. These plans specify how preparedness and response activities and responsibilities are integrated and coordinated between local and county jurisdictions and with other government agencies, when required.

The California Emergency Services Act requires cities and counties to manage and coordinate emergency response and recovery activities within their jurisdictional boundaries. During disasters, the City of Corona coordinates its operations with the Riverside Operational Area. In the event of a disaster, the City and other involved agencies will implement the Incident Command System (ICS) at the field-response level to standardize response procedures. At the local government level, a designated Emergency Operations Center (EOC) is used as the central location to administer emergency operations.

APPENDIX 2

Off-Site FHWA Traffic Noise Model Contours



Scenario: Existing Conditions Project Name: Arantine Hills Noise Analy

Road Name: California Drive Job Number: 6897

Road Segment: w/o Masters Drive Analyst: J.T. Stephens

SITE	SPECIFIC IN	IPUT DATA				N	OISE	MODE	L INPUT	S	
Highway Data				S	ite Cor	ditions ((Hard	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	4,100 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10%			Ме	edium Tru	icks (2	Axles):	15		
Peak H	lour Volume:	410 vehicle	s		He	avy Truc	ks (3+	Axles):	15		
Vei	hicle Speed:	40 mph		V	ehicle	Mix					
Near/Far Lai	ne Distance:	14 feet		-		icleType		Day	Evening	Night	Daily
Site Data							lutos:	77.5%		9.6%	
Barrier Height: 0.0 feet					М	edium Tr	ucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W	•	0.0			ı	Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier: 100.0 feet				N	oise Si	ource Ele	evatio	ns (in fe	pet)		
Centerline Dist. to Observer: 100.0 feet				7.0	0,000	Autos		0.000	,,,		
Barrier Distance	0.0 feet			Mediu	m Trucks		2.297				
Observer Height (Above Pad):	5.0 feet				ry Trucks		3.006	Grade Ad	iustmeni	·· 0 0
Pa	ad Elevation:	0.0 feet			Heat	y Trucks	s. C	5.000	Orado ria	jadamom	. 0.0
Roa	ad Elevation:	0.0 feet		Li	Lane Equivalent Distance (in feet)						
F	Road Grade:	0.0%			Autos: 99.880						
	Left View:	-90.0 degre	es		Mediu	m Trucks	s: 99	9.791			
	Right View:	90.0 degre	es		Hear	y Trucks	s: 99	9.800			
FHWA Noise Mode	el Calculation	······································									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	snel	Barrier Att	en Bei	m Atten
Autos:	66.51	-5.31		-4.61		-1.20		-4.77	0.0	000	0.000
Medium Trucks:	77.72	-22.55		-4.61		-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	82.99	-26.51		-4.61		-1.20		-5.16	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barri	er attenu	ation)						
VehicleType	Leq Peak Hou	ur Leq Day	/	Leq Eve	ening	Leq I	Night		Ldn	С	NEL
Autos:	55	5.4	53.5		51.7		45	.7	54.3	3	54.9
Medium Trucks:	49	0.4	47.9		41.5		39	.9	48.4	1	48.6

Centerline Distance to Noise Contour (in feet)				
	70 dBA	65 dBA	60 dBA	55 dBA

40.2

52.4

49.3

55.7

 Ldn:
 12
 27
 57
 124

 CNEL:
 13
 28
 61
 132

41.5

47.8

49.8

56.4

50.0

56.8

Heavy Trucks:

Vehicle Noise:

50.7

57.4

Scenario: Existing Conditions

Road Name: California Drive

Road Segment: e/o Masters Drive

Project Name: Arantine Hills Noise Analy

Job Number: 6897

Analyst: J.T. Stephens

SITE	SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)						
Average Daily	Traffic (Adt):	8,300 vehicles	S			Autos:	15			
Peak Hour	Percentage:	10%		Me	dium Truc	cks (2 Axles):	15			
Peak H	lour Volume:	830 vehicles	S	He	avy Truck	(s (3+ Axles):	15			
Ve	hicle Speed:	40 mph		Vehicle I	Miv					
Near/Far La	ne Distance:	14 feet			icleType	Day	Evening	Night	Daily	
Site Data	Site Data					utos: 77.5%		9.6%	97.42%	
				Me	edium Tru			10.3%	1.84%	
ва Barrier Type (0-W	rrier Height:	0.0 feet 0.0			leavy Tru			10.8%	0.74%	
Centerline Di	,	100.0 feet								
		100.0 feet		Noise So	ource Ele	vations (in fe	eet)			
Centerline Dist. to Observer: Barrier Distance to Observer:					Autos:	0.000				
		0.0 feet		Mediu	m Trucks:	2.297				
	Observer Height (Above Pad): 5.0 fe			Heav	y Trucks:	8.006	Grade Ad	justment.	0.0	
	ad Elevation:	0.0 feet		Long Fa	uivalant l	Diotonoo (in i	foot)			
	ad Elevation:	0.0 feet		Lane Equivalent Distance (in feet)						
	Road Grade:	0.0%			Autos:					
	Left View:	-90.0 degree	-90.0 degrees		Medium Trucks: 99.791					
	Right View:	90.0 degree	es	Heav	y Trucks:	99.800				
FHWA Noise Mod	el Calculations	S								
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier Att	en Ber	m Atten	
Autos:	66.51	-2.25	-4.	61	-1.20	-4.77	0.0	000	0.000	
Medium Trucks:	77.72	-19.49	-4.	61	-1.20	-4.88	0.0	000	0.000	
Heavy Trucks:	82.99	-23.44	-4.	61	-1.20	-5.16	0.0	000	0.000	
Unmitigated Noise	e Levels (with	out Topo and	barrier atte	enuation)						
VehicleType	Leq Peak Hou	r Leq Day	Leq	Evening	Leq N	light	Ldn	CI	VEL	
Autos:	58.	.5	56.6	54.8	54.8 48.7		57.4		58.0	
Medium Trucks:	52.	.4	50.9	44.6		43.0	51.5	5	51.7	
Heavy Trucks:	53.	.7	52.3	43.3		44.5	52.9	9	53.0	

Centerline Distance to Noise Contour (in feet)	,
--	---

60.5

58.7

,				
	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	20	43	92	198
CNFI ·	21	46	98	212

55.5

50.9

59.4

59.9

Vehicle Noise:

Scenario: Existing Conditions Project Name: Arantine Hills Noise Analy

Road Name: El Cerrito Road Job Number: 6897

Road Segment: w/o Bedford Cayon Analyst: J.T. Stephens

SITE	SPECIFIC II	NPUT DATA		NOISE MODEL INPUTS						
Highway Data			S	Site Conditions (Hard = 10, Soft = 15)						
Average Daily	Traffic (Adt):	19,200 vehicles	3				Autos:	15		
Peak Hour	Percentage:	10%		Me	dium Truc	cks (2	Axles):	15		
Peak H	Hour Volume:	1,920 vehicles	3	He	avy Truck	ks (3+ .	Axles):	15		
Ve	ehicle Speed:	40 mph	V	'ehicle l	Miv					
Near/Far La	ane Distance:	36 feet			icleType		Day	Evening	Night	Daily
Site Data						utos:	77.5%	_	9.6%	
Ba	rrier Height:	0.0 feet		Me	edium Tru	ıcks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-V	_	0.0		F	leavy Tru	ıcks:	86.5%	2.7%	10.8%	0.74%
Centerline D	ist. to Barrier:	100.0 feet	٨	loise Sc	ource Ele	vation	s (in fe	eet)		
Centerline Dist.	to Observer:	100.0 feet	<u></u>		Autos:		000	,,,		
Barrier Distance	to Observer:	0.0 feet		Mediu	m Trucks:		297			
Observer Height	(Above Pad):	5.0 feet			ry Trucks: ry Trucks:		006	Grade Ad	liustment	. 0 0
P	ad Elevation:	0.0 feet		ricav	y Trucks.	. O.	.000	O , a a o , i a	jaoumom	. 0.0
Ro	ad Elevation:	0.0 feet	L	Lane Equivalent Distance (in feet)						
	Road Grade:	0.0%			Autos:	98	.494			
	Left View:	-90.0 degree	es	Mediui	m Trucks:	98	.404			
	Right View:	90.0 degree	es	Heav	y Trucks:	98	.413			
FHWA Noise Mod	lel Calculation	15								
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresi	nel	Barrier Att	ten Ber	m Atten
Autos:	66.51	1.39	-4.52		-1.20		-4.77	0.0	000	0.000
Medium Trucks:	77.72	-15.84	-4.51		-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	82.99	-19.80	-4.51		-1.20		-5.16	0.0	000	0.000
Unmitigated Nois	e Levels (with	nout Topo and	barrier attenu	uation)						
VehicleType	Leq Peak Ho	ur Leq Day	Leq Ev	ening	Leq N	light		Ldn	Ci	VEL
A (0.0		00.0	F0 F			_	04		04.

ommagated Noise Levels (Marout rope and barrier attendation)										
Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
62.2	60.3	58.5	52.5	61.1	61.7					
56.2	54.6	48.3	46.7	55.2	55.4					
57.5	56.1	47.0	48.3	56.6	56.8					
64.2	62.5	59.2	54.6	63.2	63.6					
	Leq Peak Hour 62.2 56.2 57.5	Leq Peak Hour Leq Day 62.2 60.3 56.2 54.6 57.5 56.1	Leq Peak Hour Leq Day Leq Evening 62.2 60.3 58.5 56.2 54.6 48.3 57.5 56.1 47.0	Leq Peak Hour Leq Day Leq Evening Leq Night 62.2 60.3 58.5 52.5 56.2 54.6 48.3 46.7 57.5 56.1 47.0 48.3	Leq Peak Hour Leq Day Leq Evening Leq Night Ldn 62.2 60.3 58.5 52.5 61.1 56.2 54.6 48.3 46.7 55.2 57.5 56.1 47.0 48.3 56.6					

Centerline Distance to Noise Contour (in feet)									
	70 dBA	65 dBA	60 dBA	55 dBA					
Ldn:	35	76	163	351					
CNEL:	38	81	174	375					

Scenario: Existing Conditions Road Name: El Cerrito Road

Road Segment: Bedford Cayon to I-15 Freeway

56.2

57.5

Project Name: Arantine Hills Noise Analy

Job Number: 6897

Analyst: J.T. Stephens

SITE	SPECIFIC INF	PUT DATA		NOISE MODEL INPUTS						
Highway Data				Site Conditions (Hard = 10, Soft = 15)						
Average Daily	Traffic (Adt): 19	9,400 vehicles	S			,	Autos:	15		
Peak Hour	Percentage:	10%		Me	edium Truc	ks (2 A	Axles):	15		
Peak H	lour Volume:	1,940 vehicles	S	He	avy Truck	s (3+ A	Axles):	15		
Ve	ehicle Speed:	40 mph		Vehicle I	Mix					
Near/Far La	ane Distance:	36 feet			icleType		Day	Evening	Night	Daily
Site Data					Au	itos:	77.5%	12.9%	9.6%	97.42%
Ba	rrier Height:	0.0 feet		M	edium Tru	cks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-V	•	0.0		I	Heavy Tru	cks:	86.5%	2.7%	10.8%	0.74%
• • • •	ist. to Barrier:	100.0 feet		Noisa Sa	ource Elev	vation	c (in fa	not)		
Centerline Dist.	to Observer:	100.0 feet		140/36 30	Autos:		000	<i>(</i>		
Barrier Distance	to Observer:	0.0 feet		Mediu	m Trucks:	_	297			
Observer Height	(Above Pad):	5.0 feet			/y Trucks:		006	Grade Ad	liustment	. 0 0
P	ad Elevation:	0.0 feet		ricar	ry Trucks.	0.0		Orado ria	jaotimom	0.0
Ro	ad Elevation:	0.0 feet		Lane Eq	uivalent E	Distan	ce (in i	feet)		
	Road Grade:	0.0%			Autos:	98.	494			
	Left View:	-90.0 degree	es	Mediu	m Trucks:	98.	404			
	Right View:	90.0 degree	es	Heav	y Trucks:	98.	413			
FHWA Noise Mod	lel Calculations	;								
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresn	nel	Barrier Att	en Ber	m Atten
Autos:	66.51	1.44	-4.	52	-1.20		-4.77	0.0	000	0.000
Medium Trucks:	77.72	-15.80	-4.	51	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	82.99	-19.76	-4.	51	-1.20		-5.16	0.0	000	0.000
Unmitigated Nois	e Levels (witho	ut Topo and	barrier atte	nuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq E	Evening	Leq Ni	ight		Ldn	CI	VEL
Autos:	62.2	2	60.3	58.6		52.5	5	61.1	1	61.7

Vehicle Noise:	64.2	62.5	59.2	54.7	63.2	63.7
Centerline Distance to	Noise Contour (in feet)					
			70 dBA	65 dBA	60 dBA	55 dBA
	L	_dn:	35	76	164	353
	CN	IEL:	38	81	175	378

48.3

47.1

46.8

48.3

55.2

56.7

55.5

56.8

54.7

56.1

Medium Trucks:

Heavy Trucks:

Scenario: Existing Conditions Road Name: El Cerrito Road

Road Segment: I-15 Freeway to Temescal Canyo

Project Name: Arantine Hills Noise Analy

Job Number: 6897

Analyst: J.T. Stephens

SITE	SPECIFIC IN	IPUT DATA			1	NOISE	MODE	L INPUT	S		
Highway Data				Site Conditions (Hard = 10, Soft = 15)							
	Percentage:	8,500 vehicle:			Medium Ti	•	,	15			
Ve	Hour Volume: chicle Speed: nne Distance:	850 vehicle 40 mph 36 feet	S	Ve	Heavy Tru	`	<u> </u>				
	Biotarioo.		30 ICCI		VehicleType		Day	Evening	Night	Daily	
Site Data						Autos:	77.5%		9.6%		
Ва	rrier Height:	0.0 feet			Medium 7		84.8%		10.3%		
Barrier Type (0-W	Vall, 1-Berm):	0.0			Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Di	ist. to Barrier:	100.0 feet		No	ise Source E	levatio	ns (in f	eet)			
	to Observer: (Above Pad): ad Elevation:	100.0 feet 0.0 feet 5.0 feet 0.0 feet			Auto Medium Truck Heavy Truck	os: 0 ks: 2 ks: 8	.000 .297 .006	Grade Ad	justment	:: 0.0	
	ad Elevation:	0.0 feet		La	Lane Equivalent Distance (in feet)						
	Road Grade: Left View: Right View:	0.0% -90.0 degree 90.0 degree			Auto Medium Truck Heavy Truck	ks: 98	.494 .404 .413				
FHWA Noise Mod	lel Calculation	S									
VehicleType	REMEL	Traffic Flow	Distanc	е	Finite Road	Fres	nel	Barrier Att	en Bei	m Atten	
Autos:	66.51	-2.15	-4	4.52	-1.20		-4.77	0.0	000	0.00	
Medium Trucks:	77.72	-19.38	-4	4.51	-1.20		-4.88	0.0	000	0.00	
Heavy Trucks:	82.99	-23.34	-4	4.51	-1.20		-5.16	0.0	000	0.00	
Unmitigated Nois	e Levels (with	out Topo and	barrier at	tenua	ation)						
VehicleType	Leq Peak Hou	ır Leq Day	Leq	g Evel	ning Leq	Night		Ldn	C	NEL	
Autos:	58	.6	56.7		55.0	48.	9	57.5	5	58.2	
Medium Trucks:	52	.6	51.1		44.7	43.	2	51.7	7	51.9	

Centerline Distance to Noise Contour (in feet)			
	70 dBA	65 dBA	60 dBA

52.5

58.9

53.9

60.7

55 dBA 204 Ldn: 20 44 95 218 CNEL: 47 22 101

44.7

51.1

53.1

59.6

53.2

60.1

43.5

55.6

Heavy Trucks:

Vehicle Noise:

Scenario: Existing Conditions Project Name: Arantine Hills Noise Analy

Road Name: Bennett Avenue Job Number: 6897

Road Segment: Eagle Glen Parkway to Masters D Analyst: J.T. Stephens

SITE	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS						
Highway Data				S	Site Conditions (Hard = 10, Soft = 15)						
Average Daily	Traffic (Adt):	1,400 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Tr	ucks (2	Axles):	15		
Peak H	lour Volume:	140 vehicle	s		He	avy Tru	cks (3+	Axles):	15		
Ve	ehicle Speed:	40 mph		V	ehicle l	Mix					
Near/Far La	ne Distance:	14 feet				icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	J		97.42%
Ba	rrier Height:	0.0 feet			Me	edium T	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-V	•	0.0			F	leavy T	rucks:	86.5%	2.7%	10.8%	0.74%
• • • •	ist. to Barrier:	100.0 feet		Α.	Noise Source Elevations (in feet)						
Centerline Dist.	to Observer:	100.0 feet		/	orse sc	Auto		.000	, c i)		
Barrier Distance	to Observer:	0.0 feet			Madiu	Auto m Truck		.297			
Observer Height	(Above Pad):	5.0 feet				n muck ry Truck	-	.006	Grade Ad	iustman	<i>t</i> · 0 0
P	Pad Elevation: 0.0 feet				пеач	y Huck	<i>S.</i> 0	.006	Grade Au	justinen	<i>t.</i> 0.0
Ro	ad Elevation:	0.0 feet		L	Lane Equivalent Distance (in feet)						
	Road Grade:	0.0%				Auto	s: 99	.880			
	Left View:	-90.0 degree	es		Mediui	m Truck	s: 99	.791			
	Right View:	90.0 degree	es		Heav	y Truck	rs: 99	.800			
FHWA Noise Mod	lel Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos:	66.51	-9.98		-4.61		-1.20		-4.77	0.0	000	0.000
Medium Trucks:	77.72	-27.22		-4.61		-1.20		<i>-4.88</i>	0.0	000	0.000
Heavy Trucks:	82.99	-31.17		-4.61		-1.20		-5.16	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrie	r attenu	ıation)						
VehicleType	Leq Peak Hou	ır Leq Day	/	Leq Ev	ening	Leq	Night		Ldn	С	NEL
Autos:	50	.7	48.8		47.1		41.	0	49.6	3	50.2
Medium Trucks:	44	.7	43.2		36.8		35.	3	43.7	7	44.0
Heavy Trucks:	46	.0	44.6		35.6		36.	8	45.2	2	45.3

Centerline Distance to Noise Contour (in feet)
---	---

52.7

51.0

/				
	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	6	13	28	60
CNFL:	6	14	30	65

43.2

51.7

52.2

47.7

Vehicle Noise:

Scenario: Existing Conditions Project Name: Arantine Hills Noise Analy

Job Number: 6897 Road Name: Bennett Avenue

Road Segment: n/o Masters Drive Analyst: J.T. Stephens

SITE	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS							
Highway Data				S	ite Cor	ditions	(Hard	= 10, Sc	oft = 15)			
Average Daily	Traffic (Adt):	900 vehicle	s					Autos:	15			
Peak Hour	Percentage:	10%			Мє	edium Tr	ucks (2	2 Axles):	15			
Peak H	lour Volume:	90 vehicle	S		Не	avy Tru	cks (3+	- Axles):	15			
Ve	hicle Speed:	40 mph		V	ehicle	Miy						
Near/Far La	ne Distance:	14 feet				icleType	2	Day	Evening	Night	Daily	
Site Data					VCI		Autos:	77.5%		9.6%	•	
		0.0.51			M	edium T		84.8%		10.3%		
	rrier Height:	0.0 feet				Heavy T		86.5%		10.8%		
Barrier Type (0-W	•	0.0				roavy r	raono.		2.1 70	10.070	0.7 170	
Centerline Dis		100.0 feet		٨	loise S	ource E	levatio	ns (in fe	eet)			
Centerline Dist.		100.0 feet				Auto	s: (0.000				
Barrier Distance		0.0 feet			Mediu	m Truck	s: 2	2.297				
Observer Height (,	5.0 feet			Hea	/y Truck	s: 8	3.006	Grade Ad	justment	t: 0.0	
	ad Elevation: ad Elevation:	0.0 feet		1	ano Fo	uivalan	t Dicto	nce (in i	foot)			
		0.0 feet			arie Ly	Auto		9.880	ieei)			
1	Road Grade:	0.0%			Modiu	Auto m Truck		9.000 9.791				
	Left View:	-90.0 degree						9.791 9.800				
	Right View:	90.0 degree	es		пеа	/y Truck	S. 9	9.600				
FHWA Noise Mod	el Calculation	ıs										
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fre	snel	Barrier Att	en Bei	rm Atten	
Autos:	66.51	-11.90		-4.61		-1.20		-4.77	0.0	000	0.000	
Medium Trucks:	77.72	-29.14		-4.61		-1.20		-4.88	0.0	000	0.000	
Heavy Trucks:	82.99	-33.09		-4.61		-1.20		-5.16	0.0	000	0.000	
Unmitigated Noise	e Levels (with	out Topo and	barri	er attenu	ıation)							
VehicleType	Leq Peak Ho	ur Leq Day	′	Leq Ev	ening	Leq	Night		Ldn	С	NEL	
Autos:	48	3.8	46.9		45.1		39	9.1	47.7	7	48.3	
Medium Trucks:	42	2.8	41.3		34.9		33	3.4	41.8	3	42.1	
Heavy Trucks:	44	l.1	42.7		33.6		34	l.9	43.2	2	43.4	
Vehicle Noise:	50	0.8	49.1		45.8		41	.3	49.8	3	50.2	
Centerline Distant	ce to Noise C	ontour (in feet)									
				70 d	BA		dBA	6	60 dBA		dBA	
			Ldn:	4		•	10		21		45	

5

10

22

48

CNEL:

Scenario: Existing Conditions Project Name: Arantine Hills Noise Analy

Job Number: 6897

Road Name: Georgetown Drive Road Segment: w/o Bedford Cayon Analyst: J.T. Stephens

SITE	SPECIFIC IN	PUT DATA		NOISE MODEL INPUTS									
Highway Data				Site Co.	nditions	(Hard =	= 10, Sc	oft = 15)					
Average Daily	Traffic (Adt):	2,200 vehicles	3				Autos:	15					
	r Percentage:	10%		М	edium Tru	ıcks (2	Axles):	15					
Peak H	Hour Volume:	220 vehicles	;	Heavy Trucks (3+ Axles): 15									
Ve	ehicle Speed:	40 mph		Vehicle	Miy								
Near/Far La	ane Distance:	14 feet			hicleType		Day	Evening	Night	Daily			
Site Data						lutos:	77.5%	-	9.6%	97.42%			
Ва	rrier Height:	0.0 feet		Λ	1edium Tr	rucks:	84.8%	4.9%	10.3%	1.84%			
Barrier Type (0-V	_	0.0			Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%			
Centerline D	ist. to Barrier:	100.0 feet		Noise Source Elevations (in feet)									
Centerline Dist.	to Observer:	100.0 feet		710/30 0	Autos		.000	,,,,					
Barrier Distance to Observer:		0.0 feet		Medi	ım Trucks		.297						
Observer Height (Above Pad): 5.0 feet				vy Trucks		.006	Grade Ad	liustment	: 0.0				
Pad Elevation: 0.0 feet													
Ro	ad Elevation:	0.0 feet		Lane Ed	quivalent	Distar	ice (in i	feet)					
	Road Grade:	0.0%			Autos	s: 99	.880						
	Left View:	-90.0 degree	es .	Mediu	ım Trucks	s: 99	.791						
	Right View:	90.0 degree	:S	Hea	vy Trucks	s: 99	.800						
FHWA Noise Mod	lel Calculation	s											
VehicleType	REMEL	Traffic Flow	Distance	e Finite	e Road	Fres	nel	Barrier Att	en Ber	m Atten			
Autos:	66.51	-8.02	-4	.61	-1.20		-4.77	0.0	000	0.000			
Medium Trucks:	77.72	-25.25	-4	.61	-1.20		-4.88	0.0	000	0.000			
Heavy Trucks:	82.99	-29.21	-4	.61	-1.20		-5.16	0.0	000	0.000			
Unmitigated Nois	e Levels (with	out Topo and I	barrier att	enuation)	1								
VehicleType	Leq Peak Hou	r Leq Day	Leq	Evening	Leq	Night		Ldn	CI	VEL			
Autos:	52	.7	50.8	49.0)	43.	0	51.0	6	52.2			
Modium Trucks	. 16	7	15 1	20 ()	27	2	15.	7	45.0			

vomoiorypo	Log r can riour	Log Day	Log Everning	Log rugin	Lan	OIVLL
Autos:	52.7	50.8	49.0	43.0	51.6	52.2
Medium Trucks:	46.7	45.1	38.8	37.2	45.7	45.9
Heavy Trucks:	48.0	46.6	37.5	38.8	47.1	47.3
Vehicle Noise:	54.7	53.0	49.7	45.1	53.7	54.1
-						

Centerline Distance to Noise Contour (in feet)										
	70 dBA	65 dBA	60 dBA	55 dBA						
Ldn:	8	18	38	82						
CNFI ·	q	19	4 1	87						

Scenario: Existing Conditions Project Name: Arantine Hills Noise Analy

Job Number: 6897

Road Name: Eagle Glen Parkway
Road Segment: Bennett Avenue to Masters Drive Analyst: J.T. Stephens

SITE SPECIFIC II	NPUT DATA		NOISE MODEL INPUTS							
Highway Data		S	ite Conditions	(Hard = 10, S)	oft = 15)					
Average Daily Traffic (Adt):	7,700 vehicles	;		Autos.	15					
Peak Hour Percentage:	10%		Medium Tr	ucks (2 Axles)	: 15					
Peak Hour Volume:	770 vehicles	;	Heavy True	cks (3+ Axles)	: 15					
Vehicle Speed:	40 mph	V	ehicle Mix							
Near/Far Lane Distance:	36 feet		VehicleType	e Day	Evening	Night	Daily			
Site Data				Autos: 77.5%	-		97.42%			
Barrier Height:	0.0 feet		Medium T	rucks: 84.8%	4.9%	10.3%	1.84%			
Barrier Type (0-Wall, 1-Berm):	0.0		Heavy T	rucks: 86.5%	6 2.7%	10.8%	0.74%			
Centerline Dist. to Barrier:	100.0 feet	٨	loise Source El	levations (in f	eet)					
Centerline Dist. to Observer:	100.0 feet		Auto	s: 0.000						
Barrier Distance to Observer:	0.0 feet		Medium Truck	s: 2.297						
Observer Height (Above Pad):	5.0 feet		Heavy Truck	s: 8.006	Grade Adju	ustment	: 0.0			
Pad Elevation:	0.0 feet									
Road Elevation:	0.0 feet	L	ane Equivalent	t Distance (in	feet)					
Road Grade:	0.0%		Auto	s: 98.494						
Left View:	-90.0 degree	s	Medium Truck	s: 98.404						
Right View:	90.0 degree	s	Heavy Truck	s: 98.413						
FHWA Noise Model Calculation	18									
VehicleType REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atte	n Ber	m Atten			
Autos: 66.51	-2.57	-4.52	-1.20	-4.77	0.00	00	0.000			
Medium Trucks: 77.72	-19.81	-4.51	-1.20	-4.88	0.0	00	0.000			
Heavy Trucks: 82.99	-23.77	-4.51	-1.20	-5.16	0.00	00	0.000			

Unmitigated Nois	Unmitigated Noise Levels (without Topo and barrier attenuation)										
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos:	58.2	56.3	54.6	48.5	57.1	57.7					
Medium Trucks:	52.2	50.7	44.3	42.8	51.2	51.5					
Heavy Trucks:	53.5	52.1	43.1	44.3	52.7	52.8					
Vehicle Noise.	60.2	58.5	55.2	50.7	59.2	59.6					

Centerline Distance to Noise Contour (in feet)										
	70 dBA	65 dBA	60 dBA	55 dBA						
Ldn:	19	41	88	191						
CNEL:	20	44	95	204						

Scenario: Existing Conditions Project Name: Arantine Hills Noise Analy

Road Name: Eagle Glen Parkway Job Number: 6897

Road Segment: Masters Drive to Bedford Canyon Analyst: J.T. Stephens

SITE SPECIFIC II	NPUT DATA		NOISE MODEL INPUTS							
Highway Data		S	ite Conditions	(Hard = 10, S)	oft = 15)	-				
Average Daily Traffic (Adt):	11,000 vehicles	;		Autos	: 15					
Peak Hour Percentage:	10%		Medium Tro	ucks (2 Axles)	: 15					
Peak Hour Volume:	1,100 vehicles	;	Heavy Truc	cks (3+ Axles)	: 15					
Vehicle Speed:	40 mph	40 mph								
Near/Far Lane Distance:	36 feet		'ehicle Mix VehicleType	Day	Evening	Night	Daily			
Site Data				Autos: 77.5%	_	9.6%				
Barrier Height:	0.0 feet		Medium Ti	rucks: 84.8%	4.9%	10.3%	1.84%			
Barrier Type (0-Wall, 1-Berm):	0.0 1661		Heavy Ti	rucks: 86.5%		10.8%	0.74%			
Centerline Dist. to Barrier: Centerline Dist. to Observer: Barrier Distance to Observer: Observer Height (Above Pad): Pad Elevation: Road Elevation: Road Grade:	100.0 feet 100.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet 0.0%		Ioise Source El Auto: Medium Truck: Heavy Truck: ane Equivalent Auto:	s: 0.000 s: 2.297 s: 8.006	Grade Adj	iustment	: 0.0			
Left View: Right View:	-90.0 degree		Medium Truck Heavy Truck							
FHWA Noise Model Calculation	าร									
VehicleType REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Att	en Ber	m Atten			
Autos: 66.51	-1.03	-4.52	-1.20	-4.77	0.0	000	0.000			
Medium Trucks: 77.72	-18.26	-4.51	-1.20	-4.88	0.0	000	0.000			
Heavy Trucks: 82.99	-22.22	-4.51	-1.20	-5.16	0.0	000	0.000			

-									
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	59.8	57.9	56.1	50.0	58.7	59.3			
Medium Trucks:	53.7	52.2	45.9	44.3	52.8	53.0			
Heavy Trucks:	55.1	53.6	44.6	45.9	54.2	54.3			
Vehicle Noise:	61.8	60.0	56.8	52.2	60.8	61.2			

Centerline Distance to Noise Contour (in feet)											
	70 dBA	65 dBA	60 dBA	55 dBA							
Ldn:	24	52	112	242							
CNEL:	26	56	120	259							

Scenario: Existing Conditions

Road Name: Cajalco Road

Road Segment: Bedford Canyon to I-15 Freeway

Project Name: Arantine Hills Noise Analy

Job Number: 6897

Analyst: J.T. Stephens

SITE	SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS							
Highway Data				Si	te Conditions	(Hard	= 10, Sc	oft = 15)				
Average Daily	Traffic (Adt): 1	17,300 vehicles	S				Autos:	15				
Peak Hour	Percentage:	10%			Medium T	rucks (2	Axles):	15				
Peak H	lour Volume:	1,730 vehicles	S		Heavy Tru	ıcks (3+	Axles):	15				
Ve	ehicle Speed:	45 mph		Ve	ehicle Mix							
Near/Far La	ne Distance:	77 feet			VehicleType Day		Dav	Evening	Night	Daily		
Site Data						Autos:	77.5%	-	9.6%	97.42%		
Ra	rrier Height:	0.0 feet			Medium 7	Trucks:	84.8%	4.9%	10.3%	1.84%		
Barrier Type (0-W	_	0.0			Heavy T	Trucks:	86.5%	2.7%	10.8%	0.74%		
Centerline Di	ist. to Barrier.	100.0 feet		No	oise Source E	levatio	ns (in f	eet)				
Centerline Dist.	to Observer:	100.0 feet			Auto		0.000	,				
Barrier Distance	to Observer:	0.0 feet			Medium Truci		2.297					
Observer Height (Above Pad):		5.0 feet			Heavy Truck	_	3.006	Grade Ad	iustment.	0.0		
Pad Elevation: 0.0 feet												
Ro	ad Elevation:	0.0 feet		La	ne Equivaler			feet)				
	Road Grade:	0.0%			Autos: 92.427							
	Left View:	-90.0 degree	es		Medium Trucks: 92.331							
	Right View:	90.0 degree	es		Heavy Trucks: 92.341							
FHWA Noise Mod	lel Calculations	S										
VehicleType	REMEL	Traffic Flow	Distand	ce	Finite Road	Fres	snel	Barrier Att	en Ber	m Atten		
Autos:	68.46	0.43	-	4.11	-1.20		-4.77	0.0	000	0.000		
Medium Trucks:	79.45	-16.81	-	4.10	-1.20		-4.88	0.0	000	0.000		
Heavy Trucks:	84.25	-20.76	-	4.10	-1.20		-5.16	0.0	000	0.000		
Unmitigated Nois	e Levels (with	out Topo and	barrier a	ttenu	ation)							
VehicleType	Leq Peak Hou	ır Leq Day	Le	q Eve	ening Leq	Night		Ldn	CI	VEL		
Autos:	63.	.6	61.7		59.9	53	.9	62.5	5	63.1		
Medium Trucks:	57.	.3	55.8		49.5	47	.9	56.4	1	56.6		
Heavy Trucks:	58.	.2	56.8		47.7	49	.0	57.3	3	57.5		

Centerline Distance to Noise Contour (in feet)	,
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65.4

63.7

,				
	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	42	91	196	423
CNFI ·	45	98	211	454

55.9

64.4

64.8

60.5

Vehicle Noise:

Scenario: Existing Conditions Project Name: Arantine Hills Noise Analy

Road Name: Cajalco Road Job Number: 6897

Road Segment: I-15 Freeway to Grand Oaks

Analyst: J.T. Stephens

SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS								
Highway Data				S	Site Conditions (Hard = 10, Soft = 15)							
Average Daily	12,300 vehicles			Autos: 15								
Peak Hour	Percentage:	10%			Medium Trucks (2 Axles): 15							
Peak H	lour Volume:	1,230 vehicles		Heavy Trucks (3+ Axles): 15								
Ve	hicle Speed:	45 mph		V	Vehicle Mix							
Near/Far La	ne Distance:	77 feet				icleType	9	Day	Evening	Night	Daily	
Site Data							Autos:	77.5%	_		97.42%	
Ba	rrier Height:	0.0 feet			Me	edium T	rucks:	84.8%	4.9%	10.3%	1.84%	
Barrier Type (0-W	•	0.0			F	leavy T	rucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Di	st. to Barrier.	100.0 feet		N	oise Sc	ource E	levatio	ns (in f	eet)			
Centerline Dist.	to Observer:	100.0 feet				Auto		0.000	,			
Barrier Distance	0.0 feet			Mediu	n Truck		2.297					
Observer Height (5.0 feet				y Truck	_	3.006	Grade Ad	iustmen	t· 0 0		
Pad Elevation:		0.0 feet			ricav	y Truck					0.0	
Road Elevation:		0.0 feet		L	Lane Equivalent Distance (in feet)							
ı	Road Grade:	0.0%			Autos: 92.427							
	Left View:	-90.0 degree	es		Medium Trucks: 92.331							
Right View:		90.0 degree	es		Heav	y Truck	rs: 92	2.341				
FHWA Noise Mod	el Calculatior	าร										
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	snel	Barrier Att	en Be	rm Atten	
Autos:	68.46	-1.05		-4.11		-1.20		-4.77	0.0	000	0.000	
Medium Trucks:	79.45	-18.29		-4.10		-1.20		-4.88	0.0	000	0.000	
Heavy Trucks:	84.25	-22.25		-4.10		-1.20		-5.16	0.0	000	0.000	
Unmitigated Noise	e Levels (with	out Topo and	barrie	er attenu	ation)							
VehicleType	Leq Peak Ho	our Leq Day Leq E		Leq Eve	ening	Leq	Night		Ldn	С	NEL	
Autos:	62	2.1	60.2		58.4		52	.4	61.0)	61.6	
Medium Trucks: 5		5.9	54.4		48.0 46.4			54.9		55.1		

Centerline Distance to	Noise Contour	(in feet)
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56.7

63.9

55.3

62.2

46.2

59.0

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	34	73	156	337
CNEL:	36	78	168	361

47.5

54.4

55.9

62.9

56.0

63.4

Heavy Trucks:

Vehicle Noise:

Scenario: Existing Conditions Project Name: Arantine Hills Noise Analy

Road Name: Cajalco Road Job Number: 6897

Road Segment: Grand Oaks to Temescal Canyon Analyst: J.T. Stephens

SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS									
Highway Data				Si	Site Conditions (Hard = 10, Soft = 15)								
Average Daily Tr	raffic (Adt): 1	11,500 vehicles			Autos: 15								
Peak Hour Pe	ercentage:	10%		Medium Trucks (2 Axles): 15									
Peak Hou	ur Volume:	1,150 vehicles			Heavy Trucks (3+ Axles): 15								
Vehic	cle Speed:	45 mph 77 feet		V	Vehicle Mix								
Near/Far Lane	e Distance:					icleType		Day	Evening	Night	Daily		
Site Data							utos:	77.5%		9.6%			
Barri	er Height:	0.0 feet			M	edium Tr	ucks:	84.8%	4.9%	10.3%	1.84%		
Barrier Type (0-Wal	•	0.0			ŀ	Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%		
Centerline Dist.	to Barrier.	100.0 feet		N	oise So	ource Ele	evatio	ns (in f	eet)				
Centerline Dist. to	Observer:	100.0 feet				Autos		0.000					
Barrier Distance to	Observer:	0.0 feet			Mediu	m Trucks		2.297					
Observer Height (Al	bove Pad):	5.0 feet				y Trucks		3.006	Grade Ad	liustment	: 0.0		
Pad Elevation:		0.0 feet											
Road	Elevation:	0.0 feet Lane Equivalent Distance (in feet)											
Ro	oad Grade:	0.0%			Autos: 92.427								
	Left View:	-90.0 degrees			Medium Trucks: 92.331								
Right View:		90.0 degree	es		Heavy Trucks: 92.341								
FHWA Noise Model	Calculations												
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fres	snel	Barrier Att	en Ber	m Atten		
Autos:	68.46	-1.34		-4.11		-1.20		-4.77	0.0	000	0.000		
Medium Trucks:	79.45	-18.58		-4.10		-1.20		-4.88	0.0	000	0.000		
Heavy Trucks:	Heavy Trucks: 84.25 -22.54 -4		-4.10		-1.20		-5.16	0.0	000	0.000			
Unmitigated Noise L	Levels (witho	out Topo and	barrier a	ttenu	ation)								
VehicleType L	eq Peak Houi	r Leq Day	Le	eq Eve	ening	Leq I	Vight		Ldn	CI	VEL		
Autos:	61.	8 .	59.9				52	52.1 60.7		7	61.3		
Medium Trucks:	55.0	6 54.1			47.7 46.:		.2 54.6		6	54.8			

Centerline Distance to Noise Contour (in feet)										
	70 dBA	65 dBA	60 dBA	55 dBA						

46.0

58.8

55.0

61.9

 Ldn:
 32
 69
 149
 322

 CNEL:
 35
 74
 160
 345

47.2

54.1

55.6

62.6

55.7

63.1

Heavy Trucks:

Vehicle Noise:

56.4

63.6

Scenario: Existing Conditions Project Name: Arantine Hills Noise Analy

Job Number: 6897

Road Name: Cajalco Road Road Segment: e/o Temescal Canyon Road Analyst: J.T. Stephens

SITE SPECIFIC I	NPUT DATA		NOISE MODEL INPUTS					
Highway Data			Site Conditions	s (Hard =	= 10, Sc	oft = 15)		
Average Daily Traffic (Adt):	10,900 vehicles	S			Autos:	15		
Peak Hour Percentage:	10%		Medium T	rucks (2	Axles):	15		
Peak Hour Volume:	1,090 vehicles	S	Heavy Tro	ucks (3+	Axles):	15		
Vehicle Speed:	45 mph		Vehicle Mix					
Near/Far Lane Distance:	77 feet		VehicleTyp	е	Day	Evening	Night	Daily
Site Data				Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	0.0 feet		Medium Trucks:			4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0		Heavy Trucks: 86.5% 2.7%			10.8%	0.74%	
Centerline Dist. to Barrier:	100.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 100.0 feet			Aut		.000			
Barrier Distance to Observer:	0.0 feet		Medium Truc		.297			
Observer Height (Above Pad):	5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0					. 0 0
Pad Elevation:	0.0 feet		Heavy Huc	ns. o	.000	Orade Ad	justinoni	. 0.0
Road Elevation:	0.0 feet		Lane Equivaleı	nt Distar	ice (in i	feet)		
Road Grade:	0.0%		Autos: 92.427					
Left View:	-90.0 degree	es	Medium Trucks: 92.331					
Right View:	90.0 degree	es	Heavy Truc	ks: 92	.341			
FHWA Noise Model Calculation	าร							
VehicleType REMEL	Traffic Flow	Distance	Finite Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos: 68.46	-1.58	-4.1	1 -1.20)	-4.77	0.0	000	0.000
Medium Trucks: 79.45	-18.82	-4.1	0 -1.20)	-4.88	0.0	000	0.000
Heavy Trucks: 84.25	-22.77	-4.1	0 -1.20)	-5.16	0.0	000	0.000
Unmitigated Noise Levels (with	hout Topo and	barrier atter	nuation)					

-										
Unmitigated Noise Levels (without Topo and barrier attenuation)										
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	61.6	59.7	57.9	51.9	60.5	61.1				
Medium Trucks:	55.3	53.8	47.5	45.9	54.4	54.6				
Heavy Trucks:	56.2	54.8	45.7	47.0	55.3	55.5				
Vehicle Noise:	63.4	61.7	58.5	53.8	62.4	62.8				

Centerline Distance to Noise Contour (in feet)								
	70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:	31	67	144	311				
CNEL:	33	72	155	333				

Scenario: Existing Conditions Project Name: Arantine Hills Noise Analy

Road Name: Masters Drive Job Number: 6897

Road Segment: n/o California Drive Analyst: J.T. Stephens

SITE	SPECIFIC IN	IPUT DATA			NOISE MC	DE	L INPUTS	S		
Highway Data				Site Conditions	(Hard = 10)), So	oft = 15)			
Average Daily	Traffic (Adt):	4,500 vehicles	3	Autos: 15						
Peak Hour	Percentage:	10%		Medium Trucks (2 Axles): 15						
Peak H	lour Volume:	450 vehicles	3	Heavy Trucks (3+ Axles): 15						
Vei	hicle Speed:	40 mph	,	Vehicle Mix						
Near/Far Lai	ne Distance:	14 feet		VehicleType	e Da	ay	Evening	Night	Daily	
Site Data				Autos: 77.5% 12.9% 9.6% 97				97.42%		
Bar	rier Height:	0.0 feet		Medium Trucks: 84.8% 4.9% 10.			10.3%	1.84%		
Barrier Type (0-W	•	0.0		Heavy T	rucks: 86	6.5%	2.7%	10.8%	0.74%	
Centerline Dis	st. to Barrier.	100.0 feet		Noise Source Elevations (in feet)						
Centerline Dist. to Observer: 100.0 feet			_	Autos: 0.000						
Barrier Distance	to Observer:	0.0 feet		Medium Truck						
Observer Height (Above Pad):	5.0 feet		Heavy Truck			Grade Ad	iustment	·· 0 0	
Pa	ad Elevation:	0.0 feet		rieavy riuck	.5. 0.00	0	Grade Adj	astmorn	. 0.0	
Roa	ad Elevation:	0.0 feet	1	Lane Equivalen	t Distance	(in f	feet)			
F	Road Grade:	0.0%		Auto	s: 99.88	0				
	Left View:	-90.0 degree	es	Medium Truck	s: 99.79	1				
	Right View:	90.0 degree	es	Heavy Truck	s: 99.80	0				
FHWA Noise Mode	el Calculation	s								
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel		Barrier Atte	en Ber	m Atten	
Autos:	66.51	-4.91	-4.6	1 -1.20	-4	.77	0.0	000	0.000	
Medium Trucks:	77.72	-22.15	-4.6	1 -1.20	-4	.88	0.0	000	0.000	
Heavy Trucks:	82.99	-26.10	-4.6	1 -1.20	-5	.16	0.0	000	0.000	

Unmitigated Nois	Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	55.8	53.9	52.1	46.1	54.7	55.3				
Medium Trucks:	49.8	48.3	41.9	40.4	48.8	49.0				
Heavy Trucks:	51.1	49.7	40.6	41.9	50.2	50.4				
Vehicle Noise:	57.8	56.1	52.8	48.2	56.8	57.2				

Centerline Distance to Noise Contour (in feet)									
	70 dBA	65 dBA	60 dBA	55 dBA					
Ldn:	13	28	61	131					
CNEL:	14	30	65	141					

Scenario: Existing Conditions Project Name: Arantine Hills Noise Analy

Road Name: Masters Drive Job Number: 6897

Road Segment: California Drive to Bennett Avenu Analyst: J.T. Stephens

SITE	SPECIFIC IN	IPUT DATA			NO	OISE MODE	L INPUT	S		
Highway Data				Site Con	ditions (Hard = 10, So	oft = 15)			
Average Daily	Traffic (Adt):	7,800 vehicles	S	Autos: 15						
Peak Hour	Percentage:	10%		Medium Trucks (2 Axles): 15						
Peak H	lour Volume:	780 vehicles	S	He	avy Truck	ks (3+ Axles):	15			
Ve	ehicle Speed:	40 mph		Vehicle	Mix					
Near/Far La	ane Distance:				icleType	Day	Evening	Night	Daily	
Site Data						utos: 77.5%		9.6%	97.42%	
Ra	rrier Height:	0.0 feet		Medium Trucks: 84.8% 4.9% 10.3%				1.84%		
Barrier Type (0-V		0.0		1	Heavy Tru	ucks: 86.5%	2.7%	10.8%	0.74%	
• • •	ist. to Barrier:	100.0 feet		N : 0						
Centerline Dist.	to Observer:	Observer: 100.0 feet			Noise Source Elevations (in feet)					
Barrier Distance to Observer: 0.0 feet			Autos: 0.000 Medium Trucks: 2.297							
Observer Height (Above Pad): 5.0 feet					_	Crada Ad	ii iatmant	. 0 0		
•	Pad Elevation: 0.0 feet Heavy Trucks: 8.006 Grade			Grade Ad	justment	0.0				
Ro	ad Elevation:	0.0 feet		Lane Equivalent Distance (in feet)						
	Road Grade:	0.0%			Autos.	99.880				
	Left View:	-90.0 degree	es	Mediu	m Trucks	cks: 99.791				
	Right View:	90.0 degree	es	Heav	y Trucks.	: 99.800				
FHWA Noise Mod	lel Calculation	s								
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier Att	en Ber	m Atten	
Autos:	66.51	-2.52	-4.	61	-1.20	-4.77	0.0	000	0.000	
Medium Trucks:	77.72	-19.76	-4.	61	-1.20	-4.88	0.0	000	0.000	
Heavy Trucks:	82.99	-23.71	-4.	61	-1.20	-5.16	0.0	000	0.000	
Unmitigated Nois	e Levels (with	out Topo and	barrier atte	enuation)						
VehicleType	Leq Peak Hou	ır Leq Day	Leq	Evening	Leq ∧	light	Ldn	CI	VEL	
Autos:	58	3.2	56.3	54.5		48.5	57.	1	57.7	
Medium Trucks:	_		50.6	44.3		42.7	51.2	2	51.4	
Heavy Trucks:	53	5.5	52.1	43.0		44.3	52.6	6	52.7	

60.2

58.5

/				
	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	19	41	88	190
CNFL:	20	44	94	203

50.6

59.2

55.2

59.6

Vehicle Noise:

Scenario: Existing Conditions Project Name: Arantine Hills Noise Analy

Road Name: Masters Drive Job Number: 6897

Road Segment: Bennett Avenue to Eagle Glen Pa Analyst: J.T. Stephens

SITE	SPECIFIC IN	IPUT DATA			NO	ISE M	10DE	L INPUT	S			
Highway Data				Site Cor	nditions (H	lard =	10, Sc	oft = 15)				
Peak F	Percentage: lour Volume:	e: 10% e: 590 vehicles			edium Truck eavy Trucks	ks (2 A	,	15				
	hicle Speed:	40 mph		Vehicle Mix								
Near/Far La	ne Distance:	14 feet		Veh	icleType	I	Day	Evening	Night	Daily		
Site Data				Autos: 77.5% 12.9% 9.6% 97				97.42%				
Ва	rrier Height:	0.0 feet		Medium Trucks: 84.8% 4.9% 10.3%				1.84%				
Barrier Type (0-W	/all, 1-Berm):	0.0		Heavy Trucks: 86.5% 2.7% 10.8%			0.74%					
Centerline Di	st. to Barrier:	100.0 feet		Noise Source Elevations (in feet)								
Centerline Dist.	to Observer:	100.0 feet		Autos: 0.000								
Barrier Distance	to Observer:	0.0 feet		Medium Trucks: 2.297								
Observer Height	(Above Pad):	5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0				: 0.0				
P	ad Elevation:	0.0 feet										
Ro	ad Elevation:	0.0 feet		Lane Eq	uivalent D			feet)				
	Road Grade:	0.0%			Autos:	99.8	880					
	Left View:	-90.0 degree	es	Mediu	m Trucks:	99.7	' 91					
	Right View:	90.0 degree	es	Hea	vy Trucks:	99.8	300					
FHWA Noise Mod	el Calculation	s										
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresne	el	Barrier Att	en Ber	m Atten		
Autos:	66.51	-3.73	-4.6	51	-1.20	-	4.77	0.0	000	0.000		
Medium Trucks:	77.72	-20.97	-4.6	1	-1.20	-	-4.88	0.0	000	0.00		
Heavy Trucks:	82.99	-24.93	-4.6	51	-1.20	-	-5.16	0.0	000	0.00		
Unmitigated Noise	e Levels (with	out Topo and	barrier atter	nuation)								
VehicleType	Leg Peak Hou	ır Leq Day	Leg E	venina	Leg Nic	ght		Ldn				

Unmitigated Nois	Unmitigated Noise Levels (without Topo and barrier attenuation)										
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos:	57.0	55.1	53.3	47.3	55.9	56.5					
Medium Trucks:	50.9	49.4	43.1	41.5	50.0	50.2					
Heavy Trucks:	52.3	50.8	41.8	43.1	51.4	51.5					
Vehicle Noise:	59.0	57.2	54.0	49.4	58.0	58.4					

Centerline Distance to Noise Contour (in feet)				
	70 dBA	65 dBA	60 dBA	55 dBA
I dn.	16	34	73	157

 Ldn:
 16
 34
 73
 157

 CNEL:
 17
 36
 78
 169

Scenario: Existing Conditions

Road Name: Bedford Canyon

Road Segment: El Cerrito Road to Georgetown Dr

Project Name: Arantine Hills Noise Analy

Job Number: 6897

Analyst: J.T. Stephens

SITE S	SITE SPECIFIC INPUT DATA						NOISE MODEL INPUTS							
Highway Data				Si	te Cond	ditions ((Hard =	= 10, Sc	oft = 15)					
Average Daily T	raffic (Adt):	6,000 vehicle	S					Autos:	15					
Peak Hour F		10%			Med	dium Tru	ıcks (2	Axles):	15					
Peak Ho	our Volume:	600 vehicle	s		Hea	avy Truc	ks (3+	Axles):	15					
Veh	icle Speed:	40 mph		Ve	ehicle N	/liv								
Near/Far Lan	e Distance:	24 feet		•		cleType		Day	Evening	Night	Daily			
Site Data					VOIII		lutos:	77.5%	J	9.6%	_			
	iou Hoimbt.	0.0 foot			Me	dium Tr		84.8%		10.3%				
	rier Height:	0.0 feet 0.0				leavy Tr		86.5%		10.8%				
Barrier Type (0-Wa Centerline Dis	•	0.0 100.0 feet												
Centerline Dist. to		100.0 feet		No	oise So	urce Ele	evatior	ıs (in fe	eet)					
						Autos	s: 0	.000						
Barrier Distance to		0.0 feet			Mediun	n Trucks	s: 2	.297						
Observer Height (A	•	5.0 feet			Heav	y Trucks	s: 8	.006	Grade Ad	justment	t: 0.0			
	d Elevation:	0.0 feet		_					• 4					
Road	d Elevation:	0.0 feet		La	ane Equ	iivalent			teet)					
R	oad Grade:	0.0%				Autos	s: 99	.403						
	Left View:	-90.0 degree	es		Mediun	n Trucks	s: 99	.314						
	Right View:	90.0 degree	es		Heav	y Trucks	s: 99	.323						
FHWA Noise Mode	l Calculations	3												
VehicleType	REMEL	Traffic Flow	Distan	се	Finite I	Road	Fres	nel	Barrier Att	en Bei	rm Atten			
Autos:	66.51	-3.66	-	4.58		-1.20		-4.77	0.0	000	0.000			
Medium Trucks:	77.72	-20.90	-	4.57		-1.20		-4.88	0.0	000	0.000			
Heavy Trucks:	82.99	-24.85	-	4.57		-1.20		-5.16	0.0	000	0.000			
Unmitigated Noise	Levels (with	out Topo and	barrier a	ttenu	ation)									
VehicleType L	Leq Peak Hou	r Leq Day	/ Le	q Eve	ening	Leq I	Night		Ldn	С	NEL			
Autos:	57.	1	55.2		53.4		47.	4	56.0)	56.6			
Medium Trucks:	51.	0	49.5		43.2		41.	6	50.1	1	50.3			

Centerline Distance	ce to Noise	e Contour ((in feet)

52.4

59.1

50.9

57.4

41.9

54.1

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	16	34	74	160
CNEL:	17	37	80	171

43.2

49.5

51.5

58.1

51.6

58.5

Heavy Trucks:

Vehicle Noise:

Scenario: Existing Conditions Project Name: Arantine Hills Noise Analy

Job Number: 6897

Road Name: Bedford Canyon
Road Segment: Georgetown Drive to Eagle Glen Analyst: J.T. Stephens

SITE	SPECIFIC IN	IPUT DATA		NOISE MODEL INPUTS							
Highway Data				Site C	onditions	(Hard	= 10, Sc	oft = 15)			
Average Daily	Traffic (Adt):	6,000 vehicles	3				Autos:	15			
Peak Hour	Percentage:	10%		I	Medium Tri	ucks (2	Axles):	15			
Peak H	lour Volume:	600 vehicles	3	ı	Heavy Trud	cks (3+	Axles):	15			
Ve	hicle Speed:	40 mph		Vehic	lo Miy						
Near/Far La	ne Distance:	24 feet			ehicleType	,	Day	Evening	Night	Daily	
Site Data						Autos:	77.5%	12.9%	9.6%	97.42%	
Bai	rrier Height:	0.0 feet			Medium Ti	rucks:	84.8%	4.9%	10.3%	1.84%	
Barrier Type (0-W	•	0.0			Heavy Ti	rucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Di	•	100.0 feet		Noice	Sauras El	lovotio	no (in f	2041			
Centerline Dist.	to Observer:	100.0 feet		Noise	Source El		•	eet)			
Barrier Distance	to Observer:	0.0 feet		11-	Auto		0.000				
Observer Height ((Above Pad):	5.0 feet			lium Truck		2.297	Crada Ad	livotmont		
Pá	ad Elevation:	0.0 feet		HE	eavy Truck	S. C	3.006	Grade Ad	justinent	. 0.0	
Roa	ad Elevation:	0.0 feet		Lane I	Equivalent	Dista	nce (in	feet)			
	Road Grade:	0.0%			Auto	s: 99	9.403				
	Left View:	-90.0 degree	es	Med	dium Truck	s: 99	9.314				
	Right View:	90.0 degree		He	eavy Truck	s: 99	9.323				
FHWA Noise Mode	el Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Distance	Fin	ite Road	Fres	snel	Barrier Att	en Ber	m Atten	
Autos:	66.51	-3.66	-4.5	58	-1.20		-4.77	0.0	000	0.000	
Medium Trucks:	77.72	-20.90	-4.5	57	-1.20		-4.88	0.0	000	0.000	
Heavy Trucks:	82.99	-24.85	-4.5	57	-1.20		-5.16	0.0	000	0.000	
Unmitigated Noise	e Levels (with	out Topo and	barrier atte	nuatio	n)						
VehicleType	Leg Peak Hou	ur Leq Day	Leg E	vening	Leg	Night		Ldn	C	NEL	

Unmitigated Nois	e Levels (withou	it Topo and barr	ier attenuation)			
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.1	55.2	53.4	47.4	56.0	56.6
Medium Trucks:	51.0	49.5	43.2	41.6	50.1	50.3
Heavy Trucks:	52.4	50.9	41.9	43.2	51.5	51.6
Vehicle Noise:	59.1	57.4	54.1	49.5	58.1	58.5

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	16	34	74	160	
CNFI ·	17	37	80	171	

Scenario: Existing Conditions
Road Name: Temescal Canyon Road

Road Segment: n/o Cajalco Road

Project Name: Arantine Hills Noise Analy

144

309

67

Job Number: 6897

Analyst: J.T. Stephens

SITE	SPECIFIC IN	PUT DATA				1	VOISE	MODE	L INPUT	S	
Highway Data				S	ite Con	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 1	0,400 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10%			Мє	edium Ti	rucks (2	Axles):	15		
Peak H	lour Volume:	1,040 vehicle	S		He	avy Tru	ıcks (3+	Axles):	15		
Ve	ehicle Speed:	45 mph		V	ehicle	Mix					
Near/Far La	ne Distance:	53 feet		-		icleTyp	e	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	_	9.6%	_
Ra	rrier Height:	0.0 feet			М	edium 1	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W	_	0.0			1	Heavy 7	rucks:	86.5%	2.7%	10.8%	0.74%
• • •	ist. to Barrier:	100.0 feet						/: r	4)		
Centerline Dist.		100.0 feet		N	oise So			ns (in fe	eet)		
Barrier Distance	to Observer:	0.0 feet				Auto		0.000			
Observer Height		5.0 feet				m Truck		2.297	Crada Ad	iuotmont	
•	ad Elevation:	0.0 feet			Heav	/y Truck	rs: E	3.006	Grade Ad	justment	: 0.0
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalen	t Dista	nce (in i	feet)		
	Road Grade:	0.0%				Auto	os: 96	6.554			
	Left View:	-90.0 degree	es		Mediu	m Truck	ks: 96	6.463			
	Right View:	90.0 degree	es		Heav	y Truck	ks: 96	6.472			
FHWA Noise Mod	lel Calculations	3									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	snel	Barrier Att	en Ber	m Atten
Autos:	68.46	-1.78		-4.39		-1.20		-4.77	0.0	000	0.000
Medium Trucks:	79.45	-19.02		-4.38		-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	84.25	-22.97		-4.38		-1.20		-5.16	0.0	000	0.000
Unmitigated Nois	e Levels (witho	out Topo and	barri	er attenu	ation)						
VehicleType	Leq Peak Hou	r Leq Day	/	Leq Eve	əning	Leq	Night		Ldn	C	NEL
Autos:	61.	1	59.2		57.4		51	.4	60.0)	60.6
Medium Trucks:	54.	8	53.3		47.0		45	.4	53.9	9	54.1
Heavy Trucks:	55.	7	54.3		45.2		46	.5	54.8	3	55.0
Vehicle Noise:	62.	9	61.2		58.0		53	.4	61.9	9	62.4
Centerline Distan	ce to Noise Co	ntour (in feet)								
			L	70 dl			dBA	ϵ	60 dBA		dBA
			Ldn:	29		(62		134	2	.88

CNEL:

31

Scenario: Existing Conditions
Road Name: Temescal Canyon Road

Road Segment: s/o Cajalco Road

Project Name: Arantine Hills Noise Analy

Job Number: 6897

Analyst: J.T. Stephens

SITE	SPECIFIC IN	PUT DATA				[VOISE	MODE	L INPUT	S	
Highway Data				S	ite Cor	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 1	3,000 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10%			Ме	edium Ti	rucks (2	Axles):	15		
Peak F	lour Volume:	1,300 vehicle	s		He	avy Tru	icks (3+	Axles):	15		
Ve	ehicle Speed:	45 mph		V	ehicle	Mix					
Near/Far La	ne Distance:	53 feet				icleTyp	е	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	_	9.6%	_
Ra	rrier Height:	0.0 feet			М	edium 7	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W	_	0.0				Heavy 7	rucks:	86.5%	2.7%	10.8%	0.74%
	ist. to Barrier:	100.0 feet		A.	laina C		'laa4'a	/: f	41		
Centerline Dist.	to Observer:	100.0 feet		N	oise s			ns (in fe	eet)		
Barrier Distance	to Observer:	0.0 feet			Madiu	Auto		0.000			
Observer Height	(Above Pad):	5.0 feet				m Truck		2.297	Grade Ad	iustmont	. 0 0
•	ad Elevation:	0.0 feet			неа	/y Truck	(S. C	3.006	Grade Au	jusimem	. 0.0
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalen	t Dista	nce (in	feet)		
	Road Grade:	0.0%				Auto	os: 96	6.554			
	Left View:	-90.0 degree	es		Mediu	m Truck	ks: 96	5.463			
	Right View:	90.0 degree	es		Hea	/y Truck	ks: 96	6.472			
FHWA Noise Mod	lel Calculations	S									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	snel	Barrier Att	en Ber	m Atten
Autos:	68.46	-0.81		-4.39		-1.20		-4.77	0.0	000	0.000
Medium Trucks:	79.45	-18.05		-4.38		-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	84.25	-22.01		-4.38		-1.20		-5.16	0.0	000	0.000
Unmitigated Nois	e Levels (witho	out Topo and	barri	er attenu	ıation)						
VehicleType	Leq Peak Hou			Leq Ev		-	Night		Ldn		NEL
Autos:	62.	.1	60.2		58.4		52	.3	61.0)	61.6
Medium Trucks:			54.3		47.9		46		54.9		55.1
Heavy Trucks:	56.	.7	55.2		46.2		47	.5	55.8	3	55.9
Vehicle Noise:	63.	.9	62.2		59.0		54	.3	62.9	9	63.3
Centerline Distan	ce to Noise Co	ntour (in feet	;)	70 -1	D.4	0.5	- AD A		20 404		ما ٦٠
			l dn:	70 di 33			72	1	60 dBA		dBA
			Ldn:	33			12		155	3	35

CNEL:

36

77

167

359

Scenario: Existing Plus Project Project Name: Arantine Hills Noise Analy

Road Name: California Drive Job Number: 6897

Road Segment: w/o Masters Drive Analyst: J.T. Stephens

SITE	SPECIFIC IN	IPUT DATA			NC	DISE MODE	L INPUT	S	
Highway Data				Site Cor	nditions (l	Hard = 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	5,300 vehicles	3			Autos:	15		
Peak Hour	Percentage:	10%		Me	edium Trud	cks (2 Axles):	15		
Peak H	lour Volume:	530 vehicles	3	He	eavy Truck	rs (3+ Axles):	15		
Ve	ehicle Speed:	40 mph		Vehicle	Miy				
Near/Far La	ne Distance:	14 feet			nicleType	Day	Evening	Night	Daily
Site Data						utos: 77.5%	-	9.6%	
Ва	rrier Height:	0.0 feet		M	ledium Tru	icks: 84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W	•	0.0			Heavy Tru	icks: 86.5%	2.7%	10.8%	0.74%
Centerline Di	ist. to Barrier:	100.0 feet		Noise S	ource Ele	vations (in f	eet)		
Centerline Dist.	to Observer:	100.0 feet			Autos:				
Barrier Distance	to Observer:	0.0 feet		Mediu	ım Trucks:				
Observer Height	(Above Pad):	5.0 feet			vy Trucks:		Grade Ad	liustment	± 0.0
P	ad Elevation:	0.0 feet							
Ro	ad Elevation:	0.0 feet		Lane Eq	uivalent l	Distance (in	feet)		
	Road Grade:	0.0%			Autos:	99.880			
	Left View:	-90.0 degree	es	Mediu	ım Trucks:	99.791			
	Right View:	90.0 degree	es	Hea	vy Trucks:	99.800			
FHWA Noise Mod	lel Calculation	IS							
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier Att	en Ber	rm Atten
Autos:	66.51	-4.20	-4.6	61	-1.20	-4.77	0.0	000	0.000
Medium Trucks:	77.72	-21.44	-4.6	61	-1.20	-4.88	0.0	000	0.000
Heavy Trucks:	82.99	-25.39	-4.6	51	-1.20	-5.16	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrier atter	nuation)					
VahialaTuna	Las Daak Ha	Las Day	Log		1001	li o lo t	l do	^	NITI

Unmitigated Nois	e Levels (withou	t Topo and barr	ier attenuation)			
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.5	54.6	52.8	46.8	55.4	56.0
Medium Trucks:	50.5	49.0	42.6	41.1	49.5	49.8
Heavy Trucks:	51.8	50.4	41.3	42.6	50.9	51.1
Vehicle Noise:	58.5	56.8	53.5	49.0	57.5	57.9

Centerline Distance to Noise Contour (in feet)				
	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	15	32	68	147
CNEL:	16	34	73	157

Scenario: Existing Plus Project Project Name: Arantine Hills Noise Analy

Road Name: California Drive Job Number: 6897

Road Segment: e/o Masters Drive Analyst: J.T. Stephens

SITE S	SPECIFIC IN	IPUT DATA			NOI	SE MODE	L INPUT	S	
Highway Data				Site Cond	litions (Ha	ard = 10, Sc	oft = 15)	-	
	Traffic (Adt): Percentage: our Volume:	9,500 vehicles 10% 950 vehicles				Autos: s (2 Axles): (3+ Axles):	15		
Near/Far Lar	hicle Speed: ne Distance:	40 mph 14 feet	Ŋ	Vehicle M Vehic	leType	Day	Evening	Night	Daily
Site Data					Auto			9.6%	
Barrier Type (0-W	,	0.0 feet 0.0			dium Truci eavy Truci			10.3% 10.8%	1.84% 0.74%
Centerline Dist. Centerline Dist. Barrier Distance	to Observer: to Observer:	100.0 feet 100.0 feet 0.0 feet	1		urce Eleva Autos: Trucks:	0.000 2.297	eet)		
	Above Pad): ad Elevation: ad Elevation:	5.0 feet 0.0 feet 0.0 feet	1		Trucks:	8.006 stance (in	Grade Adj	iustment	: 0.0
	Road Grade: Left View: Right View:	0.0% -90.0 degree 90.0 degree	s	Medium	Autos: Trucks: Trucks:	99.880 99.791 99.800	,		
FHWA Noise Mode	el Calculation	s							
VehicleType	REMEL	Traffic Flow	Distance	Finite F	Road I	Fresnel	Barrier Att	en Ber	m Atten
Autos:	66.51	-1.66	-4.6	1	-1.20	-4.77	0.0	000	0.000
Medium Trucks: Heavy Trucks:	77.72 82.99		-4.6´ -4.6´		-1.20 -1.20	-4.88 -5.16	0.0	000	0.000
Unmitigated Noise		out Topo and I	barrier atten	uation)	I ea Nia		Ldn		\IEI

Unmitigated Noise Levels (without Topo and barrier attenuation)											
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos:	59.0	57.1	55.4	49.3	57.9	58.5					
Medium Trucks:	53.0	51.5	45.1	43.6	52.1	52.3					
Heavy Trucks:	54.3	52.9	43.9	45.1	53.5	53.6					
Vehicle Noise:	61.0	59.3	56.0	51.5	60.0	60.5					

Centerline Distance to Noise Contour (in feet)											
	70 dBA	65 dBA	60 dBA	55 dBA							
Ldn:	22	47	100	216							
CNEL:	23	50	107	232							

Scenario: Existing Plus Project Project Name: Arantine Hills Noise Analy

Road Name: El Cerrito Road Job Number: 6897

Road Segment: w/o Bedford Cayon Analyst: J.T. Stephens

SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS							
Highway Data				Site Conditions	(Hard = 10, 3	Soft = 15)					
Average Daily Traft	fic (Adt): 2	20,800 vehicles	3	Autos: 15							
Peak Hour Perd	centage:	10%		Medium Trucks (2 Axles): 15							
Peak Hour	Volume:	2,080 vehicles	S	Heavy Tru	cks (3+ Axles	s): 15					
Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Vehicle Mix							
				VehicleType	e Day	Evening	Night	Daily			
Site Data					Autos: 77.5			97.42%			
Rarrior	Height:	0.0 feet		Medium T	rucks: 84.8	% 4.9%	10.3%	1.84%			
Barrier Type (0-Wall, 1	•	0.0		Heavy T	rucks: 86.5	% 2.7%	10.8%	0.74%			
Centerline Dist. to Barrier: 100.0 feet				Noise Source Elevations (in feet)							
Centerline Dist. to Observer: 100.0 feet				Auto	•	1000,					
Barrier Distance to O	bserver:	0.0 feet		Medium Truck							
Observer Height (Abo	ve Pad):	5.0 feet		Heavy Truck		Grade Ad	iustment	± 0.0			
Pad Ei	levation:	0.0 feet									
Road El	levation:	0.0 feet	1	Lane Equivalent Distance (in feet)							
Road	d Grade:	0.0%		Auto	os: 98.494						
Le	eft View:	-90.0 degree	es	Medium Trucks: 98.404							
Rig	ht View:	90.0 degree	es	Heavy Truck	(s: 98.413						
FHWA Noise Model Ca	alculation	s									
VehicleType R	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Att	en Ber	rm Atten			
Autos:	66.51	1.74	-4.5	2 -1.20	-4.7	7 0.0	000	0.000			
Medium Trucks:	77.72	-15.50	-4.5	1 -1.20	-4.8	8 0.0	000	0.000			
Heavy Trucks:	82.99	-19.45	-4.5	1 -1.20	-5.10	6 00	000	0.000			

Unmitigated Noise Levels (without Topo and barrier attenuation)											
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos:	62.5	60.6	58.9	52.8	61.4	62.0					
Medium Trucks:	56.5	55.0	48.6	47.1	55.6	55.8					
Heavy Trucks:	57.8	56.4	47.4	48.6	57.0	57.1					
Vehicle Noise:	64.5	62.8	59.5	55.0	63.5	64.0					

Centerline Distance to Noise Contour (in feet)										
	70 dBA	65 dBA	60 dBA	55 dBA						

 Ldn:
 37
 80
 172
 370

 CNEL:
 40
 85
 184
 396

Scenario: Existing Plus Project Project Name: Arantine Hills Noise Analy

Road Name: El Cerrito Road Job Number: 6897

Road Segment: Bedford Cayon to I-15 Freeway Analyst: J.T. Stephens

SITE	SPECIFIC II	NPUT DATA			NOISE	MODE	L INPUT	S		
Highway Data				Site Condition	ns (Hard	l = 10, Sc	oft = 15)			
Average Daily	Traffic (Adt):	20,300 vehicles	;	Autos: 15						
Peak Hour	Percentage:	10%		Medium	Trucks (2 Axles):	15			
Peak F	lour Volume:	2,030 vehicles	;	Heavy T	rucks (3	+ Axles):	15			
Ve	ehicle Speed:	40 mph		Vehicle Mix						
Near/Far La	ne Distance:	36 feet		VehicleTy	ре	Day	Evening	Night	Daily	
Site Data					Autos:	77.5%	12.9%	9.6%	97.42%	
Ва	rrier Height:	0.0 feet		Medium	Trucks:	84.8%	4.9%	10.3%	1.84%	
Barrier Type (0-V		0.0		Heavy	Trucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Barrier: 100.0 feet				Noise Source Elevations (in feet)						
Centerline Dist. to Observer: 100.0 feet					itos:	0.000	,			
Barrier Distance to Observer: 0.0 feet				Medium Tru		2.297				
Observer Height	(Above Pad):	5.0 feet		Heavy Tru		8.006	Grade Ad	iustment	: 0.0	
P	ad Elevation:	0.0 feet		,						
Ro	ad Elevation:	0.0 feet		Lane Equivalent Distance (in feet)						
	Road Grade:	0.0%		Autos: 98.494						
	Left View:	-90.0 degree	s	Medium Trucks: 98.404						
	Right View:	90.0 degree	S	Heavy Trucks: 98.413						
FHWA Noise Mod	lel Calculation	18								
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fre	esnel	Barrier Att	en Ber	m Atten	
Autos:	66.51	1.64	-4.5	52 -1.2	0	-4.77	0.0	000	0.000	
Medium Trucks:	77.72	-15.60	-4.5	51 -1.2	0	-4.88	0.0	000	0.000	
Heavy Trucks:	82.99	-19.56	-4.5	51 -1.2	0	-5.16	0.0	000	0.000	
Unmitigated Nois	e Levels (with	nout Topo and I	barrier atter	nuation)						
17.1.1.1.T					A 11 1 4	1				

Unmitigated Nois	Unmitigated Noise Levels (without Topo and barrier attenuation)											
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL						
Autos:	62.4	60.5	58.8	52.7	61.3	61.9						
Medium Trucks:	56.4	54.9	48.5	47.0	55.4	55.7						
Heavy Trucks:	57.7	56.3	47.3	48.5	56.9	57.0						
Vehicle Noise:	64.4	62.7	59.4	54.9	63.4	63.9						

Centerline Distance to Noise Contour (in feet)											
	70 dBA	65 dBA	60 dBA	55 dBA							
Ldn:	36	78	169	364							
CNEL:	39	84	181	390							

Scenario: Existing Plus Project

Road Name: El Cerrito Road

Road Segment: I-15 Freeway to Temescal Canyo

Project Name: Arantine Hills Noise Analy

Job Number: 6897

Analyst: J.T. Stephens

	CIFIC INF	PUT DATA			NOISE MODEL INPUTS						
Highway Data				Si	te Con	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily Traf	fic (Adt):	9,400 vehicles	S					Autos:	15		
Peak Hour Perd	centage:	10%			Me	dium Tru	ucks (2	Axles):	15		
Peak Hour	Volume:	940 vehicles	S		He	avy Truc	cks (3+	Axles):	15		
Vehicle	e Speed:	40 mph		V	ehicle I	//ix					
Near/Far Lane D	Distance:	36 feet				cleType	,	Day	Evening	Night	Daily
Site Data							Autos:	77.5%		9.6%	
Barrier	Height:	0.0 feet			Ме	edium Ti	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall,	•	0.0			F	leavy Ti	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to	Barrier:	100.0 feet		No	Noise Source Elevations (in feet)						
Centerline Dist. to O	bserver:	100.0 feet				Autos		0.000			
Barrier Distance to O	bserver:	0.0 feet			Mediur	n Truck		2.297			
Observer Height (Abo	5.0 feet				y Truck		3.006	Grade Ad	iustment	. 0 0	
Pad Elevation: 0.0 feet					Heav	y ITUCK	s. C	5.000	Orado ria	μοιποπι	. 0.0
Road E	levation:	0.0 feet		Lá	ane Equ	uivalent	Dista	nce (in	feet)		
Road	d Grade:	0.0%		Autos: 98.494							
Le	eft View:	-90.0 degree	es		Mediur	n Truck	s: 98	3.404			
Rig	ght View:	90.0 degree	es		Heav	y Truck	s: 98	3.413			
FHWA Noise Model Ca	alculations										
VehicleType R	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fres	snel	Barrier Att	en Ber	m Atten
Autos:	66.51	-1.71		-4.52		-1.20		-4.77	0.0	000	0.00
Medium Trucks:	77.72	-18.95		-4.51		-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	82.99	-22.90		-4.51		-1.20		-5.16	0.0	000	0.00
Unmitigated Noise Le	vels (witho	ut Topo and	barrier	attenu	ation)						
VehicleType Leq	Peak Hour	Leq Day	′ L	.eq Eve	ening	Leq	Night		Ldn	C	NEL
Autos:	59.1	1	57.2		55.4		49	.4	58.0)	58.
Medium Trucks:	53.1	1	51.5		45.2		43	.6	52.1	1	52.

Vehicle Noise:	61.1 59	.4 56	56.1 51.5		.1 60.5							
Centerline Distance to Noise Contour (in feet)												
		70 dBA	65 dBA	60 dBA	55 dBA							
	La	n: 22	47	101	218							
	CNE	7. 23	50	108	233							

43.9

45.2

53.5

53.7

53.0

Heavy Trucks:

54.4

Scenario: Existing Plus Project Project Name: Arantine Hills Noise Analy

Road Name: Bennett Avenue Job Number: 6897

Road Segment: Eagle Glen Parkway to Masters D Analyst: J.T. Stephens

SITE	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS						
Highway Data				S	Site Con	ditions	(Hard = 1	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	1,400 vehicle	s				Α	utos:	15		
Peak Hour	Percentage:	10%			Me	edium Tr	rucks (2 A	xles):	15		
Peak H	lour Volume:	140 vehicle	s		He	avy Tru	cks (3+ A	xles):	15		
Ve	hicle Speed:	40 mph		V	/ehicle	Mix					
Near/Far La	ne Distance:	14 feet		•		icleType	э [Day	Evening	Night	Daily
Site Data								7.5%	J		97.42%
Ba	rrier Height:	0.0 feet			M	edium T	rucks: 8	4.8%	4.9%	10.3%	1.84%
Barrier Type (0-W		0.0			I	Heavy T	rucks: 8	6.5%	2.7%	10.8%	0.74%
• • • • • • • • • • • • • • • • • • • •	ist. to Barrier:	100.0 feet		^	loise Sa	ource F	levations	(in f	2 <i>et</i>)		
Centerline Dist.	to Observer:	100.0 feet			10/30 00	Auto		•	<i></i>		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck					
Observer Height	(Above Pad):	5.0 feet					-		Grade Ad	iustman	· 0 0
Pad Elevation: 0.0 feet			пеач	/y Truck	.5. 0.00	00	Grade Au	Justinein	. 0.0		
Road Elevation: 0.0 feet			L	ane Eq	uivalen	t Distance	e (in	feet)			
	Road Grade:	0.0%				Auto	s: 99.8	80			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 99.7	91			
	Right View:	90.0 degree			Heav	∕y Truck	s: 99.8	00			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fresne	e/	Barrier Att	en Be	rm Atten
Autos:	66.51	-9.98		-4.61	1	-1.20		4.77	0.0	000	0.000
Medium Trucks:	77.72	-27.22		-4.61		-1.20		4.88	0.0	000	0.000
Heavy Trucks:	82.99	-31.17		-4.61		-1.20	-,	5.16	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barri	ier atteni	uation)						
VehicleType	Leq Peak Hou	ır Leq Day	/	Leq Ev	ening	Leq	Night		Ldn	С	NEL
Autos:	50	.7	48.8		47.1		41.0		49.6	3	50.2
Medium Trucks:	44	.7	43.2		36.8		35.3		43.7	7	44.0
Heavy Trucks:	46	.0	44.6		35.6		36.8		45.2	2	45.3
'											

Ldn:	6	13	28	60
CNEL:	6	14	30	65

70 dBA

47.7

43.2

65 dBA

51.7

60 dBA

52.2

55 dBA

51.0

Vehicle Noise:

52.7

Centerline Distance to Noise Contour (in feet)

Scenario: Existing Plus Project Project Name: Arantine Hills Noise Analy

Road Name: Bennett Avenue Job Number: 6897

Road Segment: n/o Masters Drive Analyst: J.T. Stephens

Average Daily Traffic (Adt): 900 vehicles Peak Hour Percentage: 10% Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15											
Average Daily Traffic (Adt): 900 vehicles Peak Hour Percentage: 10% Medium Trucks (2 Axles): 15	SITE	SPECIFIC IN	IPUT DATA		NOISE MODEL INPUTS						
Peak Hour Percentage: 10% Peak Hour Volume: 90 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 14 feet Vehicle Mix Vehicle Type Day Evening Night Daily Vehicle Type Day Evening Night Daily Vehicle Mix Vehicle Type Day Evening Night Daily Vehicle Mix Vehicle Type Day Evening Night Daily Vehicle Mix Vehicle Mix Vehicle Type Day Evening Night Daily Vehicle Mix Vehicle Mix Vehicle Type Day Evening Night Daily Night Ni	Highway Data				Site Co	nditions	(Hard = 10, S	oft = 15)			
Peak Hour Volume: Yehicle Speed: 40 mph Near/Far Lane Distance: 14 feet Vehicle Mix	Average Daily	Traffic (Adt):	900 vehicle	S			Autos	: 15			
Vehicle Speed: 40 mph Near/Far Lane Distance: 14 feet Vehicle Mix Vehicle Type Day Evening Night Daily Daily Site Data Autos: 77.5% 12.9% 9.6% 97.42 Autos: 77.5% 12.9% 9.6% 97.42 Medium Trucks: 84.8% 4.9% 10.3% 1.84 Heavy Trucks: 86.5% 2.7% 10.8% 0.74 Autos: 0.00	Peak Hour	Percentage:	10%		M	ledium Tr	rucks (2 Axles)	: 15			
Near/Far Lane Distance: 14 feet Vehicle Type Day Evening Night Daily	Peak H	lour Volume:	90 vehicle	s	Н	leavy Tru	cks (3+ Axles)	: 15			
Near/Far Lane Distance: 14 feet VehicleType Day Evening Night Daily	Ve	ehicle Speed:	40 mph		Vehicle	Mix					
Autos: 77.5% 12.9% 9.6% 97.42	Near/Far La	Near/Far Lane Distance:				Autos: 15 Autos: 15 Heavy Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15 Autos: 77.5% 12.9% 9.6% 97.4% Medium Trucks: 84.8% 4.9% 10.3% 1.8% Heavy Trucks: 86.5% 2.7% 10.8% 0.7% Heavy Trucks: 8.006 Grade Adjustment: 0.0 Autos: 99.880 Autos: 99.791 Heavy Trucks: 99.791 Heavy Trucks: 99.800 Finite Road Fresnel Barrier Atten Berm Atter Finite Road Fresnel Barrier Atter Berm Atter Finite Road Finite Road Fresnel Barrier Atter Berm Atter Finite Road Finite					
Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 100.0 feet Centerline Dist. to Observer: 100.0 feet Barrier Distance to Observer: 0.0 feet Chestral Communication	Site Data								•	97.42%	
Heavy Trucks: 86.5% 2.7% 10.8% 0.74	Ra	rrier Height:	0.0 feet			∕ledium T	rucks: 84.8%	4.9%	10.3%	1.84%	
Noise Source Elevations (in feet) Autos: 0.000		_				Heavy T	rucks: 86.5%	6 2.7%	10.8%	0.74%	
Noise Source Elevations (in Feet) Autos: 0.000	• • • • • • • • • • • • • • • • • • • •	,			Noise 6	Sauraa F	lovetions (in	Fa a 4 \			
Barrier Distance to Observer: 0.0 feet Autos: 0.000	Centerline Dist.	to Observer:			Noise S		-	reet)			
Observer Height (Above Pad): 5.0 feet Heavy Trucks: 8.006 Grade Adjustment: 0.0 Pad Elevation: 0.0 feet Lane Equivalent Distance (in feet) Road Grade: 0.0% Autos: 99.880 Left View: -90.0 degrees Medium Trucks: 99.791 FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atter Autos: 66.51 -11.90 -4.61 -1.20 -4.77 0.000 0.00 Medium Trucks: 77.72 -29.14 -4.61 -1.20 -4.88 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: </td <td>Barrier Distance</td> <td colspan="3">Barrier Distance to Observer: 0.0 feet</td> <td>14.1</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Barrier Distance	Barrier Distance to Observer: 0.0 feet			14.1						
Pad Elevation: 0.0 feet Heavy Trucks: 8.006 Grade Adjustment. 0.0 Road Elevation: 0.0 feet Lane Equivalent Distance (in feet) Road Grade: 0.0% Autos: 99.880 Left View: -90.0 degrees Medium Trucks: 99.791 FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atter Autos: 66.51 -11.90 -4.61 -1.20 -4.77 0.000 0.00 Medium Trucks: 77.72 -29.14 -4.61 -1.20 -4.88 0.000 0.00 Heavy Trucks: 82.99 -33.09 -4.61 -1.20 -5.16 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 48.8 46.9 45.1 39.1<	Observer Height	Observer Height (Above Pad): 5.0 feet						Crada Aa	livotmont	. 0 0	
Road Grade: 0.0%	P	,			неа	avy iruck	S: 8.006	Grade Ad	justinent	0.0	
Left View: -90.0 degrees Medium Trucks: 99.791 Right View: 90.0 degrees Medium Trucks: 99.800 FHWA Noise Model Calculations Vehicle Type REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atter Autos: 66.51 -11.90 -4.61 -1.20 -4.77 0.000 0.00 Medium Trucks: 77.72 -29.14 -4.61 -1.20 -4.88 0.000 0.00 Heavy Trucks: 82.99 -33.09 -4.61 -1.20 -5.16 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 48.8 46.9 45.1 39.1 47.7 48 Medium Trucks: 42.8 41.3 34.9 33.4 41.8 42	Ro				Lane E	quivalen	t Distance (in	feet)			
Right View: 90.0 degrees Heavy Trucks: 99.800 FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atter Autos: 66.51 -11.90 -4.61 -1.20 -4.77 0.000 0.00 Medium Trucks: 77.72 -29.14 -4.61 -1.20 -4.88 0.000 0.00 Heavy Trucks: 82.99 -33.09 -4.61 -1.20 -5.16 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 48.8 46.9 45.1 39.1 47.7 48 Medium Trucks: 42.8 41.3 34.9 33.4 41.8 42		Road Grade:	0.0%			Auto	s: 99.880				
FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atter Autos: 66.51 -11.90 -4.61 -1.20 -4.77 0.000 0.00 Medium Trucks: 77.72 -29.14 -4.61 -1.20 -4.88 0.000 0.00 Heavy Trucks: 82.99 -33.09 -4.61 -1.20 -5.16 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 48.8 46.9 45.1 39.1 47.7 48 Medium Trucks: 42.8 41.3 34.9 33.4 41.8 42		Left View:	-90.0 degree	es	Medium Trucks: 99.791						
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atter Autos: 66.51 -11.90 -4.61 -1.20 -4.77 0.000 0.00 Medium Trucks: 77.72 -29.14 -4.61 -1.20 -4.88 0.000 0.00 Heavy Trucks: 82.99 -33.09 -4.61 -1.20 -5.16 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 48.8 46.9 45.1 39.1 47.7 48 Medium Trucks: 42.8 41.3 34.9 33.4 41.8 42		Right View:	90.0 degree	es	Heavy Trucks: 99.800						
Autos: 66.51 -11.90 -4.61 -1.20 -4.77 0.000 0.00 Medium Trucks: 77.72 -29.14 -4.61 -1.20 -4.88 0.000 0.00 Heavy Trucks: 82.99 -33.09 -4.61 -1.20 -5.16 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 48.8 46.9 45.1 39.1 47.7 48 Medium Trucks: 42.8 41.3 34.9 33.4 41.8 42.8	FHWA Noise Mod	lel Calculation	s								
Medium Trucks: 77.72 -29.14 -4.61 -1.20 -4.88 0.000 0.00 Heavy Trucks: 82.99 -33.09 -4.61 -1.20 -5.16 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 48.8 46.9 45.1 39.1 47.7 48 Medium Trucks: 42.8 41.3 34.9 33.4 41.8 42	VehicleType	REMEL	Traffic Flow	Distance	e Finit	e Road	Fresnel	Barrier Att	ten Ber	m Atten	
Heavy Trucks: 82.99 -33.09 -4.61 -1.20 -5.16 0.000 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 48.8 46.9 45.1 39.1 47.7 48 Medium Trucks: 42.8 41.3 34.9 33.4 41.8 42	Autos:	66.51	-11.90	-4	.61	-1.20	-4.77	0.0	000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 48.8 46.9 45.1 39.1 47.7 48 Medium Trucks: 42.8 41.3 34.9 33.4 41.8 42	Medium Trucks:	77.72	-29.14	-4	.61	-1.20	-4.88	0.0	000	0.000	
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 48.8 46.9 45.1 39.1 47.7 48 Medium Trucks: 42.8 41.3 34.9 33.4 41.8 42	Heavy Trucks:	82.99	-33.09	-4	.61	-1.20	-5.16	0.0	000	0.000	
Autos: 48.8 46.9 45.1 39.1 47.7 48 Medium Trucks: 42.8 41.3 34.9 33.4 41.8 42	Unmitigated Nois	e Levels (with	out Topo and	barrier att	enuation)					
Medium Trucks: 42.8 41.3 34.9 33.4 41.8 42	VehicleType	•	, ,	•			Night	Ldn	CI	VEL	
		_	_	46.9	45.	1		47.	7	48.3	
Heavy Trucks: 44.1 42.7 33.6 34.9 43.2 43					34.	9	33.4			42.1	
	Heavy Trucks:	44	.1	42.7	33.	6	34.9	43.2	2	43.4	

50.8

49.1

45.8

,				
	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	4	10	21	45
CNFI ·	5	10	22	48

41.3

49.8

50.2

Vehicle Noise:

Scenario: Existing Plus Project Project Name: Arantine Hills Noise Analy

Job Number: 6897

Road Name: Georgetown Drive Road Segment: w/o Bedford Cayon Analyst: J.T. Stephens

SITE	SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions	(Hard =	10, Sc	oft = 15)			
	Traffic (Adt): Percentage: lour Volume:	2,500 vehicles 10% 250 vehicles		Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Near/Far La	Vehicle Speed: 40 mph Near/Far Lane Distance: 14 feet			/ehicle Mix VehicleTyp		Day	Evening	Night	Daily	
Site Data						77.5%		9.6%		
Barrier Type (0-W	,	0.0 feet 0.0		Medium 1 Heavy 1	rucks:	84.8% 86.5%	2.7%	10.3% 10.8%	1.84% 0.74%	
Centerline Dist. to Barrier: 100.0 feet Centerline Dist. to Observer: 100.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			L L	Noise Source E Auto Medium Truck Heavy Truck Ane Equivalen Auto Medium Truck Heavy Truck	os: 0.0 ks: 2.2 ks: 8.0 ot Distanc os: 99.8 ks: 99.7	000 297 006 ce (in 1 380 791	Grade Ad	justment	: 0.0	
FHWA Noise Mod	el Calculation	ıs								
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresn	el	Barrier Att	en Ber	m Atten	
Autos:	66.51	-7.46	-4.61	-1.20		-4.77	0.0	000	0.000	
Medium Trucks:	77.72	•	-4.61			-4.88		000	0.000	
Heavy Trucks: Unmitigated Noise	82.99		-4.61			-5.16	0.0	000	0.000	
	I ea Peak Hoi				Night		l dn	C	NEI	

Unmitigated Nois	Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	53.2	51.3	49.6	43.5	52.1	52.7				
Medium Trucks:	47.2	45.7	39.3	37.8	46.3	46.5				
Heavy Trucks:	48.5	47.1	38.1	39.3	47.7	47.8				
Vehicle Noise:	55.2	53.5	50.2	45.7	54.2	54.7				

Centerline Distance to Noise Contour (in feet)									
	70 dBA	65 dBA	60 dBA	55 dBA					
Ldn:	9	19	41	89					

10

20

44

95

CNEL:

Scenario: Existing Plus Project Project Name: Arantine Hills Noise Analy

Road Name: Eagle Glen Parkway Job Number: 6897

Road Segment: Bennett Avenue to Masters Drive Analyst: J.T. Stephens

SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS								
Highway Data				Site Co.	nditions ((Hard = 10, S	oft = 15)					
Average Daily Traffic	(Adt): 12	,800 vehicles	3			Autos:	15					
Peak Hour Perce	ntage:	10%		M	edium Tru	icks (2 Axles).	: 15					
Peak Hour V	olume: 1	,280 vehicles	3	H	eavy Truc	ks (3+ Axles).	: 15					
Vehicle S	Speed:	40 mph		Vehicle	Miy							
Near/Far Lane Dis	stance:	36 feet			Autos: 15 Autos: 15 Heavy Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15 Autos: 77.5% 12.9% 9.6% 97. Autos: 77.5% 12.9% 9.6% 97. Medium Trucks: 84.8% 4.9% 10.3% 1. Heavy Trucks: 86.5% 2.7% 10.8% 0. Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.006 Grade Adjustment: 0.0 Grade Equivalent Distance (in feet) Autos: 98.494 Medium Trucks: 98.404 Heavy Trucks: 98.413 Finite Road Fresnel Barrier Atten Berm			Daily				
Site Data				10,			-		-			
Barrier H	loiabti	0.0 feet		Λ.								
Barrier Type (0-Wall, 1-	J	0.0 feet 0.0										
Centerline Dist. to I	•	100.0 feet										
Centerline Dist. to Ob		100.0 feet		Noise S		-	eet)					
Barrier Distance to Ob		0.0 feet										
			Mediu	ım Trucks	s: 2.297							
9 (Hea	vy Trucks	8: 8.006	Grade Adj	ustment	: 0.0				
Road Ele		0.0 feet 0.0 feet		I ano Fo	uivalent	Distance (in	foot)					
				Lane L		-	ieei)					
	Grade:	0.0%										
		-90.0 degree										
Righ	t View:	90.0 degree	es	Hea	vy Trucks	s: 98.413						
FHWA Noise Model Cal	culations											
VehicleType RE	MEL	Traffic Flow	Distance	e Finite	Road	Fresnel	Barrier Atte	en Ber	m Atten			
Autos:	66.51	-0.37	-4	.52	-1.20	-4.77	0.0	00	0.000			
Medium Trucks:	77.72	-17.61	-4	.51	-1.20	-4.88	0.0	00	0.000			
Heavy Trucks:	82.99	-21.56	-4	.51	-1.20	-5.16	0.0	00	0.000			
Unmitigated Noise Leve	els (withou	ıt Topo and	barrier att	enuation)								
VehicleType Leq F	Peak Hour	Leq Day	Leq	Evening	Leq I	Night	Ldn	CI	VEL			
Autos:	60.4		58.5	56.8	3	50.7	59.3	3	59.9			
Medium Trucks:	54.4	;	52.9	46.5	5	45.0	53.4		53.7			

Centerline Distance to Noise Contour (in feet)				
	70 dBA	65 dBA	60 dBA	55 dBA

45.3

57.4

54.3

60.7

 Ldn:
 27
 58
 124
 268

 CNEL:
 29
 62
 133
 286

46.5

52.9

54.9

61.4

55.0

61.9

Heavy Trucks:

Vehicle Noise:

55.7

62.4

Scenario: Existing Plus Project Project Name: Arantine Hills Noise Analy

Job Number: 6897

Road Name: Eagle Glen Parkway
Road Segment: Masters Drive to Bedford Canyon Analyst: J.T. Stephens

SITE	SPECIFIC IN	NPUT DATA		NOISE MODEL INPUTS					
Highway Data			,	Site Conditions (Hard = 10, Soft = 15)					
Average Daily	Traffic (Adt):	19,200 vehicles	s			Autos.	: 15		
Peak Hour	Percentage:	10%		Me	edium Truc	cks (2 Axles)	: 15		
Peak H	lour Volume:	1,920 vehicles	S	He	avy Truck	(3+ <i>Axles</i>)	: 15		
Ve	ehicle Speed:	40 mph		Vehicle i	Mix				
Near/Far La	ane Distance:	36 feet		icleType	Day	Evening	Night	Daily	
Site Data					Αι	utos: 77.5%	6 12.9%	9.6%	97.42%
Ва	rrier Height:	0.0 feet		M	edium Tru	icks: 84.8%	4.9%	10.3%	1.84%
Barrier Type (0-V	•	0.0		I	Heavy Tru	icks: 86.5%	6 2.7%	10.8%	0.74%
Centerline D	ist. to Barrier.	100.0 feet		Noise Source Elevations (in feet)					
Centerline Dist.	to Observer:	100.0 feet	<u> </u>		Autos:				
Barrier Distance to Observer: 0.0 feet				Mediu	m Trucks:				
Observer Height	(Above Pad):	5.0 feet			n Trucks: /y Trucks:		Grade Adj	iustment	. 0 0
P	ad Elevation:	0.0 feet							. 0.0
Ro	ad Elevation:	0.0 feet		Lane Eq	uivalent l	Distance (in	feet)		
	Road Grade:	0.0%		Autos: 98.494					
	Left View:	-90.0 degree	es	Medium Trucks: 98.404					
	Right View:	90.0 degree	es	Heavy Trucks: 98.413					
FHWA Noise Mod	lel Calculation	ıs							
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier Atte	en Ber	m Atten
Autos:	66.51	1.39	-4.5	2	-1.20	-4.77	0.0	000	0.000
Medium Trucks:	77.72	-15.84	-4.5	1	-1.20	-4.88	0.0	000	0.000
Heavy Trucks:	82.99	-19.80	-4.5	1	-1.20	-5.16	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrier atter	uation)					
VehicleType	Leq Peak Ho	ur Leq Day	Leq E	vening	Leq N	light	Ldn	C	NEL
Auton	61	2.2	60.2	E0 E		E2 E	61.1	ı	61 -

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.2	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	56.2	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	57.5	56.1	47.0	48.3	56.6	56.8
Vehicle Noise:	64.2	62.5	59.2	54.6	63.2	63.6
						1

Centerline Distance to Noise Contour (in feet)				
	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	35	76	163	351
CNEL:	38	81	174	375

Scenario: Existing Plus Project Project Name: Arantine Hills Noise Analy

Road Name: Cajalco Road Job Number: 6897

Road Segment: Bedford Canyon to I-15 Freeway Analyst: J.T. Stephens

SITE	SPECIFIC IN	NPUT DATA		NOISE MODEL INPUTS					
Highway Data				Site Cor	ditions ((Hard = 10, S	oft = 15)		
Average Daily	Traffic (Adt):	39,000 vehicles	3			Autos:	15		
Peak Hour	Percentage:	10%		Мє	edium Tru	icks (2 Axles).	: 15		
Peak H	lour Volume:	3,900 vehicles	3	He	avy Truc	cks (3+ Axles).	: 15		
Ve	ehicle Speed:	45 mph		Vehicle	Mix				
Near/Far La	ane Distance:	77 feet			icleType	Day	Evening	Night	Daily
Site Data						Autos: 77.5%		9.6%	
	rrier Height:	0.0 feet		М	edium Tr	rucks: 84.8%		10.3%	1.84%
Barrier Type (0-V		0.0			Heavy Tr	rucks: 86.5%	2.7%	10.8%	0.74%
'	ist. to Barrier:	100.0 feet							
Centerline Dist.		100.0 feet		Noise S		evations (in f	eet)		
Barrier Distance		0.0 feet			Autos				
Observer Height (Above Pad). 5.0 feet				m Trucks	_				
Pad Elevation: 0.0 feet		Hear	y Trucks	s: 8.006	Grade Adj	iustment.	: 0.0		
	Road Elevation: 0.0 feet			Lane Eq	uivalent	Distance (in	feet)		
	Road Grade:	0.0%			Autos	s: 92.427			
	Left View:	-90.0 degree	es	Medium Trucks: 92.331					
	Right View:	90.0 degree	es	Heavy Trucks: 92.341					
FHWA Noise Mod	lel Calculation	ıs							
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier Att	en Ber	m Atten
Autos:	68.46	3.96	-4.		-1.20	-4.77	0.0	000	0.000
Medium Trucks:	79.45	-13.28	-4.	10	-1.20	-4.88	0.0	000	0.000
Heavy Trucks:	84.25	-17.23	-4.	10	-1.20	-5.16	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrier atte	nuation)					
VehicleType	Leq Peak Hou	ur Leq Day	Leq I	Evening	Leq I	Night	Ldn	CI	VEL
Autos:	67	7.1	65.2	63.4		57.4	66.0)	66.6
Medium Trucks:	60).9	59.4	53.0		51.5	59.9		60.2
Heavy Trucks:	61	1.7	60.3	51.3		52.5	60.9)	61.0

	Centerline Distance to Noise Contour (in feet)	
_		

67.2

69.0

 70 dBA
 65 dBA
 60 dBA
 55 dBA

 Ldn:
 73
 157
 337
 727

 CNEL:
 78
 168
 362
 780

59.4

67.9

68.4

64.1

Vehicle Noise:

Scenario: Existing Plus Project Project Name: Arantine Hills Noise Analy

Road Name: Cajalco Road Job Number: 6897

Road Segment: I-15 Freeway to Grand Oaks

Analyst: J.T. Stephens

SITE SPECIFIC	INPUT DATA		NOISE MODEL INPUTS						
Highway Data			Site Cor	nditions (F	Hard = 10, So	oft = 15)			
Average Daily Traffic (Adt).	: 16,100 vehicle	s			Autos:	15			
Peak Hour Percentage	10%		Me	edium Truc	ks (2 Axles):	: 15			
Peak Hour Volume.	1,610 vehicle	s	He	eavy Truck	s (3+ Axles):	15			
Vehicle Speed.	45 mph		Vehicle	Miy					
Near/Far Lane Distance	77 feet		icleType	Day	Evening	Night	Daily		
Site Data					itos: 77.5%	-	9.6%		
Barrier Height	0.0 feet		M	ledium Tru	cks: 84.8%	4.9%	10.3%	1.84%	
Barrier Type (0-Wall, 1-Berm)				Heavy Tru	cks: 86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Barrier	Noise S	ource Ele	vations (in f	eet)					
Centerline Dist. to Observer	100.0 feet			Autos:	•	,			
Barrier Distance to Observer	: 0.0 feet		Medi	m Trucks:					
Observer Height (Above Pad)	5.0 feet			vy Trucks:		Grade Ad	liustment	. 0 0	
Pad Elevation	: 0.0 feet		7700	vy Trucks.	0.000	0,440,714	jaotimom	. 0.0	
Road Elevation	: 0.0 feet		Lane Eq	uivalent L	Distance (in	feet)			
Road Grade	0.0%			Autos:	92.427				
Left View	-90.0 degre	es	Mediu	m Trucks:	92.331				
Right View	90.0 degree	es	Hea	vy Trucks:	92.341				
FHWA Noise Model Calculation	ons								
VehicleType REMEL	Traffic Flow	Distance	e Finite	Road	Fresnel	Barrier Att	en Ber	m Atten	
Autos: 68.4	16 0.12	-4	.11	-1.20	-4.77	0.0	000	0.000	
Medium Trucks: 79.4	·17.12	-4	.10	-1.20	-4.88	0.0	000	0.000	
Heavy Trucks: 84.2	25 -21.08	-4	.10	-1.20	-5.16	0.0	000	0.000	
Unmitigated Noise Levels (wi	thout Topo and	barrier att	enuation)						
VehicleType Leq Peak H	lour Leq Day	/ Leq	Evening	Leq N	ight	Ldn	CI	VEL	
Autos:	63.3	61.4	59.6		53.6	62.2		62.8	
Medium Trucks:	57.0	55.5	49.2		47.6	56.	1	56.3	

Centerline Distance to Noise Contour (in feet)										
	70 dBA	65 dBA	60 dBA	55 dBA						
Ldn:	40	87	187	403						

43

47.4

60.2

48.7

55.5

93

57.0

64.1

201

57.1

64.5

432

56.5

63.4

CNEL:

Heavy Trucks:

Vehicle Noise:

57.9

65.1

Scenario: Existing Plus Project Project Name: Arantine Hills Noise Analy

Job Number: 6897

Road Name: Cajalco Road Road Segment: Grand Oaks to Temescal Canyon Analyst: J.T. Stephens

SITE	SPECIFIC IN	PUT DATA			NOISE MODEL INPUTS						
Highway Data				Si	te Con	ditions (l	Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	15,000 vehicles	3					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Trud	cks (2 .	Axles):	15		
Peak F	lour Volume:	1,500 vehicles	3		Heavy Trucks (3+ Axles): 15						
Ve	ehicle Speed:	45 mph		Ve	ehicle l	Mix					
Near/Far La	ne Distance:	77 feet				icleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	12.9%	9.6%	97.42%
Ba	rrier Height:	0.0 feet			Me	edium Tru	ıcks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-V	•	0.0			H	Heavy Tru	ıcks:	86.5%	2.7%	10.8%	0.74%
Centerline D	ist. to Barrier:	100.0 feet		N	Noise Source Elevations (in feet)						
Centerline Dist.	to Observer:	100.0 feet		/*	0130 00	Autos:		000	<i></i>		
Barrier Distance to Observer: 0.0 feet					Modiu	n Trucks:		297			
Observer Height (Above Pad): 5.0 feet					ry Trucks:		29 <i>1</i> 006	Grade Ad	iustmen	<i>t·</i> 0.0	
P	ad Elevation:	0.0 feet			Heav	y Trucks.	0.	000	Orado riaj	Jacarron	0.0
Ro	ad Elevation:	0.0 feet		La	Lane Equivalent Distance (in feet)						
	Road Grade:	0.0%			Autos: 92.427						
	Left View:	-90.0 degree	es		Medium Trucks: 92.331						
	Right View:	90.0 degree	es		Heavy Trucks: 92.341						
FHWA Noise Mod	lel Calculation	S									
VehicleType	REMEL	Traffic Flow	Distar	псе	Finite	Road	Fresi	nel	Barrier Att	en Be	rm Atten
Autos:	68.46	-0.19		-4.11		-1.20		-4.77	0.0	000	0.000
Medium Trucks:	79.45	-17.43		-4.10		-1.20		<i>-4.8</i> 8	0.0	000	0.000
Heavy Trucks:	84.25	-21.38		-4.10		-1.20		-5.16	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrier a	attenu	ation)						
VehicleType	Leq Peak Hou	ır Leq Day	Le	eq Eve	ening	Leq N	light		Ldn	С	NEL
Autos:	63	.0	61.1		59.3	53.2		2	61.9		62.5

Unmitigated Noise Levels (without Topo and barrier attenuation)										
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	63.0	61.1	59.3	53.2	61.9	62.5				
Medium Trucks:	56.7	55.2	48.9	47.3	55.8	56.0				
Heavy Trucks:	57.6	56.1	47.1	48.4	56.7	56.8				
Vehicle Noise:	64.8	63.1	59.9	55.2	63.8	64.2				

Centerline Distance to Noise Contour (in feet)										
	70 dBA	65 dBA	60 dBA	55 dBA						
Ldn:	38	83	178	384						
CNEL:	41	89	191	412						

Scenario: Existing Plus Project Project Name: Arantine Hills Noise Analy

Job Number: 6897

Road Name: Cajalco Road Road Segment: e/o Temescal Canyon Road Analyst: J.T. Stephens

SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS							
Highway Data				Site Co	nditions (Hard = 10, Se	oft = 15)				
• •	Traffic (Adt): 12 Percentage:	2,900 vehicles 10%	3	Autos: 15 Medium Trucks (2 Axles): 15							
Peak F	lour Volume: 1	,290 vehicles	3	Heavy Trucks (3+ Axles): 15							
	hicle Speed:	45 mph		Vehicle	Mix						
Near/Far La	ne Distance:	77 feet		Ve	hicleType	Day	Evening	Night	Daily		
Site Data					Α	utos: 77.5%	12.9%	9.6%	97.42%		
Ва	rrier Height:	0.0 feet		٨	∕ledium Tru	ucks: 84.8%	4.9%	10.3%	1.84%		
Barrier Type (0-W	•	0.0			Heavy Tru	ucks: 86.5%	2.7%	10.8%	0.74%		
Centerline Di	Centerline Dist. to Barrier: 100.0 feet					Noise Source Elevations (in feet)					
Centerline Dist.	Centerline Dist. to Observer: 100.0 feet			710,000	Autos						
Barrier Distance to Observer: 0.0 feet			Medi	um Trucks							
Observer Height (Observer Height (Above Pad): 5.0 feet				avy Trucks		Grade Adj	iustment.	0.0		
Pa	ad Elevation:	0.0 feet		,							
Roa	ad Elevation:	0.0 feet		Lane E	quivalent	Distance (in	feet)				
	Road Grade:	0.0%		Autos: 92.427							
	Left View:	-90.0 degree	es	Medium Trucks: 92.331							
	Right View:	90.0 degree	es	Heavy Trucks: 92.341							
FHWA Noise Mod	el Calculations										
VehicleType	REMEL	Traffic Flow	Distance	Finite	e Road	Fresnel	Barrier Atte	en Ber	m Atten		
Autos:	68.46	-0.85	-4	.11	-1.20	-4.77	0.0	000	0.000		
Medium Trucks:	79.45	-18.08	-4	.10	-1.20	-4.88	0.0	000	0.000		
Heavy Trucks: 84.25 -22.04 -4				.10	-1.20	-5.16	0.0	000	0.000		
Unmitigated Noise	e Levels (withou	ut Topo and	barrier atte	enuation))						
VehicleType	Leq Peak Hour	Leq Day	Leq	Evening	Leq N	Night	Ldn	CI	VEL		

Unmitigated Noise Levels (without Topo and barrier attenuation)											
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos:	62.3	60.4	58.6	52.6	61.2	61.8					
Medium Trucks:	56.1	54.6	48.2	46.7	55.1	55.3					
Heavy Trucks:	56.9	55.5	46.5	47.7	56.1	56.2					
Vehicle Noise:	64.1	62.4	59.3	54.6	63.1	63.6					

Centerline Distance to Noise Contour (in feet)										
	70 dBA	65 dBA	60 dBA	55 dBA						
Ldn:	35	75	161	348						

CNEL: 37 80 173 373

Scenario: Existing Plus Project Project Name: Arantine Hills Noise Analy

Road Name: Masters Drive Job Number: 6897

Road Segment: n/o California Drive Analyst: J.T. Stephens

SITE	SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS						
Highway Data				S	ite Cor	ditions (Hard =	: 10, Sc	oft = 15)			
Average Daily	Traffic (Adt):	5,000 vehicles	3					Autos:	15			
Peak Hour	r Percentage:	10%			Мє	edium Tru	cks (2	Axles):	15			
Peak H	Hour Volume:	500 vehicles	3		He	avy Truc	ks (3+	Axles):	15			
Ve	ehicle Speed:	40 mph		V	ehicle	Mix						
Near/Far La	ane Distance:	14 feet				icleType		Day	Evening	Night	Daily	
Site Data						A	utos:	77.5%		9.6%	97.42%	
Ва	nrrier Height:	0.0 feet			М	edium Tro	ucks:	84.8%	4.9%	10.3%	1.84%	
Barrier Type (0-V	_	0.0				Heavy Tru	ucks:	86.5%	2.7%	10.8%	0.74%	
Centerline D	ist. to Barrier:	100.0 feet		N	loise Si	ource Ele	evation	ns (in fa	201)			
Centerline Dist.	to Observer:	100.0 feet		7	0/30 0	Autos		.000	<i></i>			
Barrier Distance	to Observer:	0.0 feet			Mediu	m Trucks		.297				
Observer Height	5.0 feet				ııı Trucks ∕y Trucks		.006	Grade Ad	iustment.	0.0		
P	Pad Elevation: 0.0 feet											
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in	feet)			
	Road Grade:	0.0%				Autos	: 99	.880				
	Left View:	-90.0 degree	es		Mediu	m Trucks	: 99	.791				
	Right View:	90.0 degree	es		Hea	y Trucks	: 99	.800				
FHWA Noise Mod	lel Calculations	S										
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atten	
Autos:	66.51	-4.45		-4.61		-1.20		-4.77	0.0	000	0.000	
Medium Trucks:	77.72	-21.69		-4.61		-1.20		-4.88	0.0	000	0.000	
Heavy Trucks:	82.99	-25.64		-4.61		-1.20		-5.16	0.0	000	0.000	
Unmitigated Nois	e Levels (with	out Topo and	barrier	attenu	ıation)							
VehicleType	Leq Peak Hou	r Leq Day	'I	Leq Eve	ening	Leq N	Leq Night		Ldn	CI	CNEL	
Autos:	56.	.3	54.4		52.6		46.	5	55.2	2	55.8	
Modium Truoko: 50.2 49.7			12.1		40	0	40.1	0	40.5			

Offinitigated Noise Levels (without Topo and barrier attenuation)											
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos:	56.3	54.4	52.6	46.5	55.2	55.8					
Medium Trucks:	50.2	48.7	42.4	40.8	49.3	49.5					
Heavy Trucks:	51.5	50.1	41.1	42.3	50.7	50.8					
Vehicle Noise:	58.3	56.5	53.3	48.7	57.2	57.7					

Centerline Distance to Noise Contour (in feet)										
	70 dBA	65 dBA	60 dBA	55 dBA						
Ldn:	14	30	65	141						
CNFI ·	15	33	70	151						

Scenario: Existing Plus Project Project Name: Arantine Hills Noise Analy

Road Name: Masters Drive Job Number: 6897

Road Segment: California Drive to Bennett Avenu Analyst: J.T. Stephens

SITE	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS									
Highway Data				S	ite Con	ditions	(Hard =	= 10, Sc	oft = 15)					
Average Daily	Traffic (Adt):	10,700 vehicles	s					Autos:	15					
Peak Hour	Percentage:	10%			Me	dium Tru	ucks (2	Axles):	15					
Peak H	lour Volume:	1,070 vehicles	s		Heavy Trucks (3+ Axles): 15									
Ve	hicle Speed:	40 mph	mph ,			Vehicle Mix								
Near/Far La	ne Distance:	14 feet				icleType	,	Evening	Night	Daily				
Site Data					VehicleType Day I Autos: 77.5%				J	9.6%	_			
	rrier Height:	0.0 feet			М	edium Tr	rucks:	84.8%		10.3%				
Barrier Type (0-W	_	0.0 reet 0.0			ı	Heavy Tr	rucks:	86.5%		10.8%				
Centerline Di		100.0 feet												
Centerline Dist.		100.0 feet		N	Noise Source Elevations (in feet)									
Barrier Distance to Observer: 0.0 feet					Autos		.000							
	5.0 feet				m Trucks		.297							
Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet				Heav	y Trucks	s: 8	.006	Grade Ad	justment	: 0.0				
	Road Elevation: 0.0 feet			1	ane Fa	uivalent	Distan	ce (in i	feet)					
	Road Grade:	0.0%		_	u q	Autos		.880						
,	Left View:	-90.0 degree	20		Medium Trucks: 99.791									
	Right View:	90.0 degree			Heavy Trucks: 99.800									
	ragni view.	Jo.o acgree			77041	y maone	<i>.</i> 00	.000						
FHWA Noise Mod	el Calculation	s		<u>'</u>										
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten			
Autos:	66.51	-1.15		-4.61		-1.20		-4.77	0.0	000	0.000			
Medium Trucks:	77.72	-18.38		-4.61		-1.20		-4.88	0.0	000	0.000			
Heavy Trucks:	82.99	-22.34		-4.61		-1.20		-5.16	0.0	000	0.000			
Unmitigated Noise	e Levels (with	out Topo and	barri	ier attenu	ıation)									
VehicleType	Leq Peak Hou	ır Leq Day	,	Leq Ev	ening	Leq	Night		Ldn	C	NEL			
Autos:	59	.6	57.7		55.9		49.	8	58.5	5	59.1			
Medium Trucks:	53	.5	52.0		45.7		44.	1	52.6	6	52.8			
Heavy Trucks:	54	.8	53.4		44.4		45.	6	54.0)	54.1			
Vehicle Noise:	61	.6	59.8		56.6		52.	0	60.5	5	61.0			

70 dBA

23

25

Ldn:

CNEL:

65 dBA

50

54

60 dBA

109

116

55 dBA 234

251

Centerline Distance to Noise Contour (in feet)

Scenario: Existing Plus Project Project Name: Arantine Hills Noise Analy

Road Name: Masters Drive Job Number: 6897

Road Segment: Bennett Avenue to Eagle Glen Pa Analyst: J.T. Stephens

SITE	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS							
Highway Data				Site C	Site Conditions (Hard = 10, Soft = 15)							
Average Daily	Traffic (Adt):	9,300 vehicles	S				Autos:	15				
Peak Hour	Percentage:	10%		1	Лedium Ті	rucks (2 .	Axles):	15				
Peak F	lour Volume:	930 vehicles	S		Heavy Tru	icks (3+)	Axles):	15				
Ve	ehicle Speed:	40 mph		Vehic	e Mix							
Near/Far Lane Distance:		14 feet			VehicleType Day			Evening	Night	Daily		
Site Data						Autos:	77.5%		9.6%	,		
Ba	rrier Height:	0.0 feet			Medium 7	rucks:	84.8%	4.9%	10.3%	1.84%		
Barrier Type (0-V	_	0.0			Heavy 7	rucks:	86.5%	2.7%	10.8%	0.74%		
• • • • • • • • • • • • • • • • • • • •	ist. to Barrier:	100.0 feet		Noisa	Source E	lovation	c (in f	oot)				
Centerline Dist.	to Observer:	100.0 feet		140/36	Noise Source Elevations (in feet) Autos: 0.000							
Barrier Distance	Barrier Distance to Observer: 0.0 feet			1/100	Auto lium Truck		000 297					
Observer Height (Above Pad): 5.0 feet				avy Truck	_	297 006	Grade Ad	iustment	. 0 0			
Pad Elevation: 0.0 feet			116	avy IIucr	15. 0.	000	Orado Ad	justinoni	. 0.0			
Ro	ad Elevation:	0.0 feet		Lane I	Equivalen	t Distan	ce (in	feet)				
	Road Grade:	0.0%			Autos: 99.880							
	Left View:	-90.0 degree	es	Medium Trucks: 99.791								
	Right View:	90.0 degree	es	Heavy Trucks: 99.800								
FHWA Noise Mod	lel Calculation	s										
VehicleType	REMEL	Traffic Flow	Distand	e Fin	ite Road	Fresi	nel	Barrier Att	en Ber	m Atten		
Autos:	66.51	-1.75	-	4.61	-1.20		-4.77	0.0	000	0.000		
Medium Trucks:	77.72	-18.99	-	4.61	-1.20		<i>-4.88</i>	0.0	000	0.000		
Heavy Trucks:	82.99	-22.95	-	4.61	-1.20		-5.16	0.0	000	0.000		
Unmitigated Nois	e Levels (with	out Topo and	barrier at	tenuatio	1)							
VehicleType	Leq Peak Hou	ır Leq Day	Lec	q Evening	Leq	Night		Ldn	CI	NEL		
Autos:	58	.9	57.0	55	.3	49.2	2	57.8	3	58.5		
Medium Trucks:	52	.9	51.4	45	.0	43.	5	52.0)	52.2		
Heavy Trucks:	54	.2	52.8	43	.8	45.0)	53.4	1	53.5		

Centerline Distance to Noise Contour (in feet)				
	70 /04	05.104	00 10 4	7

59.2

61.0

 70 dBA
 65 dBA
 60 dBA
 55 dBA

 Ldn:
 21
 46
 99
 213

 CNEL:
 23
 49
 106
 228

51.4

59.9

60.4

55.9

Vehicle Noise:

Scenario: Existing Plus Project Project Name: Arantine Hills Noise Analy

Road Name: Bedford Canyon Job Number: 6897

Road Segment: El Cerrito Road to Georgetown Dr Analyst: J.T. Stephens

SITE SPECIFIC I	NPUT DATA		NOISE MODEL INPUTS							
Highway Data		,	Site Conditions	(Hard = 10, Se	oft = 15)					
Average Daily Traffic (Adt):	8,500 vehicle	S		Autos:	15					
Peak Hour Percentage:	10%		Medium Tr	ucks (2 Axles):	: 15					
Peak Hour Volume:	850 vehicle	s	Heavy Trucks (3+ Axles): 15							
Vehicle Speed:	40 mph		Vehicle Mix							
Near/Far Lane Distance:	24 feet		VehicleType Day Evening Night Daily							
Site Data				Autos: 77.5%	_		97.42%			
Barrier Height:	0.0 feet		Medium T	rucks: 84.8%	4.9%	10.3%	1.84%			
Barrier Type (0-Wall, 1-Berm):	0.0		Heavy T	rucks: 86.5%	2.7%	10.8%	0.74%			
Centerline Dist. to Barrier:		Noise Source Elevations (in feet)								
Centerline Dist. to Observer:	100.0 feet		Auto	•						
Barrier Distance to Observer:	0.0 feet		Medium Truck							
Observer Height (Above Pad):	5.0 feet		Heavy Truck		Grade Adju	stment	: 0.0			
Pad Elevation:	0.0 feet									
Road Elevation:	0.0 feet	4	Lane Equivalent Distance (in feet)							
Road Grade:	0.0%		Auto	s: 99.403						
Left View:	-90.0 degree	es	Medium Trucks: 99.314							
Right View:	90.0 degree	es	Heavy Trucks: 99.323							
FHWA Noise Model Calculation	ns									
VehicleType REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atte	n Ber	m Atten			
Autos: 66.5	1 -2.15	-4.5	8 -1.20	-4.77	0.00	0	0.000			
Medium Trucks: 77.7	2 -19.38	-4.5	7 -1.20	-4.88	0.00	0	0.000			
Heavy Trucks: 82.9	9 -23.34	-4.5	7 -1.20	-5.16	0.00	0	0.000			
Unmitigated Noise Levels (wit	hout Topo and	barrier atten	nuation)							

Unmitigated Noise Levels (without Topo and barrier attenuation)												
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL						
Autos:	58.6	56.7	54.9	48.9	57.5	58.1						
Medium Trucks:	52.6	51.0	44.7	43.1	51.6	51.8						
Heavy Trucks:	53.9	52.5	43.4	44.7	53.0	53.2						
Vehicle Noise:	60.6	58.9	55.6	51.0	59.6	60.0						

Centerline Distance to Noise Contour (in feet)											
	70 dBA	65 dBA	60 dBA	55 dBA							
Ldn:	20	43	94	202							

22

47

100

216

CNEL:

Scenario: Existing Plus Project

Road Name: Bedford Canyon

Road Segment: Georgetown Drive to Eagle Glen

52.7

54.0

Project Name: Arantine Hills Noise Analy

Job Number: 6897

Analyst: J.T. Stephens

SITE	SPECIFIC IN	IPUT DATA		NOISE MODEL INPUTS							
Highway Data				Site Con	ditions (F	Hard =	10, Sc	oft = 15)			
Average Daily	Traffic (Adt):	8,800 vehicle	S				Autos:	15			
Peak Hour	Percentage:	10%		Me	dium Truc	cks (2 /	Axles):	15			
Peak H	lour Volume:	880 vehicle	S	Heavy Trucks (3+ Axles): 15							
Ve	ehicle Speed:	40 mph		Vehicle I	Mix						
Near/Far La	ne Distance:				icleType		Day	Evening	Night	Daily	
Site Data						ıtos:	77.5%		9.6%	97.42%	
Ba	rrier Height:	0.0 feet		M	edium Tru	cks:	84.8%	4.9%	10.3%	1.84%	
Barrier Type (0-W	_	0.0		I	Heavy Tru	cks:	86.5%	2.7%	10.8%	0.74%	
Centerline Di	ist. to Barrier.	100.0 feet	-	Noise Source Elevations (in feet)							
Centerline Dist. to Observer: 100.0 feet				110/30 00	Autos:		000	,			
Barrier Distance to Observer: 0.0 feet				Mediu	m Trucks:	_	297				
Observer Height	(Above Pad):	5.0 feet			y Trucks:		006	Grade Ad	iustment.	0.0	
Pa	ad Elevation:	0.0 feet	-					•	,404,770,774		
Roa	ad Elevation:	0.0 feet	_	Lane Equivalent Distance (in feet)							
	Road Grade:	0.0%		Autos: 99.403							
	Left View:	-90.0 degree	es	Medium Trucks: 99.314							
	Right View:	90.0 degree	es	Heavy Trucks: 99.323							
FHWA Noise Mod	lel Calculation	S									
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresn	nel	Barrier Att	en Ber	m Atten	
Autos:	66.51	-1.99	-4.5	58	-1.20		-4.77	0.0	000	0.000	
Medium Trucks:	77.72	-19.23	-4.5	57	-1.20		-4.88	0.0	000	0.000	
Heavy Trucks:	82.99	-23.19	-4.5	57	-1.20		-5.16	0.0	000	0.000	
Unmitigated Noise	e Levels (with	out Topo and	barrier atte	nuation)							
VehicleType	Leq Peak Hou	ır Leq Day	Leq E	Evening Leq Night				Ldn	CI	VEL	
Autos:	58	.7	56.8	55.1		49.0)	57.6	3	58.2	

Vehicle Noise:	60.7	59.0	59.0 55.7		59.7	60.2					
Centerline Distance to Noise Contour (in feet)											
			70 dBA	65 dBA	60 dBA	55 dBA					

44.8

43.6

51.2

52.6

21 96 206 Ldn: 44 CNEL: 48 103 221 22

43.3

44.8

51.8

53.2

52.0

53.3

Medium Trucks:

Heavy Trucks:

Scenario: Existing Plus Project Road Name: Temescal Canyon Road

Road Segment: n/o Cajalco Road

Project Name: Arantine Hills Noise Analy

138

148

297

319

Job Number: 6897

Analyst: J.T. Stephens

SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS							
Highway Data				S	ite Con	ditions ((Hard =	10, Sc	oft = 15)			
Average Daily	Traffic (Adt):	10,900 vehicle	S				A	lutos:	15			
Peak Hour	Percentage:	10%			Me	edium Tru	icks (2 A	xles):	15			
Peak H	lour Volume:	1,090 vehicle	s		He	avy Truc	ks (3+ A	xles):	15			
Ve	ehicle Speed:	45 mph		V	ehicle	Mix						
Near/Far La	ne Distance:	53 feet		-		icleType		Day	Evening	Night	Daily	
Site Data					7. 7 7 6					9.6%		
	rrier Height:	0.0 feet			М	edium Tr		34.8%		10.3%	1.84%	
Barrier Type (0-V	•	0.0				Heavy Tr	ucks: 8	36.5%	2.7%	10.8%	0.74%	
'	ist. to Barrier:	100.0 feet			/-: O			/! £-	- 41			
Centerline Dist.		100.0 feet		^	ioise S	ource Ele		•	eet)			
Barrier Distance	to Observer:	0.0 feet			Autos: 0.000							
Observer Height (Above Pad): 5.0 feet				Medium Trucks: 2.297						. 0 0		
Pad Elevation: 0.0 feet					Heavy Trucks: 8.006 Grade Adjustment: 0.						. 0.0	
Road Elevation: 0.0 feet				L	ane Eq	uivalent	Distanc	e (in f	feet)			
	Road Grade: 0.0%					Autos	s: 96.5	554				
	Left View:	-90.0 degree	es		Mediu	m Trucks	s: 96.4	63				
	Right View:	90.0 degree			Heavy Trucks: 96.472							
FHWA Noise Mod	lel Calculation	ıs										
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fresne	əl	Barrier Att	en Ber	m Atten	
Autos:	68.46	-1.58		-4.39)	-1.20		4.77	0.0	000	0.000	
Medium Trucks:	79.45	-18.82		-4.38	}	-1.20	-	4.88	0.0	000	0.000	
Heavy Trucks:	84.25	-22.77		-4.38	}	-1.20	-	5.16	0.0	000	0.000	
Unmitigated Nois	e Levels (with	out Topo and	barri	ier attenu	uation)							
VehicleType	Leq Peak Hou	ır Leq Day	,	Leq Ev	ening	Leq I	Vight		Ldn	CI	VEL	
Autos:	61	.3	59.4		57.6		51.6		60.2	2	60.8	
Medium Trucks:	55	5.0	53.5		47.2		45.6		54.1	1	54.3	
Heavy Trucks:	55	5.9	54.5		45.4		46.7		55.0)	55.2	
Vehicle Noise:	63	3.1	61.4		58.2 53.6 62.1				62.6			
Centerline Distan	ce to Noise Co	ontour (in feet)									
				70 d	BA	65 c	dBA	6	0 dBA	55	dBA	

Ldn:

CNEL:

30

32

64

69

Scenario: Existing Plus Project Road Name: Temescal Canyon Road Road Segment: s/o Cajalco Road

Project Name: Arantine Hills Noise Analy

Job Number: 6897

Analyst: J.T. Stephens

SITE	SPECIFIC INF	PUT DATA		NOISE MODEL INPUTS							
Highway Data			S	Site Con	ditions (Ha	ard = 10, S	oft = 15)				
Average Daily	Traffic (Adt): 14	1,000 vehicles				Autos:	15				
Peak Hour	Percentage:	10%		Me	dium Truck	s (2 Axles).	15				
Peak H	lour Volume: 1	1,400 vehicles		He	avy Trucks	(3+ Axles)	15				
Ve	ehicle Speed:	45 mph	1	/ehicle l	Miv						
Near/Far La	ne Distance:	53 feet			icleType	Day	Evening	Night	Daily		
Site Data				VCII	Aut		_	9.6%			
	rrier Height:	0.0 feet		Medium Trucks: 84.8% 4.9% 10.3%							
Barrier Type (0-W		0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74							
'	•	100.0 feet		Noise Source Elevations (in feet)							
Centerline Dist.		100.0 feet		voise 30		•	eet)				
Barrier Distance		0.0 feet		14-1	Autos:	0.000					
	Observer Height (Above Pad): 5.0 feet			Medium Trucks: 2.297							
Pad Elevation: 0.0 feet				Heavy Trucks: 8.006 Grade Adjustment: 0.0							
Road Elevation: 0.0 feet				ane Eq	uivalent Di	istance (in	feet)				
Road Grade: 0.0%					Autos:	96.554					
Left View: -90.0 degrees				Mediu	m Trucks:	96.463					
	Right View:	90.0 degrees		Heavy Trucks: 96.472							
FHWA Noise Mod	lel Calculations										
VehicleType	REMEL	Traffic Flow D	istance	Finite	Road	Fresnel	Barrier Atte	en Ber	m Atten		
Autos:	68.46	-0.49	-4.39	9	-1.20	-4.77	0.0	000	0.000		
Medium Trucks:	79.45	-17.73	-4.38	3	-1.20	<i>-4.88</i>	0.0	000	0.000		
Heavy Trucks:	84.25	-21.68	-4.38	3	-1.20	-5.16	0.0	000	0.000		
Unmitigated Nois	e Levels (witho	ut Topo and barr	ier atteni	uation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Ev	ening/	Leq Nig	nht	Ldn	CI	VEL		
Autos:	62.4			58.7		52.7	61.3	3	61.9		
Medium Trucks:				48.3		46.7	55.2		55.4		
Heavy Trucks:	57.0) 55.6		46.5		47.8	56.1		56.3		
Vehicle Noise:	64.2	2 62.5		59.3		54.6	63.2	<u>-</u>	63.6		
Centerline Distan	ce to Noise Cor	ntour (in feet)				T					
			70 d		65 dB	4	60 dBA		dBA		
		Ldn:			76		163		51 		
		CNEL:	38	3	81		175	3	77		