

Appendix G: Noise Analysis

Noise Impact Analysis
San Ramon City Center Project
City of San Ramon, Contra Costa County, California

Prepared for:
City of San Ramon
Planning/Community Development Department
2226 Camino Ramon
San Ramon, CA 94583



Contact: Debbie Chamberlain, Planning Manager

Prepared by:
Michael Brandman Associates
Bishop Ranch 3
2633 Camino Ramon, Suite 460
San Ramon, CA 94583



Michael Brandman Associates

Contact: Jason M. Brandman, Project Manager
Author: Greg Tonkovich, INCE, Senior Noise Analyst

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SECTION 1: INTRODUCTION

1.1 - Purpose of Analysis and Study Objectives

This Noise Impact Analysis has been prepared by Michael Brandman Associates to determine the offsite and onsite noise impacts associated with the proposed San Ramon City Center Project (proposed project). The following is provided in this report:

- A description of the study area and the proposed project;
- Information regarding the fundamentals of noise;
- Information regarding the fundamentals of vibration;
- A description of the local noise guidelines and standards;
- An analysis of the potential short-term construction-related noise impacts from the proposed project; and,
- An analysis of long-term operations-related noise impacts from the proposed project.

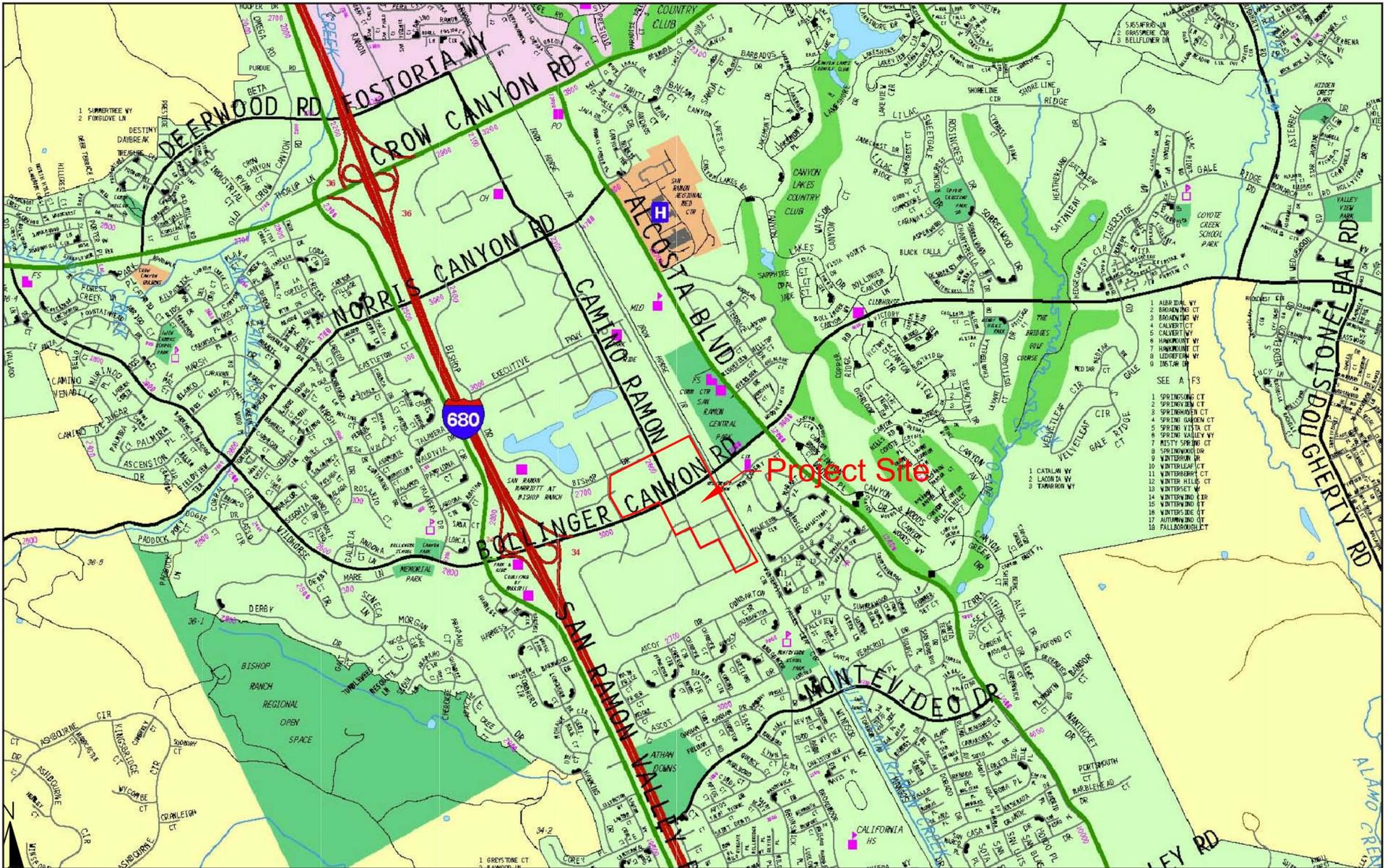
1.2 - Site Location and Study Area

The proposed project is located in the central portion of the City of San Ramon (City). The project site is composed of four parcels totaling 43.65 acres located on all four quadrants of the intersection of Bollinger Canyon Road and Camino Ramon. Three of the four parcels consist of undeveloped land, vegetation, and surface parking areas. The remaining parcel consists of the existing 14.57-acre Bishop Ranch 2 office complex. Bishop Ranch 2 contains 194,652 square feet of office space spread amongst several multi-story office structures.

The project site is bounded by Bishop Drive and Bishop Ranch 3 to the north, Iron Horse Trail, San Ramon Central Park, a hotel, commercial and single-family residential uses to the east, single-family residential to the south, and Sunset Drive and commercial office and retail to the west. In addition, Iron Horse Middle School is adjacent to the northern portion of San Ramon Central Park and P.E. classes from the school use the park's athletic fields. The classrooms are approximately 2,000 feet from the northeast corner of the project site. The site location and study area for this analysis is shown on Exhibit 1.

1.3 - Project Description

The City of San Ramon and Sunset Development Company are jointly proposing to develop a total of 2,168,466 square feet of mixed uses, including retail, office, hotel, residential, and civic, on the project site. Retail uses within the Plaza District would consist of two anchor stores, a six-screen arts cinema, and smaller inline retail uses such as shops, restaurants, and spa/fitness/ wellness. A six-



Source: Thomas Guide Digital Edition 2007 and Vista Environmental.



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Exhibit 1 Site Location and Study Area

story, 169-room, five-star hotel would feature conference, meeting room, and ballroom facilities. The City Hall would provide space for Council Chambers, meeting rooms, the Police Department, the library, and City offices. The Transit Center would provide four bus stalls and a waiting area for passengers, and surface and multi-level parking would be built throughout the project.

The proposed project would consist of the demolition of the Bishop Ranch 2 office complex and then the development of one of the following three alternatives:

1.3.1 - Alternative 1 - Flex Retail

- 488 Condominium units
- 169-room Hotel
- 487,117 square feet of Office Park (681,769 square feet less 194,652 square feet)
- 663,339 square feet Retail
- 6-screen Cinema (21,945 square feet)
- 75,150 square feet Civic Center
- 35,340 square feet Library

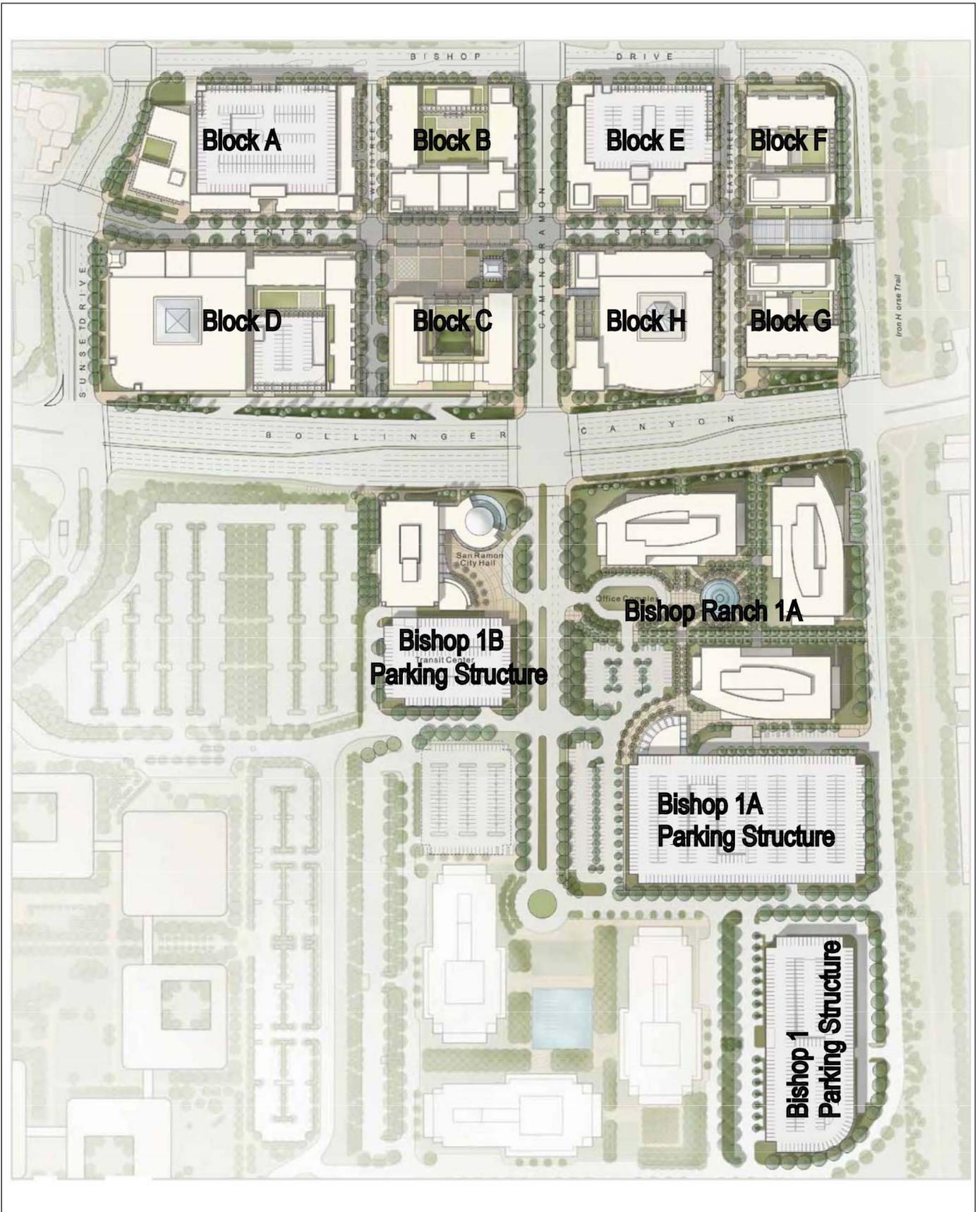
1.3.2 - Alternative 2 - Flex Office

- Same as Flex Retail except 50,142 square feet of the Retail space is converted to Office space.

1.3.3 - Alternative 3 - Flex Retail No Civic Center

- Same as Flex Retail except 75,150 square feet Civic Center plus 35,340 square feet Library is converted to 110,490 square feet Office space.

According to the *Draft Traffic Operations Evaluation For San Ramon City Center Project*, (Traffic Analysis), Prepared by DMJM Harris, June 2007, Flex Retail is anticipated to generate the most vehicular traffic and consequently create the greatest noise impacts. Therefore, since the Flex Retail Alternative would create the worst-case noise impacts as compared to the other alternatives, the analysis will be based on the Flex Retail Alternative project description. The Flex Retail Site Plan is shown on Exhibit 2.



Source: Sunset Development Company, February 2007, and Vista Environmental.



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Exhibit 2 Site Plan

SECTION 2: NOISE FUNDAMENTALS

Noise is defined as unwanted sound. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Sound is produced by the vibration of sound pressure waves in the air. Sound pressure levels are used to measure the intensity of sound and are described in terms of decibels. The decibel (dB) is a logarithmic unit, which expresses the ratio of the sound pressure level being measured to a standard reference level. A-weighted decibels (dBA) approximate the subjective response of the human ear to a broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies, which are audible to the human ear.

2.1 - Noise Descriptors

Noise Equivalent sound levels are not measured directly, but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. The peak traffic hour Leq is the noise metric used by California Department of Transportation (Caltrans) for all traffic noise impact analyses.

The Day-Night Average Level (Ldn) is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of ten decibels to sound levels at night between 10 p.m. and 7 a.m. While the Community Noise Equivalent Level (CNEL) is similar to the Ldn, except that it has another addition of 4.77 decibels to sound levels during the evening hours between 7 p.m. and 10 p.m. These additions are made to the sound levels at these time periods because during the evening and nighttime hours, when compared to daytime hours, there is a decrease in the ambient noise levels, which creates an increased sensitivity to sounds. For this reason the sound appears louder in the evening and nighttime hours and is weighted accordingly. The City of San Ramon relies on the CNEL noise standard to assess transportation-related impacts on noise sensitive land uses.

2.2 - Traffic Noise Propagation

Traffic noise is analyzed as a line source noise, where the noise levels are normalized throughout a roadway segment. In order to assess the noise levels at different locations near the roadway, the roadway noise, the trajectory of the path from the source to receiver and the location of the receiver are all considered in the noise prediction analysis. This analysis method is known as the source-path-receiver concept. In general, noise control measures can be applied to any and all of these three elements.

2.3 - Ground Absorption

The sound drop-off rate is highly dependent on the conditions of the land between the noise source and receiver. To account for this ground-effect attenuation (absorption), two types of site conditions are commonly used in traffic noise models, soft site and hard site conditions. Soft site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. A drop-off rate of 4.5 dBA per doubling of distance is typically observed over soft ground with landscaping, as compared with a 3.0 dBA drop-off rate over hard ground such as asphalt, concrete, stone and very hard packed earth. Caltrans research has shown that the use of soft site conditions is more appropriate for the application of the Federal Highway Administration (FHWA) traffic noise prediction model used in this analysis.

2.4 - Traffic Noise Prediction

The level of traffic noise depends on the three primary factors: 1) the volume of the traffic, 2) the speed of the traffic, and 3) the number of trucks in the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and greater number of trucks. Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires.

Because of the logarithmic nature of traffic noise levels, a doubling of the traffic noise (acoustic energy) results in a noise level increase of 3 dBA. Based on the FHWA community noise assessment criteria this change is “barely perceptible”. In other words, doubling the traffic volume (assuming that the speed and truck mix do not change) results in a noise increase of 3 dBA. The truck mix on a given roadway also has an effect on community noise levels. As the number of heavy trucks increases and becomes a larger percentage of the vehicle mix, adjacent noise levels increase.

2.5 - Noise Barrier Attenuation

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise in half. For a noise barrier to work, it must be high enough and long enough to block the view of a road. A noise barrier is most effective when placed close to the noise source or receiver. A noise barrier can achieve a 5-dBA noise level reduction when it is tall enough to break the line-of-sight. When the noise barrier is a berm instead of a wall, the noise attenuation can be increased by another 3 dBA.

2.6 - Construction Noise Assumptions

The Federal Highway Administration (FHWA) compiled noise measurement data regarding the noise generating characteristics of several different types of construction equipment used during the Central Artery/Tunnel project in Boston. Table A below provides a list of the construction equipment measured along with the associated measured noise emissions and measured percentage of typical equipment use per day. From this acquired data, the FHWA developed the Roadway Construction

Noise Model (RCNM), which may be used for the prediction of construction noise. For the purposes of this analysis, the RCNM will be used to calculate the construction equipment noise emissions.

Table A: Construction Equipment Noise Emissions and Usage Factors

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec 721.560 Lmax @ 50 ft (dBA, slow)	Actual Measured Lmax @ 50 ft (dBA, slow)	No. of Actual Data Samples (Count)
All Other Equipment > 5 HP	No	50	85	N/A	0
Auger Drill Rig	No	20	85	84	36
Backhoe	No	40	80	78	372
Bar Bender	No	20	80	N/A	0
Blasting	Yes	N/A	94	N/A	0
Boring Jack Power	No	50	80	83	1
Chain Saw	No	20	85	84	46
Clam Shovel (dropping)	Yes	20	93	87	4
Compactor (ground)	No	20	80	83	57
Compressor (air)	No	40	80	78	18
Concrete Batch	No	15	83	N/A	0
Concrete Mixer Truck	No	40	85	79	40
Concrete Pump	No	20	82	81	30
Concrete Saw	No	20	90	90	55
Crane	No	16	85	81	405
Dozer	No	40	85	82	55
Drill Rig Truck	No	20	84	79	22
Drum Mixer	No	50	80	80	1
Dump Truck	No	40	84	76	31
Excavator	No	40	85	81	170
Flat Bed Truck	No	40	84	74	4
Front End Loader	No	40	80	79	96
Generator	No	50	82	81	19
Generator (<25KVA, VMS signs)	No	50	70	73	74
Gradall	No	40	85	83	70
Grader	No	40	85	N/A	0
Grapple (on backhoe)	No	40	85	87	1

Table A (Cont.): Construction Equipment Noise Emissions and Usage Factors

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec 721.560 Lmax @ 50 ft (dBA, slow)	Actual Measured Lmax @ 50 ft (dBA, slow)	No. of Actual Data Samples (Count)
Horizontal Boring Hydr. Jack	No	25	80	82	6
Hydra Break Ram	Yes	10	90	N/A	0
Impact Pile Driver	Yes	20	95	101	11
Jackhammer	Yes	20	85	89	133
Man Lift	No	20	85	75	23
Mounted Impact Hammer (hoe ram)	Yes	20	90	90	212
Pavement Scarafier	No	20	85	90	2
Paver	No	50	85	77	9
Pickup Truck	No	40	55	75	1
Pneumatic Tools	No	50	85	85	90
Pumps	No	50	77	81	17
Refrigerator Unit	No	100	82	73	3
Rivet Buster/chipping gun	Yes	20	85	79	19
Rock Drill	No	20	85	81	3
Roller	No	20	85	80	16
Sand Blasting (Single Nozzle)	No	20	85	96	9
Scraper	No	40	85	84	12
Shears (on backhoe)	No	40	85	96	5
Slurry Plant	No	100	78	78	1
Slurry Trenching Machine	No	50	82	80	75
Soil Mix Drill Rig	No	50	80	N/A	0
Tractor	No	40	84	N/A	0
Vacuum Excavator (Vac-	No	40	85	85	149
Vacuum Street Sweeper	No	10	80	82	19
Ventilation Fan	No	100	85	79	13
Vibrating Hopper	No	50	85	87	1

Table A (Cont.): Construction Equipment Noise Emissions and Usage Factors

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec 721.560 Lmax @ 50 ft (dBA, slow)	Actual Measured Lmax @ 50 ft (dBA, slow)	No. of Actual Data Samples (Count)
Vibratory Concrete Mixer	No	20	80	80	1
Vibratory Pile Driver	No	20	95	101	44
Warning Horn	No	5	85	83	12
Welder / Torch	No	40	73	74	5
Source: FHWA Roadway Construction Noise Model User's Guide, prepared by FHWA, January 2006					

SECTION 3: GROUNDBORNE VIBRATION FUNDAMENTALS

Ground-borne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. The effects of ground-borne vibrations typically only cause a nuisance to people, but at extreme vibration levels damage to buildings may occur. Although ground-borne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. Ground-borne noise is an effect of ground-borne vibration and only exists indoors, since it is produced from noise radiated from the motion of the walls and floors of a room and may also consist of the rattling of windows or dishes on shelves.

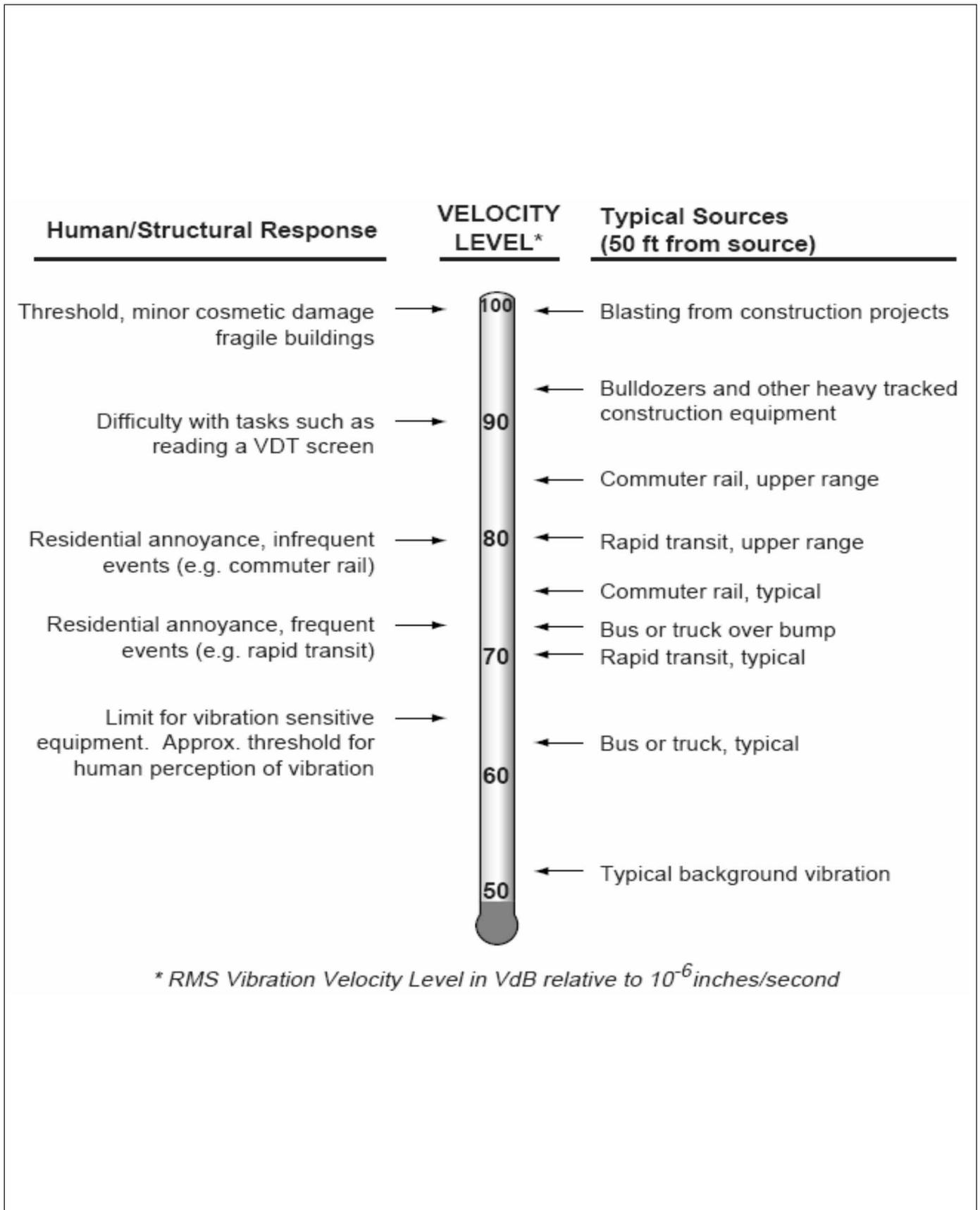
3.1 - Vibration Descriptors

Vibration is quantified through the measurement of the motion of a particular point on the ground or structure. Since the current available vibration measurement devices measure either the velocity or acceleration of the ground or structure, vibratory motion is commonly described by identifying the peak particle velocity (PPV) or peak particle acceleration (PPA). The PPV is generally accepted as the most appropriate descriptor for evaluating the potential for building damage. However, for human response, an average vibration amplitude is more appropriate since it takes time for the human body to respond to the vibration. Since the average particle velocity over time is zero, the root-mean-square (rms) amplitude of the vibration velocity is typically used to assess human response. The rms values are always less than PPV and for typical single frequency conditions, the rms value is about 70 percent of the PPV.

Due to the typically small amplitudes of vibrations, vibration velocity is often expressed in decibels, is denoted as L_v and is based on the rms velocity amplitude. A commonly used abbreviation is “VdB”, which in this text, is when L_v is based on the reference quantity of 1 micro inch per second.

3.2 - Vibration Perception

Typically, developed areas are continuously affected by vibration velocities of 50 VdB or lower. These continuous vibrations are not noticeable to humans whose threshold of perception is around 65 VdB. Offsite sources that may produce perceptible vibrations are usually caused by construction equipment, steel-wheeled trains, and traffic on rough roads, while smooth roads rarely produce perceptible ground-borne noise or vibration. Exhibit 3 shows typical sources of vibration and the associated human responses to the vibration.



Source: Transit Noise and Vibration Impact Assessment, Federal Transit Administration April 1995, and Vista Environmental.



3.3 - Vibration Propagation

The propagation of ground-borne vibration is not as simple to model as airborne noise. This is due to the fact that noise in the air travels through a relatively uniform median, while ground-borne vibrations travel through the earth which may contain significant geological differences. There are three main types of vibration propagation: surface, compression, and shear waves. Surface waves, or Rayleigh waves, travel along the ground's surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. P-waves, or compression waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. S-waves, or shear waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse or "side-to-side and perpendicular to the direction of propagation."

As vibration waves propagate from a source, the vibration energy decreases in a logarithmic nature and the vibration levels typically decrease by 6 VdB per doubling of the distance from the vibration source. As stated above, this drop-off rate can vary greatly depending on the soil but has been shown to be effective enough for screening purposes, in order to identify potential vibration impacts that may need to be studied through actual field tests.

3.4 - Construction-Related Vibration Level Prediction

Construction activity can result in varying degrees of ground vibration, depending on the equipment used on the site. Operation of construction equipment causes ground vibrations, which spread through the ground and diminish in strength with distance. Buildings in the vicinity of the construction site respond to these vibrations with varying results ranging from no perceptible effects at the low levels to slight damage at the highest levels. Table B gives approximate vibration levels for particular construction activities. The data in Table B provides a reasonable estimate for a wide range of soil conditions.

Table B: Vibration Source Levels for Construction Equipment

Equipment	Range	Peak Particle Velocity (inches/second)	Approximate Vibration Level (L _v) at 25 feet
Pile driver (impact)	Upper range	1.518	112
	typical	0.644	104
Pile driver (sonic)	Upper range	0.734	105
	typical	0.170	93
Clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	In soil	0.008	66
	In rock	0.017	75

Table B (Cont.): Vibration Source Levels for Construction Equipment

Equipment	Range	Peak Particle Velocity (inches/second)	Approximate Vibration Level (L _v)at 25 feet
Vibratory Roller		0.210	106
Large bulldozer		0.089	87
Caisson drill		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79
Small bulldozer		0.003	58

Source: Transit Noise and Vibration Impact Assessment, Federal Transit Administration, April 1995 and Transportation- and Construction-Induced Vibration Guidance Manual, Caltrans, June 2004.

SECTION 4: NOISE AND VIBRATION STANDARDS

The project site is located in the jurisdiction of the City of San Ramon, which has separate standards for transportation, stationary, and construction noise and vibration sources. The following provides a discussion of the standards for these types of noise and vibration sources.

4.1 - Transportation-Related Noise

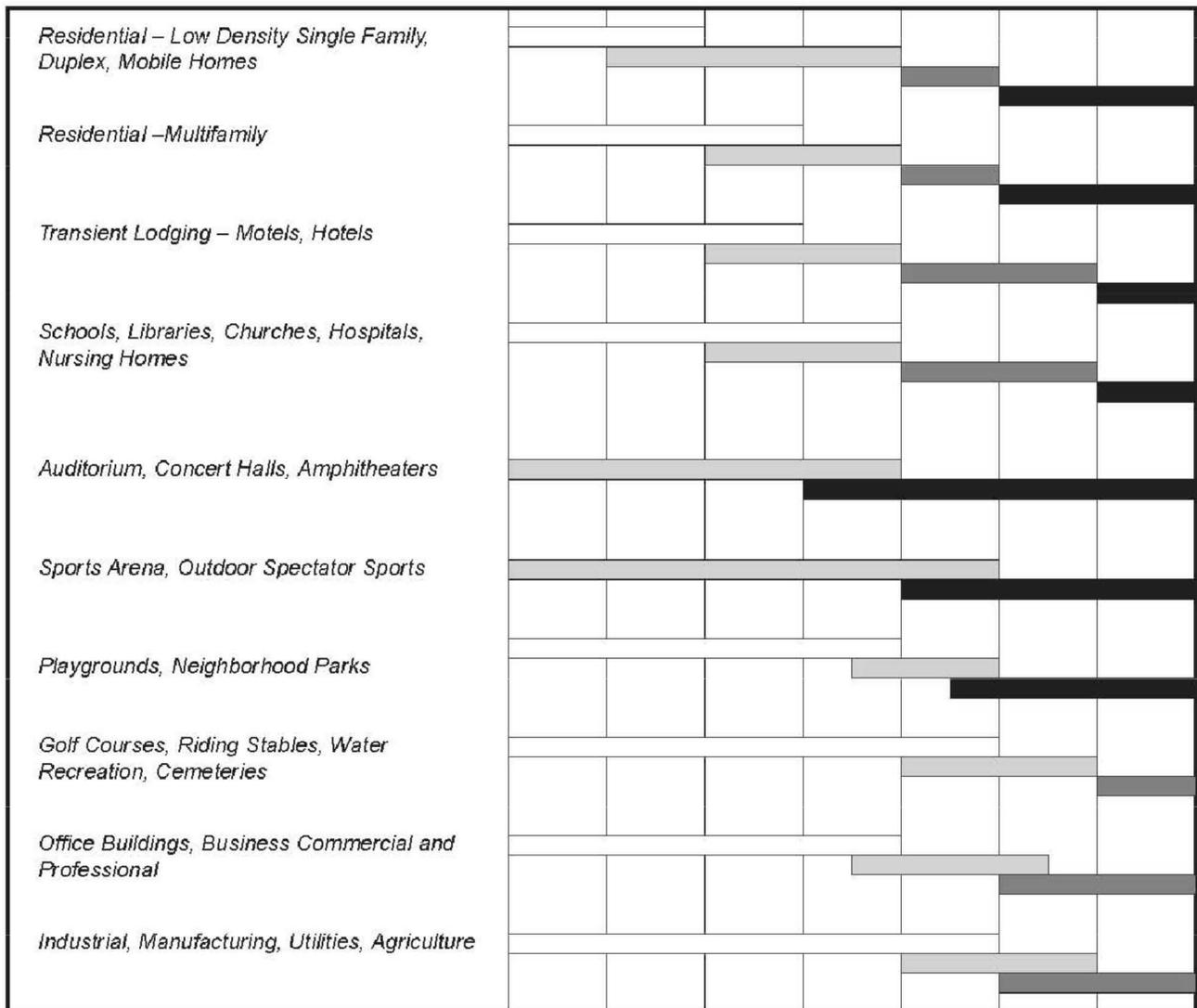
To control transportation-related noise sources such as arterial roads, freeways, airports, and railroads, the City has established guidelines for acceptable community noise levels in the General Plan Noise Element. The Noise Element outlines the land use compatibility for community noise exposure by land use category. For development of a site with exterior noise levels less than 65 dBA CNEL, commercial development is normally acceptable, with typically no noise analysis or mitigation required. For development of a site with exterior noise levels in the 65- to 78- dBA CNEL range, commercial development is conditionally acceptable upon further analysis through a noise impact analysis and possible mitigation. For development of a site with exterior noise levels in the 75- to 85-dBA CNEL range, commercial-retail development is normally unacceptable. Exhibit 4 provides the Land Use Compatibility Matrix, which identifies compatibility of land uses with noise levels.

For the residential portion of the proposed project, the General Plan Noise Element provides an interior noise level standard of 45 dBA CNEL or less and no noise standard for the commercial portion of the proposed project. For the surrounding noise sensitive residential uses, the General Plan Noise Element provides an exterior noise level standard of 60 dBA CNEL or less for the outdoor living areas and an interior noise level standard of 45 dBA CNEL or less. In the context of this noise impact analysis, the noise impacts from transportation-related noise associated with the proposed project are controlled by the City Noise Element. The applicable portions of the City's Noise Element are provided in Appendix A.

In community noise assessment, changes in noise levels less than 3 dBA are often identified as "barely perceptible," while changes of 5 dBA or greater are "readily perceptible." The range of 1 dBA to 3 dBA may be perceived by people who are very sensitive to noise as a slight change in noise level. It is recognized that an increase in noise level of 3 dBA is considered to be just perceptible in a community noise environment and an increase of 5 dBA would be readily perceptible. An increase above ambient noise levels between 3 dBA and 5 dBA would result in an adverse, but not significant impact, while an increase in noise level greater than 5 dBA when the community noise level already exceeds the City's 60 dBA CNEL standard for noise sensitive land uses would be considered a significant impact.

COMMUNITY NOISE EXPOSURE
L_{dn} or CNEL, dB

55 60 65 70 75 80



LEGEND:



NORMALLY ACCEPTABLE

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.



CONDITIONALLY ACCEPTABLE

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

NORMALLY UNACCEPTABLE

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and noise insulation features included in the design.



CLEARLY UNACCEPTABLE

New construction or development should generally not be undertaken.

Source: California Department of Health, *Guidelines for the Preparation and Content of Noise Elements of the General Plan*, November, 1990.

Source: California Department of Health, Guidelines for the Preparation and Content of Noise Elements of the General Plan, November 1990, and Vista Environmental.



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Exhibit 4

Land Use Compatibility Matrix

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NOISE IMPACT ANALYSIS

4.2 - Stationary Noise and Vibration

The Municipal Code has established exterior noise level performance standards to control stationary source/non-transportation related noise impacts. The performance standards do not provide quantitative noise limits; instead, they provide operating rules, which are presented below from Municipal Code Chapter V Noise Control B6-101, Business and Residential Relationships:

- Store deliveries by any vehicle in the area between the business and residences is prohibited between ten p.m. and six-thirty a.m. weekdays and between ten p.m. and eight a.m. on weekend and federal holidays. Delivery vehicles will have their engines turned off during deliveries.
- Garbage disposal, construction, and maintenance by power equipment in the area between the business and residences are prohibited between ten p.m. and six-thirty a.m. weekdays and between ten p.m. and eight a.m. on weekends and federal holidays.
- Pedestrian, cycle or unauthorized vehicle traffic in the area between the business and residences is prohibited between ten p.m. and eight a.m. (Prior code B7-188).

In addition to the standards shown above, the City's General Plan Noise Element also provides a 45-dBA Leq noise level threshold for the interior living areas of all residences.

Since the City of San Ramon does not have specific vibration impact criteria for operations-related vibration levels, Caltrans' vibration impact thresholds presented in the *Transportation- and Construction-Induced Vibration Guidance Manual*, June, 2004, were utilized. The report recommends a threshold of 0.02 inches per second or 86 VdB (dB re: 1 micro-inch per second) as the significance level for on-going operation-related impacts.

In the context of this Noise Impact Analysis, the noise impacts from stationary sources associated with the proposed project are controlled by the Municipal Code. The applicable portions of the Municipal Code are provided in Appendix A.

4.3 - Construction Noise and Vibration

To control construction-related noise and vibration, the City has derived standards specifically for construction noise and vibration due to its short-term nature. The City standards are specified in the General Plan Noise Element and Noise Ordinance. The applicable sections of these documents are provided in Appendix A.

The City of San Ramon's Municipal Code Chapter V Noise Control, B6-100, states that noise and vibration from temporary construction activities are exempt from the Municipal Code's stationary noise and vibration standards, as long as construction activities are undertaken on Monday through

Friday between the hours of 7:30 a.m. and 6:00 p.m. and on Saturday and Sunday between the hours of 9:00 a.m. and 6:00 p.m., except federal holidays.

Since the City of San Ramon does not have specific vibration impact criteria for construction-related vibration levels, Caltrans' vibration impact thresholds presented in the *Transportation- and Construction-Induced Vibration Guidance Manual*, June, 2004, were utilized. The report recommends a threshold of 0.2 inches per second or 106 VdB (dB re: 1 micro-inch per second) as the significance level for construction activities.

In the context of this Noise Impact Analysis, the noise and vibration impacts from construction activities associated with the proposed project are controlled by the Municipal Code. The applicable portions of the Municipal Code are provided in Appendix A.

4.4 - California Environmental Quality Act Thresholds of Significance

Consistent with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines, a significant impact related to noise would occur if a proposed project is determined to result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local General Plan or noise ordinance, or applicable standards of other agencies;
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- A substantial permanent increase in ambient noise levels in the project vicinity above existing levels without the proposed project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above noise levels existing without the proposed project; or
- Exposure of persons residing or working in the project area to excessive noise levels from aircraft.

For the purposes of this noise impact analysis, a construction-related noise and vibration impact would be considered significant if construction activities are undertaken on Monday through Friday between the hours of 6:00 p.m. and 7:30 a.m. or on Saturday and Sunday between the hours of 6:00 p.m. and 9:00 a.m. or anytime on federal holidays. For the purposes of this noise impact analysis, an offsite traffic-related noise impact would be considered significant if the proposed project increases the noise levels for a noise sensitive land use by 5 dBA CNEL and if: (1) the existing noise levels already exceed the 60 dBA CNEL residential standard, or (2) the proposed project increases noise levels from below the 60 dBA CNEL standard to above 60 dBA CNEL. For the purposes of this noise impact analysis, an onsite noise impact would be considered significant if the interior noise level exceeds 45 dBA CNEL for the residential areas.

SECTION 5: EXISTING NOISE CONDITIONS

To determine the existing noise level environment, short-term peak hour noise measurements were taken at nine locations in the project study area and 24-hour noise measurements were taken at two locations on the project site. The following describes the measurement procedures, measurement locations, and the noise measurement results.

5.1 - Measurement Procedure and Criteria

To ascertain the existing noise at and adjacent to the project site, field monitoring was conducted by Greg Tonkovich, INCE, from Monday, June 4, 2007 to Tuesday, June 5, 2007. The field survey noted that noise within the proposed project area is generally characterized by vehicle traffic on the local roadways and from Interstate 680. No noise impacts from aircraft were observed during the measurements.

Noise monitoring was performed using two different styles of noise meters for the short-term peak hour measurements and the 24-hour measurements, which are described below.

5.1.1 - Short-Term Peak Hour Noise Measurements

The short-term peak hour noise measurements were taken using a Larson-Davis Model 824 Type 1 precision sound level meter programmed in “slow” mode to record noise levels in “A” weighted form. The sound level meter and microphone were mounted on a tripod five feet above the ground and were equipped with a windscreen during all measurements. The sound level meter was calibrated before and after the monitoring using a Larson-Davis calibrator, Model CAL 200. The accuracy of the calibrator is maintained through a program established through the manufacturer and is traceable to the National Bureau of Standards. The unit meets the requirements of ANSI Standard S1.4-1984 and IEC Standard 942: 1988 for Class 1 equipment. All noise level measurement equipment meets American National Standards Institute (ANSI) specifications for sound level meters (S1.4-1983 identified in Chapter 19.68.020.AA).

All noise measurement durations were measured according to the standards stated in Section N-3320 of Caltrans Technical Noise Supplement (TeNS), which specifies that the measurements be a duration of at least 10 minutes and shall be continued past 10 minutes until the fluctuations in the displayed Leq is less than 0.5 dBA.

5.1.2 - 24-Hour Noise Measurements

The 24-hour noise measurements were taken using an Extech Model 407780 Type 2 integrating sound level meter programmed in “slow” mode to record the sound pressure level at 5-second intervals for 24 hours in “A” weighted form. In addition, the Leq averaged over the entire measuring time was also recorded. The sound level meter and microphone were mounted on a tripod five feet above the ground and was equipped with a windscreen during all measurements. The sound level

meter was calibrated before and after the monitoring using an Extech calibrator, Model 407766. All noise level measurement equipment meets American National Standards Institute (ANSI) specifications for sound level meters (S1.4-1983 identified in Chapter 19.68.020.AA).

5.2 - Noise Measurement Locations

The project site is located in a developed area. The project site is specifically bounded by Bishop Drive and Bishop Ranch 3 to the north, Iron Horse Trail, San Ramon Central Park, a hotel, commercial and single-family residential uses to the east, single-family residential to the south, and Sunset Drive and commercial office and retail to the west. Besides the local roadways, the project site is primarily impacted by noise from Interstate 680, which is located approximately 1,500 feet west of the project site.

The offsite short-term peak hour noise-monitoring locations were selected by Michael Brandman Associates based on the potential for impacts from noise level increases due to the development of the proposed project. Site 1 is located approximately 50 feet west of the centerline of San Ramon Valley Boulevard, approximately 25 feet north of the centerline of Talavera Drive, and approximately 120 feet west of the right-of-way for Interstate 680. Site 2 is located approximately 50 feet west of the centerline of Bollinger Canyon Road and approximately 25 feet north of the centerline of Aranda Drive. Site 3 is located approximately 50 feet west of the centerline of Sunset Drive and approximately 50 feet south of Shops at Bishop Ranch. Site 4 is located approximately 100 feet south of the centerline of Bollinger Canyon Road and approximately 50 feet east of the centerline of Bishop Ranch East. Site 5 is located on the southeastern portion of the project site at the southeastern edge of the existing parking lot. Site 6 is located approximately 20 feet north of the water feature located in Bishop Ranch 2. Site 7 is located approximately 90 feet south of the centerline of Bollinger Canyon Road and approximately 240 feet west of Canyon Lakes Drive. Site 8 is located approximately 50 feet southeast of the centerline of Woodview Circle and approximately 250 feet northwest of the centerline of Bollinger Canyon Road. Site 9 is located approximately 200 feet northeast of the centerline of Alcosta Boulevard and approximately 50 feet southeast of the centerline of Bollinger Canyon Road. The noise measurements were recorded between 3:20 p.m. and 6:20 p.m. on June 4, 2007 and between 7:10 a.m. and 9:35 a.m. on June 5, 2007. On June 4, 2007, the temperature was 76 degrees Fahrenheit, barometric pressure was 29.50 inches of mercury, with wind gusts up to 8 miles per hour during the noise measurement readings. On June 5, 2007, the temperature was 60 degrees Fahrenheit, barometric pressure was 29.47 inches of mercury, and the wind speed was around 5 miles per hour during the noise measurement readings.

The onsite 24-hour noise monitoring locations were selected by Michael Brandman Associates in order to assess the existing ambient noise levels currently impacting the project site and to determine the noise generated from a parking structure. Site A is located approximately 160 feet southeast of the southern Bishop Ranch 3 parking structure and approximately 25 feet from the centerline of Iron Horse Trail in the northeast corner of the project site. Site B is located approximately 20 feet from

the south side and 75 feet from the east side of the southern Bishop Ranch 3 parking structure, in the northeast corner of the project site. Exhibit 5 shows both the short-term peak hour and 24-hour noise monitoring sites. Appendix B includes a photo index of the study area and noise level measurement locations.

5.3 - Noise Measurement Results

5.3.1 - Short-Term Peak Hour Measurement Results

The results of the offsite short-term peak hour noise level measurements are presented in Table C. Except for Site 6, which measured the steady noise from the water feature, all other noise level measurements were monitored for a minimum time period of 10 minutes. The existing noise level measurements ranged from 51.6 to 72.5 dBA Leq, with the highest noise measurement at Site 9.

Table C: Existing (Ambient) Offsite Short-Term Noise Level Measurements

Site No.	Site Description	Primary Noise Source	Start Time and (Measurement Length - Minutes)	Noise Level (dBA Leq)
1	Located approximately 50 feet west of the centerline of San Ramon Valley Boulevard, approximately 25 feet north of the centerline of Talavera Drive, and approximately 120 feet west of the right-of-way for Interstate 680.	Traffic noise from Interstate 680 and San Ramon Valley Boulevard.	3:22 p.m. (15:30)	71.8
			7:11 a.m. (10:01)	71.9
2	Located approximately 50 feet west of the centerline of Bollinger Canyon Road and approximately 25 feet north of the centerline of Aranda Drive.	Traffic noise from Bollinger Canyon Road.	3:53 p.m. (12:00)	65.0
			7:26 a.m. (10:30)	65.5
3	Located approximately 50 feet west of the centerline of Sunset Drive and approximately 50 feet south of Shops at Bishop Ranch.	Traffic noise from Sunset Drive.	4:16 p.m. (11:00)	67.1
			7:50 a.m. (10:00)	65.1
4	Located approximately 100 feet south of the centerline of Bollinger Canyon Road and approximately 50 feet east of the centerline of Bishop Ranch East.	Traffic noise from Bollinger Canyon Road.	4:34 p.m. (11:30)	64.6
			8:04 a.m. (10:30)	63.9
5	Located on the southeastern portion of the project site at the southeastern edge of the existing parking lot.	Traffic noise from Interstate 680.	4:51 p.m. (10:00)	51.6
			8:18 a.m. (10:00)	52.0
6	Located approximately 20 feet north of the water feature located in Bishop Ranch 2.	Water feature noise.	5:06 p.m. (5:00)	66.3
			8:34 a.m. (4:00)	66.2
7	Located approximately 90 feet south of the centerline of Bollinger Canyon Road and approximately 240 feet west of Canyon Lakes Drive.	Traffic noise from Bollinger Canyon Road.	5:28 p.m. (12:30)	69.6
			8:46 a.m. (11:59)	70.0



Source: Thomas Guide Digital Edition 2007 and Vista Environmental.



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Michael Brandman Associates

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Exhibit 5 Noise Measurement Locations

Table C (Cont.): Existing (Ambient) Offsite Short-Term Noise Level Measurements

Site No.	Site Description	Primary Noise Source	Start Time and (Measurement Length - Minutes)	Noise Level (dBA Leq)
8	Located approximately 50 feet southeast of the centerline of Woodview Circle and approximately 250 feet northwest of the centerline of Bollinger Canyon Road.	Traffic noise from Bollinger Canyon Road and Interstate 680.	5:49 p.m. (11:30)	50.8
			9:04 a.m. (10:00)	52.6
9	Located approximately 200 feet northeast of the centerline of Alcosta Boulevard and approximately 50 feet southeast of the centerline of Bollinger Canyon Road.	Traffic noise from Bollinger Canyon Road and Alcosta Boulevard.	6:09 p.m. (11:00)	72.5
			9:21 a.m. (11:30)	70.4
<p>Notes: Weather conditions for June 4, 2007 p.m.: Partly Cloudy, temperature 76 degrees Fahrenheit, barometric pressure 29.50 inches of mercury, with wind gusts up to 8 miles per hour. For June 5, 2007 a.m.: Partly cloudy, temperature 60 degrees Fahrenheit, barometric pressure 29.47 inches of mercury, and the wind speed was around 5 miles per hour. Source: Noise measurements taken by Michael Brandman Associates.</p>				

The noise level measurements were taken during both the peak afternoon and morning traffic periods. The noise level difference between the two measurements time are all within 1 dBA except for Site 3, where there was noticeably less traffic entering The Shops at Bishop Ranch during the morning peak hour and for Sites 8 and 9, where the morning noise measurements were taken towards the end of the morning peak traffic period.

The noise measurement results show that except for Sites 5 and 8, the remaining sites exceed the City’s exterior noise standards of 60 dBA for noise sensitive residential areas. The noise monitoring data printouts are included in Appendix C. According to Section N-2230 of the TeNS, the CNEL values are generally within plus or minus 2 dBA of the measured peak hour Leq dBA.

5.3.2 - 24-Hour Measurement Results

The two onsite 24-hour measurements were taken from 10:53 p.m. on June 4, 2007 and ran until 11:12 a.m. on June 5, 2007. Site A was positioned to capture the ambient noise of the project site, without the noise impacts from the local roadways. Site B was positioned to capture the noise levels generated from the southern Bishop Ranch 3 parking structure. At 2:30 p.m. on June 4, 2007, there were 311 vehicles parked in the parking structure, and it is assumed approximately that number of vehicles enter and leave the parking structure each day. Around 10 a.m. on June 5, 2007, maintenance workers were scraping peeling paint off the parking structure and utilizing a gas powered vacuum to pick up the paint flakes, which is not part of the typical daily maintenance, so the measured parking structure noise levels should be considered as worst-case noise levels for a parking structure.

The measured sound pressure levels in dBA have been used to calculate; the minimum and maximum Leq averaged over 10-minute intervals, and the 24-hour CNEL, which are shown in Table D along

with the measured Leq averaged over the entire measurement time. In addition, a graph of the calculated Leq averaged over 10-minute intervals for both 24-hour measurements is shown in Exhibit 6.

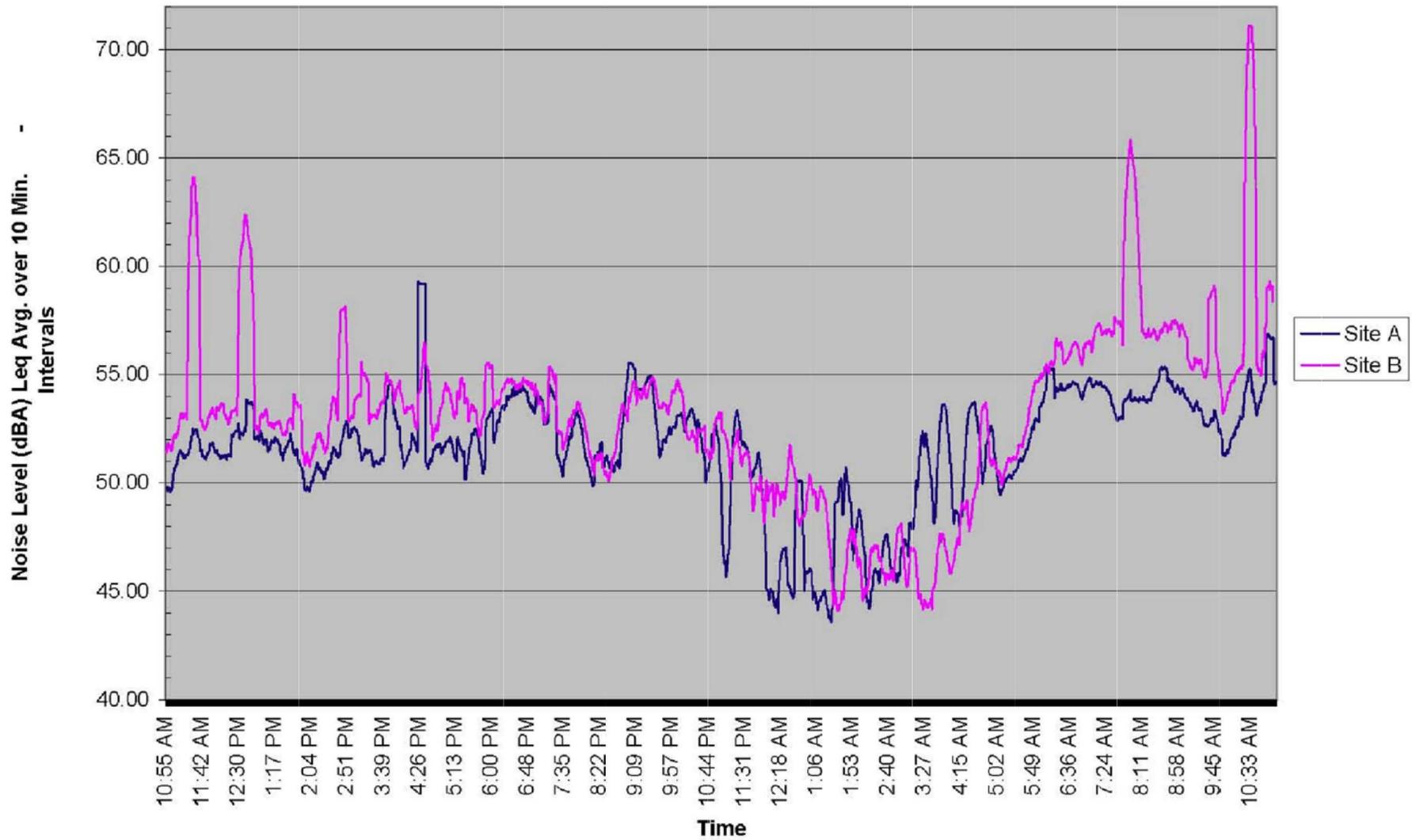
Table D: Existing (Ambient) Onsite 24-Hour Noise Level Measurements

Site No.	Site Description	24-Hour Average (dBA Leq)	Minimum 10-Minute Interval (dBA Leq/Time)	Maximum 10-Minute Interval (dBA Leq/Time)	24-Hour Average (dBA CNEL)
A	Located approximately 160 feet southeast of the southern Bishop Ranch 3 parking structure and approximately 25 feet from the centerline of Iron Horse Trail in the northeast corner of the project site.	52.5	43.6/ 1:25 a.m.	59.3/ 4:25 p.m.	58.0
B	Located approximately 20 feet from the south side and 75 feet from the east side of the southern Bishop Ranch 3 parking structure, in the northeast corner of the project site.	55.7	44.1/ 1:34 a.m.	71.1/ 10:31 a.m.	59.4

Source: Noise measurements taken by Michael Brandman Associates on June 4 and 5, 2007.

Table D above shows that the existing ambient noise level for the northern portion of the project site, represented by Site A, is 52.5 dBA, which is consistent with the short-term peak noise measurements for Site 5, which measured the ambient noise levels at the southern portion of the project site. Table D and Exhibit 6 above also show that the southern Bishop Ranch 3 parking structure produces a noise level of 3.2 dBA Leq above the ambient noise level. The 24-hour noise monitoring data printouts are included in Appendix C.

24-Hour Noise Measurements



Source: Extech Model 407780 Type 2 Intergrating Sound Level Meter and Vista Environmental.



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Exhibit 6 24-Hour Noise Measurement Graphs

CITY OF SAN RAMON • SAN RAMON CITY CENTER PROJECT
NOISE IMPACT ANALYSIS

SECTION 6: SHORT-TERM CONSTRUCTION IMPACTS

Construction noise and vibration represents a short-term increase in ambient noise and vibration levels. Noise and vibration impacts from construction activities associated with the proposed project would be a function of the noise and vibration generated by construction equipment, equipment location, sensitivity of nearby land uses, and the timing and duration of the construction activities.

The construction activities for the proposed project are anticipated to include demolition of 194,652 square feet of office space spread amongst several multi-story office structures, ground clearing/excavation and grading of approximately 43.65 acres of land and construction of 2,168,466 square feet of mixed uses. The following describes the anticipated construction schedule:

- Plaza District - Construction starts in fall 2008 with completion and opening November 2010.
- Bishop Ranch 1A - The first Bishop Ranch 1A office building starts in mid-2008 with a construction period of 14 months.
- Bishop Ranch 1A - Parking structure starts in mid-2008 with a construction period of 10 months; the second office building starts mid-2009 with a construction period of 14 months.
- Bishop Ranch 1 - Parking structure starts in mid-2009 with a construction period of 10 months. The third office building starts in mid-2010 with a construction period of 14 months.
- City Hall and Transit Center - Construction begins mid-2009 with a construction period of 18 months.

The following section provides a discussion of construction noise and vibration assumptions and an analysis of potential short-term construction impacts associated with the proposed project.

6.1 - Potential Short-Term Construction Noise Impacts

Short-term noise impacts could occur during construction activities from either the noise impacts created from the transport of workers and movement of construction materials to and from the project site, or from the noise generated onsite during; demolition, ground clearing/excavation, grading, and construction activities.

6.1.1 - Construction Noise Occurring Offsite

The transport of workers and movement of construction materials could incrementally increase the noise levels along nearby roadways. In order for offsite roadway noise impacts created by construction trips associated with the proposed project to be considered significant, the offsite roadway noise levels would have to increase by 5 dBA CNEL and the resulting noise level would have to exceed the City's 60 dBA CNEL exterior noise standard for noise sensitive uses. This criteria for significance has been previously discussed above in Section 4.0. The greatest construction-related

offsite noise impact is expected to occur when the existing 194,652 square feet of the Bishop Ranch 2 office park is demolished and the debris is hauled offsite. According to the URBEMIS2002 Model default settings this would require haul trucks to make approximately 45 round-trips per day for 20 days.

According to the Traffic Analysis, construction traffic would not be permitted east of the Bollinger Canyon Road and Bishop Ranch East intersection or north of Bishop Drive. With this limitation, no offsite noise sensitive land uses would be impacted by the construction-related traffic. Therefore, no significant impact is anticipated due to construction noise impacts that would occur off the project site.

6.1.2 - Construction Noise Occurring Onsite

The project site is specifically bounded by Bishop Drive and Bishop Ranch 3 to the north, Iron Horse Trail, San Ramon Central Park, a hotel, commercial, and apartment and single-family residential uses to the east, single-family residential to the south, and Sunset Drive and commercial office and retail to the west. The closest noise sensitive land uses include; a Marriott Residence Inn located approximately 180 feet east of the nearest construction activity and apartment homes located approximately 210 feet east of the nearest construction activity. In addition, the nearest Iron Horse Middle School classrooms are approximately 2,000 feet from the northeast corner of the project site.

The Marriott Residence Inn would experience the greatest noise impact during the construction of the Bishop Ranch 1A third office building, which is anticipated to occur mid 2010 and last for 14 months. The apartment homes to the east would experience the greatest noise impact during the construction of the Bishop Ranch 1 Parking Structure, which is anticipated to start mid 2009 and last for 10 months. Iron Horse Middle School would experience the greatest noise impacts during the construction of Block F of the Plaza District, which is anticipated to start in the fall of 2008 and be completed by November 2010.

Construction noise impacts onto the nearby sensitive receptors have been calculated according to the methodology presented in Section 2.0 and through the use of the RCNM. Pile drivers may be used during the construction of; Bishop Ranch 1A third office building, Bishop Ranch 1 Parking Structure and Block F of the Plaza District, which would be the noisiest phase of construction. Along with the operation of a pile driver, it was assumed that the simultaneous operation of an excavator, and a front end loader would occur. The individual noise levels of the various types of equipment have been previously shown above in Table A. The results of the construction noise impacts are shown below in Table E and the RCNM model printouts are provided in Appendix D.

Table E: Construction Noise Impacts

Land Use	Distance to Nearest Construction	Combined Equipment Noise Level	
		dBA Lmax	dBA Leq
Marriott Residence Inn	180	90.1	83.3
Apartments to the East	210	88.8	81.9
Iron Horse Middle School	2,000	69.2	62.4
Source: FHWA Roadway Construction Noise Model Version 1.0.			

Table E above shows that the Marriott Residence Inn located approximately 180 feet east of the nearest construction will experience the greatest construction noise impact from the proposed project with combined maximum average noise levels from the construction equipment at 83.3 dBA Leq.

Since construction noise is of a temporary nature, the City does not require noise mitigations to specific levels. However, they do require construction-related operational considerations such as limitation on the hours of construction and proper maintenance of sound attenuation equipment on construction equipment. With application of the of the City’s regulatory requirements from the General Plan Noise Element, the short-term construction-related noise from the proposed project will not result in a short-term significant noise impact.

6.2 - Potential Short-Term Construction Vibration Impacts

Construction activities can produce vibration that may be felt by adjacent uses. The primary sources of vibration during construction will potentially be from pile drivers, which are known to generate substantial vibration levels. From Table B, an impact pile driver truck will be the piece of equipment that will produce the largest amount of vibration on the project site with an upper range of 1.518 PPV or 112 VdB at 25 feet.

The closest potentially impacted land from vibration includes the Marriott Residence Inn located approximately 180 feet east of the nearest construction activities. It is anticipated that the vibration levels created at the Marriott Residence Inn caused by an impact pile driver operating on the eastern portion of the Bishop Ranch 1A third office building would be around 95 VdB. This vibration level is below the 106 VdB significance level discussed in Section 4.0. Therefore, the short-term construction-related vibration from the proposed project will not result in a significant vibration impact.

SECTION 7: LONG-TERM OPERATIONS NOISE IMPACTS

The on-going operation of the proposed project would result in a long-term increase in ambient noise levels. Potential noise impacts associated with the operations of the proposed project are a result of project-generated vehicular traffic on the project vicinity roadways. The following section provides an analysis of potential long-term offsite noise impacts and onsite interior noise and vibration impacts associated with the on-going operations of the proposed project.

7.1 - Potential Offsite Vehicular Noise Impacts

The following provides a discussion of the methodology used to calculate the offsite traffic noise impacts and an analysis of the proposed project's offsite traffic noise impacts created from the on-going operations of the proposed project.

7.1.1 - Methodology

Noise from motor vehicles is generated by engine vibrations, the interaction between tires and the road, and the exhaust system. The following describes the FHWA Traffic noise prediction model, the model inputs, and the model calibration to the field noise measurements.

FHWA-RD-77-108 Traffic Noise Prediction Model

The projected roadway noise impacts from vehicular traffic were projected using a computer program that replicates the FHWA Traffic Noise Prediction Model FHWA-RD-77-108. The FHWA-RD-77-108 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 reference energy mean emission level to account for: 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) and the percentage of (ADT) which flows during the day, evening and night, the travel speed, the vehicle mix on the roadway, which is a percentage of the volume of automobiles, medium trucks and heavy trucks, the roadway grade, the angle of view of the observer exposed to the roadway, the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement or landscaping).

Traffic Noise Prediction Model Inputs

The roadway parameters used for this study are presented below in Table F. The roadway classifications are based on the City's General Plan Circulation Element. The roadway speed is based on the posted speed limits. Soft site conditions were used to develop noise contours and analyze noise impacts to the project site.

Table F: Roadway Parameters

Roadway	Segment	General Plan Classification	Vehicle Speed (MPH)	Site
Bollinger Canyon Road	South of Crow Canyon Road	2-lane Arterial	35	Soft
	North of Norris Canyon Road	2-lane Arterial	35	Soft
	South of Norris Canyon Road	4-lane Arterial	40	Soft
San Ramon Valley Boulevard	North of Crow Canyon Road	4-lane Arterial	35	Soft
	North of Norris Canyon Road	4-lane Arterial	35	Soft
	North of Bollinger Canyon Road	4-lane Arterial	40	Soft
	South of Bollinger Canyon Road	4-lane Arterial	40	Soft
	South of Montevideo Drive	4-lane Arterial	40	Soft
Sunset Drive	South of Bishop Drive	4-lane Collector	35	Soft
	North of Bollinger Canyon Road	4-lane Collector	35	Soft
Camino Ramon	North of Crow Canyon Road	4-lane Collector	35	Soft
	North of Norris Canyon Road	4-lane Collector	35	Soft
	North of Executive Parkway	4-lane Collector	35	Soft
	North of Bishop Drive	4-lane Collector	35	Soft
	North of Bollinger Canyon Road	4-lane Collector	35	Soft
	South of Bollinger Canyon Road	4-lane Collector	35	Soft
Bishop Ranch East	South of Bollinger Canyon Road	2-lane Collector	30	Soft
Market	South of Bollinger Canyon Road	4-lane Collector	35	Soft
Alcosta Boulevard	North of Norris Canyon Road	4-lane Arterial	40	Soft
	North of Bollinger Canyon Road	4-lane Arterial	40	Soft
	South of Bollinger Canyon Road	4-lane Arterial	40	Soft
	South of Montevideo Drive	4-lane Arterial	40	Soft
	North of Old Ranch Road	4-lane Arterial	40	Soft
	South of Old Ranch Road	4-lane Arterial	40	Soft
Canyon Lakes Road	North of Bollinger Canyon Road	2-lane Collector	30	Soft
Dougherty Road	South of Crow Canyon Road	6-lane Arterial	40	Soft
	North of Bollinger Canyon Road	6-lane Arterial	40	Soft
	North of Old Ranch Road	6-lane Arterial	40	Soft
	South of Old Ranch Road	6-lane Arterial	40	Soft
Crow Canyon Road	West of Bollinger Canyon Road	4-lane Arterial	40	Soft
	East of Bollinger Canyon Road	6-lane Arterial	40	Soft
	West of San Ramon Valley Boulevard	6-lane Arterial	40	Soft

Table F (Cont.): Roadway Parameters

Roadway	Segment	General Plan Classification	Vehicle Speed (MPH)	Site
<i>cont.</i>	West of Camino Ramon	8-lane Arterial	40	Soft
	East of Camino Ramon	8-lane Arterial	40	Soft
	East of Alcosta Boulevard	6-lane Arterial	40	Soft
	West of Dougherty Road	6-lane Arterial	40	Soft
	East of Dougherty Road	6-lane Arterial	40	Soft
Norris Canyon Road	West of Bollinger Canyon Road	2-lane Collector	30	Soft
	West of San Ramon Valley Boulevard	4-lane Collector	35	Soft
	West of Camino Ramon	4-lane Collector	35	Soft
Bishop Drive	West of Sunset Drive	4-lane Collector	35	Soft
	West of Camino Ramon	4-lane Collector	35	Soft
	East of Camino Ramon	4-lane Collector	35	Soft
Bollinger Canyon Road	West of San Ramon Valley Boulevard	4-lane Arterial	40	Soft
	West of Sunset Drive	8-lane Arterial	40	Soft
	West of Camino Ramon	8-lane Arterial	40	Soft
	East of Camino Ramon	8-lane Arterial	40	Soft
	East of Bishop Ranch East	8-lane Arterial	40	Soft
	East of Market	8-lane Arterial	40	Soft
	East of Alcosta Boulevard	6-lane Arterial	40	Soft
	East of Canyon Lakes Drive	6-lane Arterial	40	Soft
	West of Dougherty Road	6-lane Arterial	40	Soft
East of Dougherty Road	6-lane Arterial	40	Soft	
Montevideo Drive	East of San Ramon Valley Boulevard	2-lane Collector	30	Soft
	West of Alcosta Boulevard	2-lane Collector	30	Soft
Old Ranch Road	East of Alcosta Boulevard	4-lane Arterial	40	Soft
	West of Dougherty Road	4-lane Arterial	40	Soft
Source: City of San Ramon General Plan Circulation Element				

In order to determine the offsite project generated traffic noise impacts, the average daily traffic volumes on the study area roadways were obtained from the Traffic Analysis. The ADT volumes were provided for the existing, existing with project, year 2020 baseline, and year 2020 baseline with project scenarios. The ADT volumes are shown below in Table G.

Table G: Average Daily Traffic

Roadway	Segment	Average Daily Traffic			
		Existing	Existing With Project	Year 2020 No Project	Year 2020 With Project
Bollinger Canyon Road (North-South)	South of Crow Canyon Road	5,010	6,106	6,410	7,364
	North of Norris Canyon Road	7,105	8,201	8,755	9,709
	South of Norris Canyon Road	8,810	9,906	10,830	11,784
San Ramon Valley Boulevard	North of Crow Canyon Road	20,300	20,997	23,910	24,544
	North of Norris Canyon Road	12,585	12,998	15,225	15,575
	North of Bollinger Canyon Road	13,400	13,813	15,985	16,745
	South of Bollinger Canyon Road	23,175	23,759	26,080	28,935
	South of Montevideo Drive	16,650	16,954	21,455	21,727
Sunset Drive	South of Bishop Drive	9,090	15,822	11,985	15,017
	North of Bollinger Canyon Road	15,050	22,206	19,420	23,246
Camino Ramon	North of Crow Canyon Road	9,485	9,553	11,485	11,553
	North of Norris Canyon Road	14,540	19,242	17,775	22,033
	North of Executive Parkway	13,915	19,015	16,885	21,509
	North of Bishop Drive	13,905	19,115	16,800	21,533
	North of Bollinger Canyon Road	14,765	13,163	9,815	14,410
	South of Bollinger Canyon Road	4,015	10,737	4,430	9,454
Bishop Ranch East	South of Bollinger Canyon Road	1,685	5,982	1,925	4,787
Market	South of Bollinger Canyon Road	7,540	7,990	8,685	9,071
Alcosta Boulevard	North of Norris Canyon Road	15,690	16,432	18,975	19,574
	North of Bollinger Canyon Road	16,300	17,042	19,815	20,414
	South of Bollinger Canyon Road	17,375	20,983	21,120	24,474
	South of Montevideo Drive	9,630	11,306	11,650	13,198
	North of Old Ranch Road	7,915	9,591	9,625	11,173
	South of Old Ranch Road	8,210	9,108	9,985	10,819
Canyon Lakes Road	North of Bollinger Canyon Road	6,075	6,599	7,065	7,525
Dougherty Road	South of Crow Canyon Road	15,245	15,763	18,630	19,084
	North of Bollinger Canyon Road	14,760	15,278	31,930	32,384
	North of Old Ranch Road	19,945	20,307	24,625	24,955
	South of Old Ranch Road	21,050	21,466	25,990	26,374

Table G (Cont.): Average Daily Traffic

Roadway	Segment	Average Daily Traffic			
		Existing	Existing With Project	Year 2020 No Project	Year 2020 With Project
Crow Canyon Road	West of Bollinger Canyon Road	17,115	19,307	24,960	26,868
	East of Bollinger Canyon Road	16,580	17,676	24,200	25,154
	West of San Ramon Valley Boulevard	28,940	30,036	33,500	34,454
	West of Camino Ramon	36,010	38,740	43,540	45,936
	East of Camino Ramon	33,685	35,590	40,730	42,524
	East of Alcosta Boulevard	32,220	34,867	39,075	41,468
	West of Dougherty Road	19,635	21,243	23,785	25,233
	East of Dougherty Road	29,000	30,090	35,215	36,209
Norris Canyon Road	West of Bollinger Canyon Road	5,315	5,933	6,270	6,856
	West of San Ramon Valley Boulevard	9,855	10,473	11,915	12,501
	West of Camino Ramon	10,625	11,023	12,890	13,256
Bishop Drive	West of Sunset Drive	5,835	6,013	6,300	6,478
	West of Camino Ramon	3,155	9,790	5,040	9,565
	East of Camino Ramon	2,160	11,872	6,340	12,707
Bollinger Canyon Road (East-West)	West of San Ramon Valley Boulevard	13,365	14,461	15,300	17,429
	West of Sunset Drive	51,495	63,375	59,095	69,306
	West of Camino Ramon	38,005	45,877	42,305	50,619
	East of Camino Ramon	32,195	36,093	33,560	39,659
	East of Bishop Ranch East	31,730	42,572	39,370	49,178
	East of Market	27,100	37,492	33,315	42,737
	East of Alcosta Boulevard	26,405	32,447	34,110	43,533
	East of Canyon Lakes Drive	20,820	26,338	25,605	30,615
	West of Dougherty Road	18,285	23,085	25,180	29,534
	East of Dougherty Road	17,345	21,055	24,805	28,197
Montevideo Drive	East of San Ramon Valley Boulevard	13,435	13,717	18,030	18,280
	West of Alcosta Boulevard	4,395	6,327	5,345	7,151
Old Ranch Road	East of Alcosta Boulevard	7,160	7,938	8,775	9,489
	West of Dougherty Road	5,305	6,083	6,555	7,269

Table G (Cont.): Average Daily Traffic

Roadway	Segment	Average Daily Traffic			
		Existing	Existing With Project	Year 2020 No Project	Year 2020 With Project
Bollinger Canyon Road	South of Crow Canyon Road	5,010	6,106	6,410	7,364
	North of Norris Canyon Road	7,105	8,201	8,755	9,709
	South of Norris Canyon Road	8,810	9,906	10,830	11,784
San Ramon Valley Boulevard	North of Crow Canyon Road	20,300	20,997	23,910	24,544
	North of Norris Canyon Road	12,585	12,998	15,225	15,575
	North of Bollinger Canyon Road	13,400	13,813	15,985	16,745
	South of Bollinger Canyon Road	23,175	23,759	26,080	28,935
	South of Montevideo Drive	16,650	16,954	21,455	21,727
Sunset Drive	South of Bishop Drive	9,090	15,822	11,985	15,017

Source: Draft Traffic Operations Evaluation for San Ramon City Center Project, prepared by DMJM Harris, June 2007.

Table H presents the hourly traffic flow distribution (vehicle mix) used in for this analysis. The vehicle mix provides the hourly distribution percentages of automobile, medium trucks and heavy trucks for input into the FHWA-RD-77-108 Model.

Table H: Roadway Vehicle Mix

Vehicle Type	Day (7 a.m. to 7p.m.)	Evening (7 p.m. to 10 p.m.)	Night (10 p.m. to 7 a.m.)	Overall
Major, Arterial, or Expressway				
Automobiles	69.50%	12.90%	9.60%	92.00%
Medium Trucks	1.44%	0.06%	1.50%	3.00%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%
Secondary, Collector or Local				
Automobiles	73.60%	13.60%	10.22%	97.40%
Medium Trucks	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	0.35%	0.04%	0.35%	0.74%

Source: Typical vehicle mixes in California.

Source Assumptions

To assess the roadway noise generation in a uniform manner, all vehicles were analyzed at the single lane equivalent acoustic center of the roadway being analyzed. In order to determine the height above the road grade where the noise is being emitted from, each type of vehicle has been analyzed independently with autos at road grade, medium trucks at 2.3 feet above road grade, and heavy trucks

at 8 feet above road grade. These elevations were determined through a noise-weighted average of the elevation of the exhaust pipe, tires, and mechanical parts in the engine, which are the primary noise emitters from a vehicle.

7.1.2 - Model Results

The potential offsite noise impacts caused through the increase in vehicular traffic from the on-going operations from the proposed project on to the project study area roadways has been analyzed for the following five traffic scenarios:

- Existing Condition: This scenario refers to the existing traffic noise conditions, without construction of the proposed project.
- Existing Conditions plus project: This scenario refers to the existing traffic noise conditions based on the site's current conditions plus the additional noise generated by the project.
- 2020 Baseline Conditions: This scenario refers to the future traffic noise conditions based on the assumed regional growth shown in the Contra Costa Transportation Authority Countywide Travel Demand Model.
- 2020 Plus Project Conditions: This scenario refers to the 2020 Baseline Condition with the addition of traffic from the Flex Retail alternative project condition.

In order to quantify the traffic noise impacts along the analyzed roadways, the roadway noise contours were calculated. Noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway. For analysis comparison purposes, the Ldn and CNEL noise levels are calculated at 100 feet from the centerline. In addition, the distance from the centerline to the 55, 60, 65, and 70 dBA noise levels are calculated for both Ldn and CNEL standards.

Existing Conditions

The calculated existing condition noise contours are shown below in Table I and Appendix E. Table I shows that at 100 feet the analyzed segments of: San Ramon Valley Boulevard except for north of Norris Canyon Road, Sunset Drive north of Bollinger Canyon Road, Alcosta Boulevard north of Montevideo Road, Dougherty Road, Crow Canyon Road, and the east-west portion of Bollinger Canyon Road currently exceed the City's 60 dBA CNEL standard. The noise levels from all analyzed roadway segments range from 48.5 to 68.1 dBA CNEL.

Table I: Existing Noise Contours

Roadway	Segment	CNEL at 100 feet (dBA)	Distance to Contour (feet)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
Bollinger Canyon Road (North-South)	South of Crow Canyon Road	55.6	RW	RW	51	110
	North of Norris Canyon Road	57.1	RW	RW	64	139
	South of Norris Canyon Road	59.6	RW	44	94	203
San Ramon Valley Boulevard	North of Crow Canyon Road	61.8	RW	61	131	283
	North of Norris Canyon Road	59.7	RW	44	95	206
	North of Bollinger Canyon Road	61.4	RW	58	125	269
	South of Bollinger Canyon Road	63.8	39	83	180	387
	South of Montevideo Drive	62.4	RW	67	144	310
Sunset Drive	South of Bishop Drive	57.8	RW	RW	72	155
	North of Bollinger Canyon Road	60.0	RW	47	100	216
Camino Ramon	North of Crow Canyon Road	58.0	RW	RW	74	159
	North of Norris Canyon Road	59.9	21	46	98	212
	North of Executive Parkway	59.7	21	44	95	205
	North of Bishop Drive	59.7	RW	44	95	205
	North of Bollinger Canyon Road	59.9	RW	46	99	214
	South of Bollinger Canyon Road	54.3	RW	RW	42	90
Bishop Ranch East	South of Bollinger Canyon Road	48.5	RW	RW	RW	RW
Market	South of Bollinger Canyon Road	57.0	RW	RW	63	137
Alcosta Boulevard	North of Norris Canyon Road	61.9	RW	62	133	287
	North of Bollinger Canyon Road	62.3	RW	66	142	306
	South of Bollinger Canyon Road	62.6	RW	69	148	319
	South of Montevideo Drive	60.0	RW	46	100	216
	North of Old Ranch Road	59.2	RW	41	88	189
	South of Old Ranch Road	59.3	RW	42	90	194
Canyon Lakes Road	North of Bollinger Canyon Road	55.1	RW	RW	47	102
Dougherty Road	South of Crow Canyon Road	62.1	RW	RW	138	297
	North of Bollinger Canyon Road	62.2	RW	RW	140	302
	North of Old Ranch Road	63.5	RW	80	171	369
	South of Old Ranch Road	63.7	RW	82	178	383

Table I (Cont.): Existing Noise Contours

Roadway	Segment	CNEL at 100 feet (dBA)	Distance to Contour (feet)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
Crow Canyon Road	West of Bollinger Canyon Road	62.5	RW	68	147	316
	East of Bollinger Canyon Road	62.7	RW	70	151	326
	West of San Ramon Valley Boulevard	65.1	RW	102	220	473
	West of Camino Ramon	66.5	RW	126	272	586
	East of Camino Ramon	66.2	RW	121	260	560
	East of Alcosta Boulevard	65.6	RW	109	236	508
	West of Dougherty Road	63.4	RW	79	170	365
	East of Dougherty Road	65.1	RW	102	220	474
Norris Canyon Road	West of Bollinger Canyon Road	54.6	RW	RW	43	94
	West of San Ramon Valley Boulevard	58.2	RW	RW	76	163
	West of Camino Ramon	58.5	RW	RW	80	172
Bishop Drive	West of Sunset Drive	55.9	RW	RW	53	115
	West of Camino Ramon	53.2	RW	RW	RW	76
	East of Camino Ramon	51.6	RW	RW	RW	59
Bollinger Canyon Road (East-West)	West of San Ramon Valley Boulevard	61.2	RW	56	120	258
	West of Sunset Drive	68.1	RW	160	345	744
	West of Camino Ramon	66.8	RW	131	282	607
	East of Camino Ramon	66.0	RW	117	252	544
	East of Bishop Ranch East	66.0	RW	116	250	539
	East of Market	65.3	RW	104	225	485
	East of Alcosta Boulevard	64.7	RW	96	207	445
	East of Canyon Lakes Drive	63.7	RW	82	176	380
	West of Dougherty Road	63.1	RW	75	162	348
Montevideo Drive	East of San Ramon Valley Boulevard	58.6	RW	RW	81	174
	West of Alcosta Boulevard	52.6	RW	RW	RW	70
Old Ranch Road	East of Alcosta Boulevard	58.5	RW	37	79	170
	West of Dougherty Road	57.4	RW	RW	67	145

Note: RW = Noise contour is located within right-of-way of roadway.

Existing Plus Project Conditions

The calculated existing plus project noise contours are shown below in Table J and Appendix E. Table J shows that at 100 feet compared to the existing conditions; Bollinger Canyon Road south of Norris Canyon Road, Sunset Drive south of Bishop Drive, Camino Ramon from north of Norris Canyon Road to north of Bishop Drive, and Alcosta Boulevard south of Montevideo Drive would be the additional roadway segments that would exceed the City’s 60 dBA CNEL standard. The noise levels from all analyzed roadway segments will range from 54.0 to 69.0 dBA CNEL.

Table J: Existing Plus Project Noise Contours

Roadway	Segment	CNEL at 100 feet (dBA)	Distance to Contour (feet)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
Bollinger Canyon Road (North-South)	South of Crow Canyon Road	56.5	RW	RW	58	125
	North of Norris Canyon Road	57.7	RW	RW	71	152
	South of Norris Canyon Road	60.1	RW	47	102	220
San Ramon Valley Boulevard	North of Crow Canyon Road	61.9	RW	62	134	289
	North of Norris Canyon Road	59.8	RW	45	97	210
	North of Bollinger Canyon Road	61.6	RW	59	127	274
	South of Bollinger Canyon Road	63.9	39	85	183	393
	South of Montevideo Drive	62.5	RW	68	146	314
Sunset Drive	South of Bishop Drive	60.2	RW	48	104	224
	North of Bollinger Canyon Road	61.7	RW	60	130	281
Camino Ramon	North of Crow Canyon Road	58.1	RW	RW	74	160
	North of Norris Canyon Road	61.1	RW	55	118	255
	North of Executive Parkway	61.0	RW	55	117	253
	North of Bishop Drive	61.1	RW	55	118	254
	North of Bollinger Canyon Road	59.4	RW	43	92	198
	South of Bollinger Canyon Road	58.6	RW	RW	80	173
Bishop Ranch East	South of Bollinger Canyon Road	54.0	RW	RW	RW	85
Market	South of Bollinger Canyon Road	57.3	RW	RW	66	142
Alcosta Boulevard	North of Norris Canyon Road	62.1	RW	64	138	296
	North of Bollinger Canyon Road	62.5	RW	68	146	315
	South of Bollinger Canyon Road	63.4	36	78	168	362

Table J (Cont.): Existing Plus Project Noise Contours

Roadway	Segment	CNEL at 100 feet (dBA)	Distance to Contour (feet)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
<i>cont.</i>	South of Montevideo Drive	60.7	RW	52	111	240
	North of Old Ranch Road	60.0	RW	46	100	215
	South of Old Ranch Road	59.8	RW	45	96	208
Canyon Lakes Road	North of Bollinger Canyon Road	55.5	RW	RW	50	108
Dougherty Road	South of Crow Canyon Road	62.2	RW	RW	141	304
	North of Bollinger Canyon Road	62.4	RW	RW	143	309
	North of Old Ranch Road	63.6	RW	80	173	374
	South of Old Ranch Road	63.8	RW	84	180	388
Crow Canyon Road	West of Bollinger Canyon Road	63.0	RW	74	159	343
	East of Bollinger Canyon Road	63.0	RW	73	158	341
	West of San Ramon Valley Boulevard	65.3	RW	104	225	485
	West of Camino Ramon	66.8	RW	133	286	615
	East of Camino Ramon	66.5	RW	125	270	581
	East of Alcosta Boulevard	65.9	RW	115	249	536
	West of Dougherty Road	63.8	RW	83	179	385
	East of Dougherty Road	65.3	RW	105	225	486
Norris Canyon Road	West of Bollinger Canyon Road	55.0	RW	RW	47	101
	West of San Ramon Valley Boulevard	58.5	RW	RW	79	170
	West of Camino Ramon	58.7	RW	RW	82	176
Bishop Drive	West of Sunset Drive	56.0	RW	RW	55	117
	West of Camino Ramon	58.2	RW	RW	75	163
	East of Camino Ramon	59.0	RW	RW	86	185
Bollinger Canyon Road (East-West)	West of San Ramon Valley Boulevard	61.5	RW	59	126	272
	West of Sunset Drive	69.0	85	184	396	854
	West of Camino Ramon	67.6	RW	148	320	689
	East of Camino Ramon	66.5	RW	126	272	587
	East of Bishop Ranch East	67.2	RW	141	304	655
	East of Market	66.7	RW	130	279	602

Table J (Cont.): Existing Plus Project Noise Contours

Roadway	Segment	CNEL at 100 feet (dBA)	Distance to Contour (feet)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
<i>cont.</i>	East of Alcosta Boulevard	65.6	RW	110	237	511
	East of Canyon Lakes Drive	64.7	RW	96	206	444
	West of Dougherty Road	64.1	RW	88	189	407
	East of Dougherty Road	63.7	RW	82	178	383
Montevideo Drive	East of San Ramon Valley Boulevard	58.7	RW	RW	82	176
	West of Alcosta Boulevard	54.2	RW	RW	41	89
Old Ranch Road	East of Alcosta Boulevard	58.9	RW	39	85	182
	West of Dougherty Road	58.0	RW	RW	74	159

Note: RW = Noise contour is located within right-of-way of roadway.

Year 2020 Baseline

The calculated year 2020 baseline noise contours are shown below in Table K and Appendix E. The calculated noise measurements in Table K show that at 100 feet, compared to existing conditions, Bollinger Canyon Road south of Norris Canyon Road, San Ramon Valley Boulevard north of Norris Canyon Road, Sunset Drive south of Bishop Drive, Camino Ramon from north of Norris Canyon Road to north of Bishop Drive, and Alcosta Boulevard south of Montevideo Drive to south of Old Ranch Road would be the additional roadway segments that would exceed the City’s 60 dBA CNEL standard. The noise levels from all analyzed roadway segments will range from 49.1 to 68.7 dBA CNEL.

Table K: Year 2020 Baseline Noise Contours

Roadway	Segment	CNEL at 100 feet (dBA)	Distance to Contour (feet)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
Bollinger Canyon Road (North-South)	South of Crow Canyon Road	56.7	RW	RW	60	129
	North of Norris Canyon Road	58.0	RW	34	74	159
	South of Norris Canyon Road	60.5	RW	50	108	233
San Ramon Valley Boulevard	North of Crow Canyon Road	62.5	RW	68	146	315
	North of Norris Canyon Road	60.5	RW	50	108	233
	North of Bollinger Canyon Road	62.2	RW	65	140	302

Table K (Cont.): Year 2020 Baseline Noise Contours

Roadway	Segment	CNEL at 100 feet (dBA)	Distance to Contour (feet)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
<i>cont.</i>	South of Bollinger Canyon Road	64.3	42	90	194	419
	South of Montevideo Drive	63.5	37	79	171	368
Sunset Drive	South of Bishop Drive	59.0	RW	40	86	186
	North of Bollinger Canyon Road	61.1	RW	55	119	257
Camino Ramon	North of Crow Canyon Road	58.9	RW	RW	84	181
	North of Norris Canyon Road	60.8	RW	52	112	242
	North of Executive Parkway	60.5	RW	50	108	234
	North of Bishop Drive	60.5	RW	50	108	233
	North of Bollinger Canyon Road	58.2	RW	RW	76	163
	South of Bollinger Canyon Road	54.7	RW	RW	44	96
Bishop Ranch East	South of Bollinger Canyon Road	49.1	RW	RW	RW	40
Market	South of Bollinger Canyon Road	57.6	RW	RW	70	150
Alcosta Boulevard	North of Norris Canyon Road	62.7	RW	70	151	326
	North of Bollinger Canyon Road	63.1	RW	75	162	349
	South of Bollinger Canyon Road	63.4	36	78	169	364
	South of Montevideo Drive	60.8	RW	53	114	245
	North of Old Ranch Road	60.0	RW	46	100	215
	South of Old Ranch Road	60.2	RW	48	102	221
Canyon Lakes Road	North of Bollinger Canyon Road	55.8	RW	RW	53	113
Dougherty Road	South of Crow Canyon Road	63.0	RW	73	158	340
	North of Bollinger Canyon Road	65.6	RW	109	234	505
	North of Old Ranch Road	64.4	RW	92	197	425
	South of Old Ranch Road	64.7	RW	95	204	440
Crow Canyon Road	West of Bollinger Canyon Road	64.1	41	88	189	407
	East of Bollinger Canyon Road	64.3	RW	90	195	420
	West of San Ramon Valley Boulevard	65.8	RW	112	242	522
	West of Camino Ramon	67.3	RW	143	309	665
	East of Camino Ramon	67.1	RW	137	295	636
	East of Alcosta Boulevard	66.4	RW	125	268	578

Table K (Cont.): Year 2020 Baseline Noise Contours

Roadway	Segment	CNEL at 100 feet (dBA)	Distance to Contour (feet)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
<i>cont.</i>	West of Dougherty Road	64.3	RW	89	193	415
	East of Dougherty Road	66.0	RW	116	250	539
Norris Canyon Road	West of Bollinger Canyon Road	55.3	RW	RW	48	104
	West of San Ramon Valley Boulevard	59.0	RW	RW	86	185
	West of Camino Ramon	59.4	RW	42	91	195
Bishop Drive	West of Sunset Drive	56.2	RW	RW	56	121
	West of Camino Ramon	55.3	RW	RW	48	104
	East of Camino Ramon	56.3	RW	RW	56	122
Bollinger Canyon Road (East-West)	West of San Ramon Valley Boulevard	61.8	RW	61	131	283
	West of Sunset Drive	68.7	82	176	378	815
	West of Camino Ramon	67.2	RW	141	303	652
	East of Camino Ramon	66.2	RW	120	259	559
	East of Bishop Ranch East	66.9	RW	134	289	622
	East of Market	66.2	RW	120	258	556
	East of Alcosta Boulevard	65.8	RW	114	245	528
	East of Canyon Lakes Drive	64.6	RW	94	202	436
	West of Dougherty Road	64.5	RW	93	200	431
	East of Dougherty Road	64.5	RW	92	198	427
Montevideo Drive	East of San Ramon Valley Boulevard	59.9	RW	46	98	211
	West of Alcosta Boulevard	53.5	RW	RW	RW	79
Old Ranch Road	East of Alcosta Boulevard	59.4	RW	42	91	195
	West of Dougherty Road	58.3	RW	36	77	167

RW = Noise contour is located within right-of-way of roadway.

Year 2020 Baseline Plus Project

The calculated year 2020 baseline with project noise contours are shown below in Table L and Appendix E. The calculated noise measurements in Table L shows that at 100 feet, compared to year 2020 baseline conditions, no additional roadway segments would exceed the City’s 60-dBA CNEL standard. The noise levels from all analyzed roadway segments will range from 53.0 to 69.4 dBA CNEL.

Table L: Year 2020 Plus Project Noise Contours

Roadway	Segment	CNEL at 100 feet (dBA)	Distance to Contour (feet)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
Bollinger Canyon Road (North-South)	South of Crow Canyon Road	57.3	RW	RW	66	142
	North of Norris Canyon Road	58.5	RW	37	79	171
	South of Norris Canyon Road	60.9	RW	53	114	247
San Ramon Valley Boulevard	North of Crow Canyon Road	62.6	RW	69	149	321
	North of Norris Canyon Road	60.6	RW	51	110	237
	North of Bollinger Canyon Road	62.4	RW	67	145	312
	South of Bollinger Canyon Road	64.8	45	97	208	449
	South of Montevideo Drive	63.5	37	80	172	371
Sunset Drive	South of Bishop Drive	60.0	RW	47	100	216
	North of Bollinger Canyon Road	61.9	RW	62	134	289
Camino Ramon	North of Crow Canyon Road	58.9	RW	RW	84	181
	North of Norris Canyon Road	61.7	RW	60	130	279
	North of Executive Parkway	61.6	RW	59	127	275
	North of Bishop Drive	61.6	RW	59	128	275
	North of Bollinger Canyon Road	59.8	RW	45	98	210
	South of Bollinger Canyon Road	58.0	RW	RW	74	159
Bishop Ranch East	South of Bollinger Canyon Road	53.0	RW	RW	RW	74
Market	South of Bollinger Canyon Road	57.8	RW	RW	72	154
Alcosta Boulevard	North of Norris Canyon Road	62.8	RW	72	155	333
	North of Bollinger Canyon Road	63.3	36	77	165	356
	South of Bollinger Canyon Road	64.1	40	86	186	401
	South of Montevideo Drive	61.4	RW	57	123	266
	North of Old Ranch Road	60.6	RW	51	110	238
	South of Old Ranch Road	60.5	RW	50	108	233
Canyon Lakes Road	North of Bollinger Canyon Road	56.1	RW	RW	55	118
Dougherty Road	South of Crow Canyon Road	63.1	RW	74	160	345
	North of Bollinger Canyon Road	65.6	RW	110	237	510
	North of Old Ranch Road	64.5	RW	92	199	429
	South of Old Ranch Road	64.7	RW	96	206	445

Table L (Cont.): Year 2020 Plus Project Noise Contours

Roadway	Segment	CNEL at 100 feet (dBA)	Distance to Contour (feet)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
Crow Canyon Road	West of Bollinger Canyon Road	64.5	43	92	198	427
	East of Bollinger Canyon Road	64.5	RW	93	200	431
	West of San Ramon Valley Boulevard	65.9	RW	115	247	531
	West of Camino Ramon	67.6	RW	148	320	689
	East of Camino Ramon	67.2	RW	141	304	655
	East of Alcosta Boulevard	66.7	RW	130	279	601
	West of Dougherty Road	64.5	RW	93	200	432
	East of Dougherty Road	66.1	RW	118	255	549
Norris Canyon Road	West of Bollinger Canyon Road	55.7	RW	RW	51	111
	West of San Ramon Valley Boulevard	59.2	RW	41	89	191
	West of Camino Ramon	59.5	RW	43	92	199
Bishop Drive	West of Sunset Drive	56.4	RW	RW	57	123
	West of Camino Ramon	58.1	RW	RW	74	160
	East of Camino Ramon	59.3	RW	42	90	193
Bollinger Canyon Road (East-West)	West of San Ramon Valley Boulevard	62.3	RW	66	143	308
	West of Sunset Drive	69.4	91	195	421	907
	West of Camino Ramon	68.0	RW	158	341	735
	East of Camino Ramon	66.9	RW	135	290	625
	East of Bishop Ranch East	67.9	RW	155	335	721
	East of Market	67.3	RW	142	305	657
	East of Alcosta Boulevard	66.9	RW	134	288	621
	East of Canyon Lakes Drive	65.4	RW	106	228	491
	West of Dougherty Road	65.2	RW	103	223	480
	East of Dougherty Road	65.0	RW	100	216	465
Montevideo Drive	East of San Ramon Valley Boulevard	59.9	RW	46	99	213
	West of Alcosta Boulevard	54.8	RW	RW	45	96
Old Ranch Road	East of Alcosta Boulevard	59.7	RW	44	95	205
	West of Dougherty Road	58.8	RW	38	83	179

Note: RW = Noise contour is located within right-of-way of roadway.

7.1.3 - Project Impacts

In order for offsite roadway noise impacts created by the proposed project’s operations to be considered significant, the roadway noise levels would have to increase by 5 dBA CNEL and the resulting noise level would have to exceed the City’s 60 dBA CNEL exterior noise standard. This criterion for significance has been previously discussed in Section 4.0. The proposed project’s onsite and offsite noise impacts have been analyzed for the existing and year 2020 conditions and are discussed below.

Existing Conditions

The proposed project’s potential offsite noise impacts have been calculated through a comparison of the existing without project scenario to the existing with project scenario. The results of this comparison shown in Table M indicate that the noise level contributions from the proposed project to the study area roadways would range from -0.5 to 7.4 dBA CNEL. The greatest increase of 7.4 dBA CNEL would be anticipated to occur on Bishop Drive east of Camino Ramon. Although the proposed project would have the potential to result in a large increase in traffic-related noise on Bishop Drive east of Camino Ramon, the resulting with project noise level at 100 feet is expected to be 59.0 dBA CNEL which is less than the City’s threshold of 60 dBA CNEL. Therefore, for the existing conditions and based on thresholds of significance defined above, no significant long-term offsite noise impacts from project-related vehicle noise would occur along the study area roadways segments.

Table M: Project Contributions Under Existing Conditions

Roadway	Segment	CNEL at 100 feet			Potential Significant Impact?
		No Project	With Project	Project Contribution	
Bollinger Canyon Road (North-South)	South of Crow Canyon Road	55.6	56.5	0.9	No
	North of Norris Canyon Road	57.1	57.7	0.6	No
	South of Norris Canyon Road	59.6	60.1	0.5	No
San Ramon Valley Boulevard	North of Crow Canyon Road	61.8	61.9	0.1	No
	North of Norris Canyon Road	59.7	59.8	0.1	No
	North of Bollinger Canyon Road	61.4	61.6	0.2	No
	South of Bollinger Canyon Road	63.8	63.9	0.1	No
	South of Montevideo Drive	62.4	62.5	0.1	No
Sunset Drive	South of Bishop Drive	57.8	60.2	2.4	No
	North of Bollinger Canyon Road	60.0	61.7	1.7	No

Table M (Cont.): Project Contributions Under Existing Conditions

Roadway	Segment	CNEL at 100 feet			Potential Significant Impact?
		No Project	With Project	Project Contribution	
Camino Ramon	North of Crow Canyon Road	58.0	58.1	0.1	No
	North of Norris Canyon Road	59.9	61.1	1.2	No
	North of Executive Parkway	59.7	61.0	1.3	No
	North of Bishop Drive	59.7	61.1	1.4	No
	North of Bollinger Canyon Road	59.9	59.4	-0.5	No
	South of Bollinger Canyon Road	54.3	58.6	4.3	No
Bishop Ranch East	South of Bollinger Canyon Road	48.5	54.0	5.5	No
Market	South of Bollinger Canyon Road	57.0	57.3	0.3	No
Alcosta Boulevard	North of Norris Canyon Road	61.9	62.1	0.2	No
	North of Bollinger Canyon Road	62.3	62.5	0.2	No
	South of Bollinger Canyon Road	62.6	63.4	0.8	No
	South of Montevideo Drive	60.0	60.7	0.7	No
	North of Old Ranch Road	59.2	60.0	0.8	No
	South of Old Ranch Road	59.3	59.8	0.5	No
Canyon Lakes Road	North of Bollinger Canyon Road	55.1	55.5	0.4	No
Dougherty Road	South of Crow Canyon Road	62.1	62.2	0.1	No
	North of Bollinger Canyon Road	62.2	62.4	0.2	No
	North of Old Ranch Road	63.5	63.6	0.1	No
	South of Old Ranch Road	63.7	63.8	0.1	No
Crow Canyon Road	West of Bollinger Canyon Road	62.5	63.0	0.5	No
	East of Bollinger Canyon Road	62.7	63.0	0.3	No
	West of San Ramon Valley Boulevard	65.1	65.3	0.2	No
	West of Camino Ramon	66.5	66.8	0.3	No
	East of Camino Ramon	66.2	66.5	0.3	No
	East of Alcosta Boulevard	65.6	65.9	0.3	No

Table M (Cont.): Project Contributions Under Existing Conditions

Roadway	Segment	CNEL at 100 feet			Potential Significant Impact?
		No Project	With Project	Project Contribution	
<i>cont.</i>	West of Dougherty Road	63.4	63.8	0.4	No
	East of Dougherty Road	65.1	65.3	0.2	No
Norris Canyon Road	West of Bollinger Canyon Road	54.6	55.0	0.4	No
	West of San Ramon Valley Boulevard	58.2	58.5	0.3	No
	West of Camino Ramon	58.5	58.7	0.2	No
Bishop Drive	West of Sunset Drive	55.9	56.0	0.1	No
	West of Camino Ramon	53.2	58.2	5.0	No
	East of Camino Ramon	51.6	59.0	7.4	No
Bollinger Canyon Road (East-West)	West of San Ramon Valley Boulevard	61.2	61.5	0.3	No
	West of Sunset Drive	68.1	69.0	0.9	No
	West of Camino Ramon	66.8	67.6	0.8	No
	East of Camino Ramon	66.0	66.5	0.5	No
	East of Bishop Ranch East	66.0	67.2	1.2	No
	East of Market	65.3	66.7	1.4	No
	East of Alcosta Boulevard	64.7	65.6	0.9	No
	East of Canyon Lakes Drive	63.7	64.7	1.0	No
	West of Dougherty Road	63.1	64.1	1.0	No
Montevideo Drive	East of San Ramon Valley Boulevard	58.6	58.7	0.1	No
	West of Alcosta Boulevard	52.6	54.2	1.6	No
Old Ranch Road	East of Alcosta Boulevard	58.5	58.9	0.4	No
	West of Dougherty Road	57.4	58.0	0.6	No
Source:					

Table M above also shows that through development of the proposed project the noise would be reduced slightly for the segment of Camino Ramon north of Bollinger Road. This would be due to the removal of the Bishop Ranch 2 office complex, which would change the land use and result in a different traffic pattern.

Year 2020 Conditions

The proposed project’s potential offsite noise impacts have been calculated through a comparison of the Year 2020 without project scenario to the Year 2020 with project scenario. The results of this comparison shown in Table N indicate that the noise level contributions from the proposed project to the study area roadways would range from 0.0 to 3.9 dBA CNEL. The greatest increase of 3.9 dBA CNEL would be anticipated to occur on Bishop Ranch East south of Bollinger Canyon Road.

Although the proposed project will have the potential to result in a large increase in traffic-related noise on Bishop Ranch East south of Bollinger Canyon Road, the with project noise level at 100 feet is expected to be 53.0 CNEL which is less than the City’s threshold of 60 dBA CNEL. Therefore for the year 2020 conditions and based on thresholds of significance defined above, no significant long-term offsite noise impacts from project-related vehicle noise would occur along the study area roadways segments.

Table N: Year 2020 Plus Project Contributions

Roadway	Segment	CNEL at 100 feet			Potential Significant Impact?
		No Project	With Project	Project Contribution	
Bollinger Canyon Road (North-South)	South of Crow Canyon Road	56.7	57.3	0.6	No
	North of Norris Canyon Road	58.0	58.5	0.5	No
	South of Norris Canyon Road	60.5	60.9	0.4	No
San Ramon Valley Boulevard	North of Crow Canyon Road	62.5	62.6	0.1	No
	North of Norris Canyon Road	60.5	60.6	0.1	No
	North of Bollinger Canyon Road	62.2	62.4	0.2	No
	South of Bollinger Canyon Road	64.3	64.8	0.5	No
	South of Montevideo Drive	63.5	63.5	0.0	No
Sunset Drive	South of Bishop Drive	59.0	60.0	1.0	No
	North of Bollinger Canyon Road	61.1	61.9	0.8	No
Camino Ramon	North of Crow Canyon Road	58.9	58.9	0.0	No
	North of Norris Canyon Road	60.8	61.7	0.9	No
	North of Executive Parkway	60.5	61.6	1.1	No
	North of Bishop Drive	60.5	61.6	1.1	No
	North of Bollinger Canyon Road	58.2	59.8	1.6	No
	South of Bollinger Canyon Road	54.7	58.0	3.3	No

Table N (Cont.): Year 2020 Plus Project Contributions

Roadway	Segment	CNEL at 100 feet			Potential Significant Impact?
		No Project	With Project	Project Contribution	
Bishop Ranch East	South of Bollinger Canyon Road	49.1	53.0	3.9	No
Market	South of Bollinger Canyon Road	57.6	57.8	0.2	No
Alcosta Boulevard	North of Norris Canyon Road	62.7	62.8	0.1	No
	North of Bollinger Canyon Road	63.1	63.3	0.2	No
	South of Bollinger Canyon Road	63.4	64.1	0.7	No
	South of Montevideo Drive	60.8	61.4	0.6	No
	North of Old Ranch Road	60.0	60.6	0.6	No
	South of Old Ranch Road	60.2	60.5	0.3	No
Canyon Lakes Road	North of Bollinger Canyon Road	55.8	56.1	0.3	No
Dougherty Road	South of Crow Canyon Road	63.0	63.1	0.1	No
	North of Bollinger Canyon Road	65.6	65.6	0.0	No
	North of Old Ranch Road	64.4	64.5	0.1	No
	South of Old Ranch Road	64.7	64.7	0.0	No
Crow Canyon Road	West of Bollinger Canyon Road	64.1	64.5	0.4	No
	East of Bollinger Canyon Road	64.3	64.5	0.2	No
	West of San Ramon Valley Boulevard	65.8	65.9	0.1	No
	West of Camino Ramon	67.3	67.6	0.3	No
	East of Camino Ramon	67.1	67.2	0.1	No
	East of Alcosta Boulevard	66.4	66.7	0.3	No
	West of Dougherty Road	64.3	64.5	0.2	No
	East of Dougherty Road	66.0	66.1	0.1	No
Norris Canyon Road	West of Bollinger Canyon Road	55.3	55.7	0.4	No
	West of San Ramon Valley Boulevard	59.0	59.2	0.2	No
	West of Camino Ramon	59.4	59.5	0.1	No

Table N (Cont.): Year 2020 Plus Project Contributions

Roadway	Segment	CNEL at 100 feet			Potential Significant Impact?
		No Project	With Project	Project Contribution	
Bishop Drive	West of Sunset Drive	56.2	56.4	0.2	No
	West of Camino Ramon	55.3	58.1	2.8	No
	East of Camino Ramon	56.3	59.3	3.0	No
Bollinger Canyon Road (East-West)	West of San Ramon Valley Boulevard	61.8	62.3	0.5	No
	West of Sunset Drive	68.7	69.4	0.7	No
	West of Camino Ramon	67.2	68.0	0.8	No
	East of Camino Ramon	66.2	66.9	0.7	No
	East of Bishop Ranch East	66.9	67.9	1.0	No
	East of Market	66.2	67.3	1.1	No
	East of Alcosta Boulevard	65.8	66.9	1.1	No
	East of Canyon Lakes Drive	64.6	65.4	0.8	No
	West of Dougherty Road	64.5	65.2	0.7	No
	East of Dougherty Road	64.5	65.0	0.5	No
Montevideo Drive	East of San Ramon Valley Boulevard	59.9	59.9	0.0	No
	West of Alcosta Boulevard	53.5	54.8	1.3	No
Old Ranch Road	East of Alcosta Boulevard	59.4	59.7	0.3	No
	West of Dougherty Road	58.3	58.8	0.5	No
Source:					

7.2 - Potential Onsite Noise Impacts

According to the City’s General Plan, a noise impact would be considered significant if the noise level from onsite sources exceeds an exterior noise level standard of 60 dBA CNEL or an interior noise level standard of 45 dBA CNEL onto any onsite or nearby noise-sensitive land uses. It is anticipated that the primary sources of noise impacts from the proposed project would be from noise associated with the existing and proposed roadways and parking lots.

7.2.1 - Methodology

In order to provide a more detailed noise analysis of the project vicinity, calculations of the expected future exterior noise levels were made through using SoundPlan Version 6.4 noise modeling software. The following section describes the noise analysis methodologies, which includes a discussion of the software and modeling input parameters used in this analysis.

SoundPlan Noise Modeling Software

Due to the project site proximity to Interstate 680, which is a significant source of traffic noise and since the project vicinity is impacted by multiple roadways and existing and proposed parking lots, the SoundPlan Version 6.4 noise modeling software was used. SoundPlan's road noise algorithms are based on the FHWA Traffic Noise Model (FHWA TNM Model) and SoundPlan's parking lot noise algorithms are based on the international standard ISO 9613-2, since no national standard for parking lot noise currently exists. The SoundPlan Model requires the input of roadways, parking lots, and the locations of the noise measurement receivers. In addition, sound barriers, terrain contour lines, building placement, and specific ground coverage zones may be incorporated as well. The site plan along with scaled aerial photographs, were used to determine the placement of the roadways, parking lots, structures, and key contour lines to establish the terrain in project vicinity. Except for the roadways and buildings, which were analyzed as "hard" site conditions, the remainder of the area was analyzed as "soft" site conditions. The default temperature and humidity were used in the analysis. The SoundPlan Model printouts are shown in Appendix F and the following describes the roadway, parking lot, and receiver assumptions used.

Roadway Assumptions

The model analyzed the noise impacts from Interstate 680, Sunset Drive, West Street (proposed), Camino Ramon, East Street (proposed), Bishop Ranch East, Bishop Drive, Bollinger Canyon Road, and the road into the City Hall parking structure. Each direction of travel for Interstate 680, Bollinger Canyon Road, and Camino Ramon south of Bollinger Canyon Road were analyzed separately, while the remaining roadways were analyzed based on a single lane equivalency. The CNEL noise levels were calculated for the existing, year 2020 baseline, and year 2020 with project scenarios. The average daily traffic volumes were obtained from the Traffic Analysis except for West Street (proposed), East Street (proposed), and the road into City Hall parking structure, which were not analyzed by the Traffic Analysis and were assumed to have average daily traffic volumes of 2,000 vehicles for the year 2020 with project scenario.

The model requires the separate input of autos, medium trucks, and heavy trucks. For the local roadways, the vehicle mix was based on the roadway's General Plan classification vehicle mix shown above in Table H. The Collector vehicle mix was used for the roadways that do not have a General Plan classification. For Interstate 680, the vehicle mix was obtained from the *2005 Annual Average Daily Truck Traffic on the California Highway System*, prepared by State of California Department of Transportation, November 2006 and is shown below in Table O. The roadway speeds were based on the posted speed limits.

Table O: Interstate 680 Vehicle Mix

Vehicle Type	Day (7 a.m. to 7p.m.)	Evening (7 p.m. to 10 p.m.)	Night (10 p.m. to 7 a.m.)	Overall
Automobiles	65.6%	13.4%	15.7%	94.7%
Medium Trucks	1.8%	0.3%	0.5%	2.5%
Heavy Trucks	1.7%	0.1%	1.0%	2.8%

Source: 2005 Annual Average Daily Truck Traffic on the California Highway System, prepared by State of California Department of Transportation, November 2006.

Transit Assumptions

The proposed project includes a transit center with four bus stalls that would be located on the ground floor of the parking structure adjacent to City Hall. According to the Traffic Analysis there are currently seven bus routes serving the project site, which average approximately one stop per hour per route near the project site. It was assumed that each of these routes would add a stop at the transit center and that an additional route would serve the area in the future. Therefore the analysis was based on the transit center would be utilized by 8 buses per hour. The bus volumes were added to the road to the City Hall parking structure and to Camino Ramon south of Bollinger Canyon Road.

Parking Lot Assumptions

The SoundPlan model also analyzed the noise impacts from the existing and proposed parking lots, which requires input of the placement of the parking lots, the number of parking spaces in each lot, and the average number of car movements per hour that occur per space. 24-hour noise measurements were taken measuring the parking lot noise from the Bishop Ranch 3 southern parking structure, which have been described above in Section 5.0. The noise measurements found that at 20 feet from the Bishop Ranch 3 southern parking structure the noise level was 55.7 dBA Leq or 59.4 dBA CNEL. It was assumed that the Bishop Ranch 3 southern parking structure has 1,200 parking spaces. The noise level for the proposed parking structures was based on the proportional noise level to the number of parking spaces provided in each parking structure.

Water Feature Assumptions

The SoundPlan model also analyzed the noise impacts from the existing and proposed water features in the project study area. Noise measurements of the existing water feature in Bishop Ranch 1A were obtained and are described above in Section 5.0. The noise measurements found that at 20 feet from the water feature the noise level was 66.3 dBA Leq. The water features were analyzed as area noise sources and the noise levels for the proposed water features were based on the measured water feature noise level proportional to the area of the water feature.

Receiver Assumptions

Receivers were placed at the field noise measurements locations, on the offsite structures with noise sensitive uses and onsite, where residential uses are proposed. The receivers were placed either five feet above ground level or five feet above floor level for the residential structure receivers.

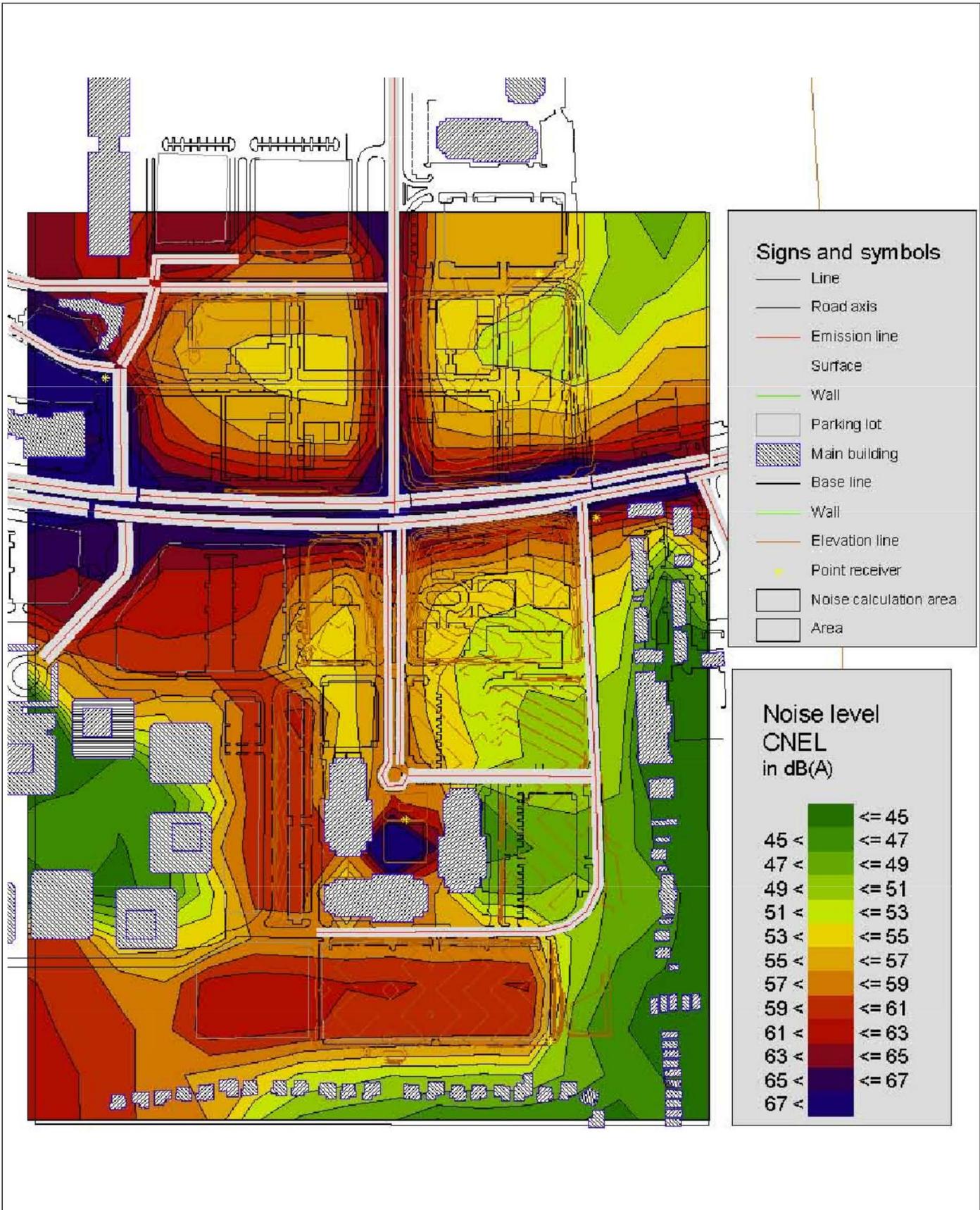
Existing Conditions

The existing conditions have been modeled in order to calibrate the noise model to the six field noise measurements that were obtained on or near the project site and have been presented above in Section 5.0. Table P shows the modeled noise level, the field noise measurement and the difference for each noise measurement site and Exhibit 7 shows the modeled existing noise contours of the project vicinity. Exhibit 7 also shows the placement of the noise calibration receivers used in Table P.

Table P: Existing Noise Level Calculations and Model Calibration

Site No.	Site Description	Noise Levels (dBA Leq)		
		Modeled	Average Field Measurement	Difference
3	Located approximately 50 feet west of the centerline of Sunset Drive and approximately 50 feet south of Shops at Bishop Ranch.	65.2	66.1	-0.9
4	Located approximately 100 feet south of the centerline of Bollinger Canyon Road and approximately 50 feet east of the centerline of Bishop Ranch East.	65.9	64.3	1.6
5	Located on the southeastern portion of the project site at the southeastern edge of the existing parking lot.	52.9	51.8	1.1
6	Located approximately 20 feet north of the water feature located in Bishop Ranch 2.	65.4	66.3	-0.9
A	Located approximately 160 feet southeast of the southern Bishop Ranch 3 parking structure and approximately 25 feet from the centerline of Iron Horse Trail in the northeast corner of the project site.	51.2	52.5	-1.1
B	Located approximately 20 feet from the south side and 75 feet from the east side of the southern Bishop Ranch 3 parking structure, in the northeast corner of the project site.	55.3	55.7	-0.4
Source: Noise measurements taken by Michael Brandman Associates and SoundPlan Version 6.4.				

Table P above shows that the modeled noise level ranged from -1.1 to 1.6 dBA Leq compared to the field noise measurements. The differences are less than the 1.6 dBA, which is below the threshold of perception and therefore the model was concluded to be satisfactorily calibrated.



Source: SoundPlan Version6.4 and Vista Environmental.



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Exhibit 7 Existing Noise Contour Map

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NOISE IMPACT ANALYSIS

7.2.2 - Noise Impacts Onto Nearby Noise Sensitive Uses

The potential offsite noise impacts onto the nearby noise sensitive uses caused through the increased traffic on the roadways and noise from the existing and proposed parking lots and other stationary sources have been analyzed. In order to calculate the noise created by the proposed project, the following two model runs were performed:

- Year 2020 Baseline: This scenario modeled the future roadway and existing parking lot traffic noise conditions to determine the future without project ambient noise levels.
- Year 2020 With Project: This scenario modeled the future roadway and future parking lot traffic noise conditions to determine the future with project study area noise levels.

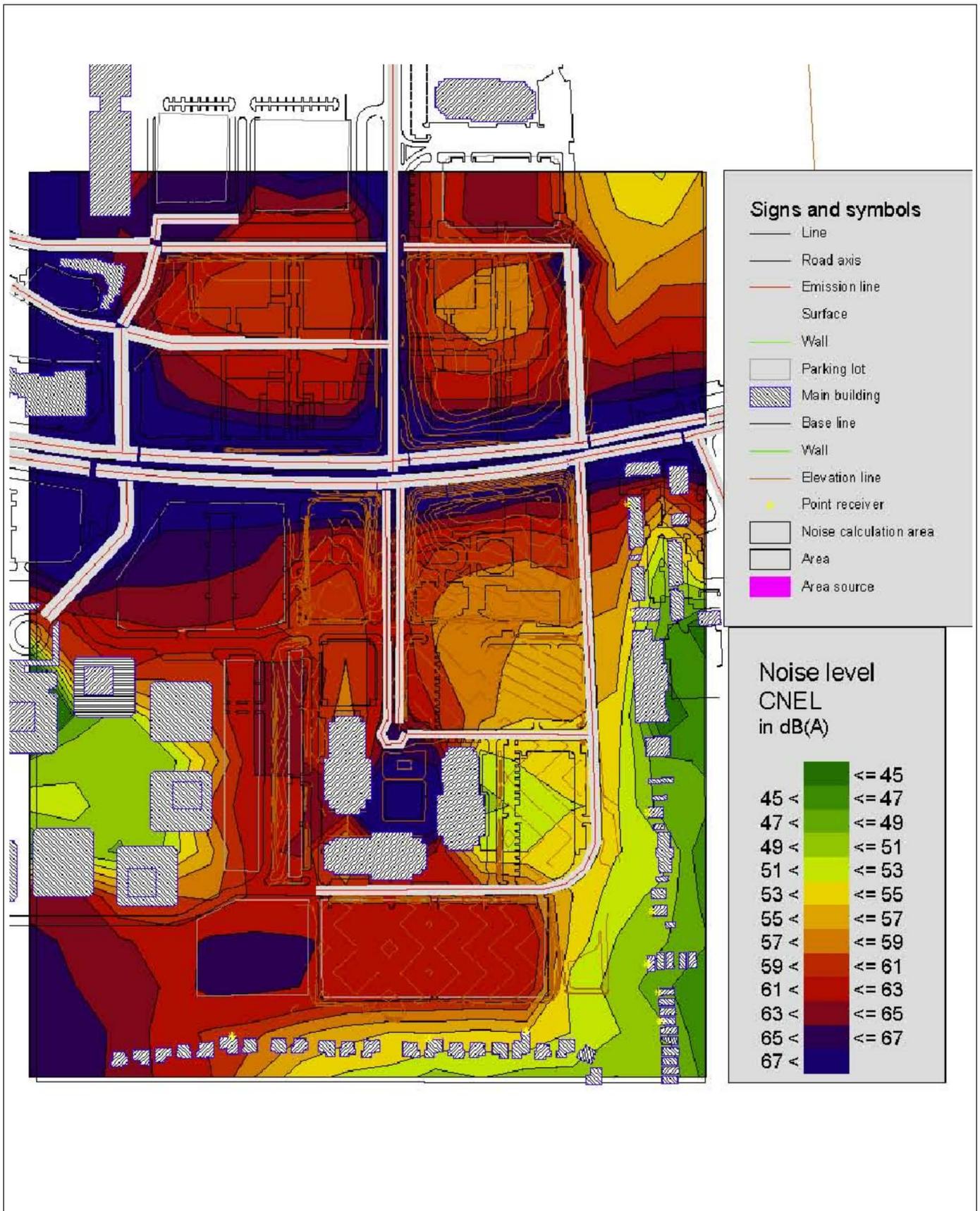
For each scenario, the Leq and CNEL noise levels have been calculated for each receiver. The SoundPlan printouts for each model run are provided in Appendix F.

Year 2020 Baseline Conditions

The year 2020 baseline conditions have been modeled in order to present the anticipated future ambient noise levels without construction of the proposed project. Table Q presents the calculated noise levels at the building facades of the nearby residential and school uses to the project site and Exhibit 8 shows the calculated noise contours of the project vicinity. Exhibit 8 also shows the placement of the receivers used in Table Q.

Table Q: Year 2020 Baseline Noise Levels at Nearby Uses

Site	dBA CNEL	dBA Leq Day	dBA Leq Evening ¹	dBA Leq Night ²
Iron Horse Middle School ³				
-First Floor	44.7	40.8	43.9	47.7
Marriott Residence Inn ³				
-First Floor	60.9	56.1	58.4	64.3
-Second Floor	61.4	56.5	58.9	64.9
Marriott Residence Inn ⁶				
-First Floor	54.7	50.0	52.8	58.1
-Second Floor	56.1	51.4	54.0	59.5
Apartment to the East ¹				
-First Floor	51.4	47.5	50.4	54.4
-Second Floor	52.5	48.4	51.3	55.5
Apartment to the East ²				
-First Floor	50.1	46.3	49.5	52.9



Source: SoundPlan Version6.4 and Vista Environmental.



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Exhibit 8 Year 2020 Baseline Noise Contour Map

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NOISE IMPACT ANALYSIS

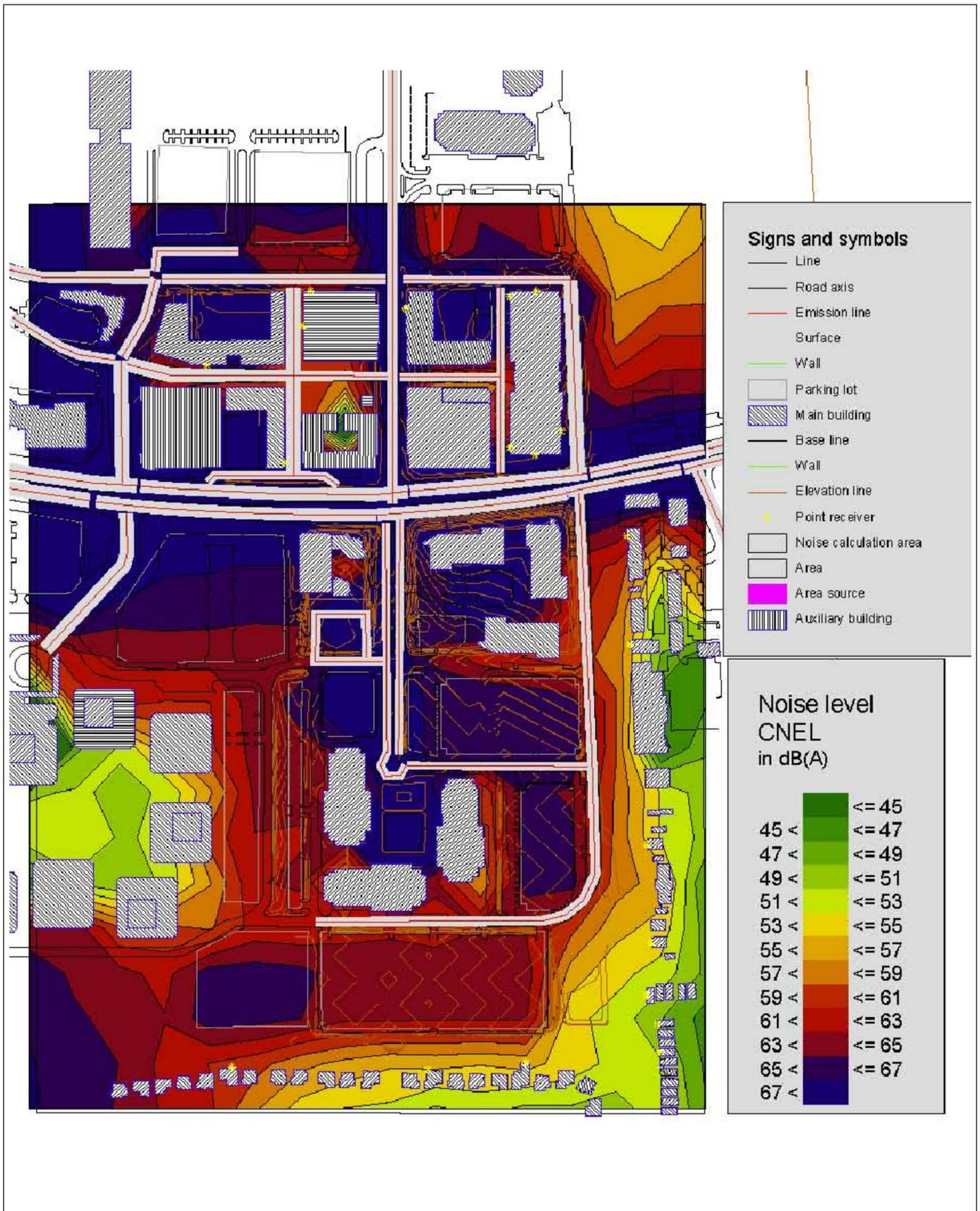
Table Q (Cont.): Year 2020 Baseline Noise Levels at Nearby Uses

Site	dBA CNEL	dBA Leq Day	dBA Leq Evening ¹	dBA Leq Night ²
-Second Floor	51.2	47.4	50.5	54.2
Single-Family to the East ¹				
-First Floor	49.9	46.1	49.5	52.7
-Second Floor	51.0	47.3	50.5	53.9
Single-Family to the East ²				
-First Floor	49.0	45.4	48.8	51.7
-Second Floor	50.2	46.5	49.9	52.9
Single-Family to the South ¹				
-First Floor	52.7	48.9	52.6	55.4
-Second Floor	53.5	49.7	53.3	56.3
Single-Family to the South ²				
-First Floor	52.1	48.7	52.4	54.6
-Second Floor	53.6	50.2	53.6	56.1
Single-Family to the South ¹				
-First Floor	59.4	55.9	59.3	62.1
-Second Floor	59.7	56.2	59.5	62.4
Notes: ¹ Noise level includes a 4.77-dBA penalty to account for the noise sensitive evening hours. ² Noise level includes a 10-dBA penalty to account for the noise sensitive nighttime hours. ³ The calculated noise at Iron Horse Middle School is only from noise generated at the project site and does not account for other nearby sources such as Alcosta Boulevard. Source: SoundPlan Version 6.4.				

Table Q above shows that for the year 2020 baseline condition without construction of the proposed project, only the noise levels at the exterior of the Marriott Residence Inn’s northern structures, will exceed the City’s 60 dBA CNEL exterior noise standard described above in Section 4.0.

Year 2020 Plus Project Conditions

The year 2020 plus project conditions have been modeled in order to present the anticipated future ambient noise levels with the on-going operations of the proposed project. Table R presents the calculated noise levels at the building facades of the nearby residential and school uses to the project site and Exhibit 9 shows the calculated noise contours of the project vicinity.



Source: SoundPlan Version6.4 and Vista Environmental.



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Exhibit 9 Year 2020 With Project Noise Contour Map

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NOISE IMPACT ANALYSIS

Table R: Year 2020 Baseline Plus Project Noise Levels at Nearby Uses

Site	dBA CNEL	dBA Leq Day	dBA Leq Evening ¹	dBA Leq Night ²
Iron Horse Middle School ³				
-First Floor	43.8	40.0	43.2	46.7
Marriott Residence Inn ³				
-First Floor	61.7	56.8	59.0	65.2
-Second Floor	62.2	57.3	59.6	65.7
Marriott Residence Inn ⁶				
-First Floor	57.0	52.5	55.9	60.2
-Second Floor	58.2	53.7	57.2	61.4
Apartment to the East ¹				
-First Floor	55.9	52.6	56.1	58.4
-Second Floor	56.4	53.0	56.5	59.0
Apartment to the East ²				
-First Floor	53.5	50.2	53.8	56.0
-Second Floor	54.2	50.8	54.3	56.8
Single-Family to the East ¹				
-First Floor	52.5	49.1	52.7	55.0
-Second Floor	53.2	49.8	53.3	55.8
Single-Family to the East ²				
-First Floor	51.0	47.6	51.2	53.5
-Second Floor	51.9	48.5	52.0	54.5
Single-Family to the South ¹				
-First Floor	53.9	50.2	54.0	56.5
-Second Floor	54.5	50.9	54.5	56.8
Single-Family to the South ²				
-First Floor	53.0	49.7	53.3	55.4
-Second Floor	54.3	50.9	54.5	56.8
Single-Family to the South ¹				
-First Floor	59.7	56.2	59.5	62.4
-Second Floor	60.0	56.5	59.8	62.7
¹ Noise level includes a 4.77-dBA penalty to account for the noise sensitive evening hours. ² Noise level includes a 10-dBA penalty to account for the noise sensitive nighttime hours. ³ The calculated noise at Iron Horse Middle School is only from noise generated at the project site and does not account for other nearby sources such as Alcosta Boulevard. Source: SoundPlan Version 6.4.				

Table R above shows that for the year 2020 with project condition, compared to the year 2020 baseline condition, no additional nearby sensitive uses will exceed the City’s 60 dBA CNEL exterior noise standard described above in Section 4.0.

Project Impacts to Offsite Receptors

According to the City’s General Plan, an offsite noise impact would be considered significant if the noise level from onsite sources exceeds an exterior noise level standard of 60 dBA CNEL or an interior noise level standard of 45 dBA CNEL onto any nearby noise sensitive use.

The noise levels at the backyards of the nearby single-family homes have been calculated for the year 2020 without and with project scenarios. Table S shows a summary of the noise impacts found for these scenarios and the calculated project impacts for each backyard receiver.

Table S: Project-Related Stationary Noise Impacts

Site	Year 2020 Baseline	Year 2020 With Project	Project Noise Impacts
Iron Horse Middle School ³			
-First Floor	44.7	43.8	-0.9
Marriott Residence Inn ³			
-First Floor	60.9	61.7	0.8
-Second Floor	61.4	62.2	0.8
Marriott Residence Inn ⁶			
-First Floor	54.7	57.0	2.3
-Second Floor	56.1	58.2	2.1
Apartment to the East ¹			
-First Floor	51.4	55.9	4.5
-Second Floor	52.5	56.4	3.9
Apartment to the East ²			
-First Floor	50.1	53.5	3.4
-Second Floor	51.2	54.2	3.0
Single-Family to the East ¹			
-First Floor	49.9	52.5	2.6
-Second Floor	51.0	53.2	2.2
Single-Family to the East ²			
-First Floor	49.0	51.0	3.0
-Second Floor	50.2	51.9	1.7

Table S (Cont.): Project-Related Stationary Noise Impacts

Site	Year 2020 Baseline	Year 2020 With Project	Project Noise Impacts
Single-Family to the South ¹			
-First Floor	52.7	53.9	1.2
-Second Floor	53.5	54.5	1.0
Single-Family to the South ²			
-First Floor	52.1	53.0	0.9
-Second Floor	53.6	54.3	0.7
Single-Family to the South ³			
-First Floor	59.4	59.7	0.3
-Second Floor	59.7	60.0	0.3
¹ The calculated noise at Iron Horse Middle School is only from noise generated at the project site and does not account for other nearby sources such as Alcosta Boulevard. Source: SoundPlan Version 6.4.			

Table S above shows that the noise impacts onto the nearby homes will range from -0.9 to 4.5 dBA CNEL. The greatest increase of 4.5 dBA is anticipated to occur at the apartments to the east of Bishop Ranch 1, which would result in a noise level of 55.9 dBA CNEL. This increase is below the 5.0 dBA threshold of significance and the resulting noise level is below the City’s 60-dBA exterior noise standard, therefore no significant noise impact is anticipated to occur at the nearby noise sensitive land uses.

The analysis shows that the noise level at Iron Horse Middle School will decrease with development of the proposed project. This is due to the noise shielding the proposed project’s buildings will provide from Interstate 680 and portions of Bollinger Canyon Road. However, the with project noise level of 43.8 dBA CNEL, does not represent a true forecast of the future noise levels at the school since for Alcosta Boulevard to the east and Norris Canyon Road to the north were not included in the model.

7.2.3 - Potential Onsite Long-Term Noise Impacts

According to the City’s General Plan, an onsite noise impact would be considered significant if the onsite noise level exceeds an interior noise level standard of 45 dBA CNEL for the residential uses. Calculations of the expected future interior noise levels were made through using the SoundPlan Version 6.4 noise modeling software and the modeling parameters described above for the 2020 plus project scenario.

To assess the interior noise levels related to the compliance with the City’s 45-dBA CNEL interior noise criteria, future CNEL exterior noise levels were calculated at the building facades for the floors on the buildings where residential uses are proposed. To assess the onsite interior noise level

impacts, the receivers were placed 5.5 feet above the proposed floor level and a height of 10 feet was assumed for each floor. All receivers were placed along the exterior edge of each unit at the location expected to receive the greatest noise impact.

The expected future exterior noise levels are presented in Table T. Table T also presents the anticipated interior noise levels for both “windows open” and “windows closed” conditions, which was based on a 12 dBA noise reduction for the “windows open” condition and a 25 dBA noise reduction for the “windows closed” condition, which is the noise attenuation typically found in mid-rise structures. Based on the FHWA traffic noise prediction model, the exterior noise levels at the building façade will range from 59.9 to 69.0 dBA CNEL. The calculations show that the “windows open” condition will result in interior noise levels that will exceed the City’s 45 dBA CNEL interior standard for all analyzed units. This would be considered a significant impact.

Table T: Onsite Residential Noise Levels

Building	Exterior Noise Level at Façade (CNEL)	Interior Noise Levels For:		Required Interior Noise Reduction
		Windows Open	Windows Closed	
South Side of Building A				
-Second Floor	59.9	47.9	34.9	14.9
-Third Floor	60.8	48.8	35.8	15.8
-Fourth Floor	61.6	49.6	36.6	16.6
-Fifth Floor	62.9	50.9	37.9	17.9
North Side of Building B				
-Second Floor	61.7	49.7	36.7	16.7
-Third Floor	62.2	50.2	37.2	17.2
-Fourth Floor	62.7	50.7	37.7	17.7
-Fifth Floor	62.9	50.9	37.9	17.9
West Side of Building B				
-Second Floor	57.6	45.6	32.6	12.6
-Third Floor	57.7	45.7	32.7	12.7
-Fourth Floor	57.7	45.7	32.7	12.7
-Fifth Floor	57.8	45.8	32.8	12.8
East Side of Building D				
-Second Floor	66.1	54.1	41.1	21.1
-Third Floor	66.2	54.2	41.2	21.2
-Fourth Floor	66.3	54.3	41.3	21.3
-Fifth Floor	66.4	54.4	41.4	21.4

Table T (Cont.): Onsite Residential Noise Levels

Building	Exterior Noise Level at Façade (CNEL)	Interior Noise Levels For:		Required Interior Noise Reduction
		Windows Open	Windows Closed	
West Side of Building E				
-Second Floor	62.8	50.8	37.8	17.8
-Third Floor	63.0	51.0	38.0	18.0
-Fourth Floor	63.1	51.1	38.1	18.1
-Fifth Floor	63.3	51.3	38.3	18.3
-Sixth Floor	63.3	51.3	38.3	18.3
North Side of Building F				
-Second Floor	61.3	49.3	36.3	16.3
-Third Floor	61.4	49.4	36.4	16.4
-Fourth Floor	61.5	49.5	36.5	16.5
-Fifth Floor	61.8	49.8	36.8	16.8
-Sixth Floor	61.9	49.9	36.9	16.9
-Seventh Floor	62.0	50.0	37.0	17.0
-Eighth Floor	61.9	49.9	36.9	16.9
-Ninth Floor	62.5	50.5	37.5	17.5
West Side of Building F				
-Second Floor	61.6	49.6	36.6	16.6
-Third Floor	61.8	49.8	36.8	16.8
-Fourth Floor	61.9	49.9	36.9	16.9
-Fifth Floor	62.1	50.1	37.1	17.1
-Sixth Floor	62.3	50.3	37.3	17.3
-Seventh Floor	62.3	50.3	37.3	17.3
-Eighth Floor	62.5	50.5	37.5	17.5
-Ninth Floor	63.0	51.0	38.0	18.0
East Side of Building G				
-Second Floor	64.8	52.8	39.8	19.8
-Third Floor	64.9	52.9	39.9	19.9
-Fourth Floor	64.8	52.8	39.8	19.8
-Fifth Floor	64.9	52.9	39.9	19.9
-Sixth Floor	64.8	52.8	39.8	19.8
-Seventh Floor	64.8	52.8	39.8	19.8
-Eighth Floor	64.7	52.7	39.7	19.7

Table T (Cont.): Onsite Residential Noise Levels

Building	Exterior Noise Level at Façade (CNEL)	Interior Noise Levels For:		Required Interior Noise Reduction
		Windows Open	Windows Closed	
-Ninth Floor	66.0	54.0	41.0	21.0
South Side of Building G				
-Second Floor	68.7	56.7	43.7	23.7
-Third Floor	68.8	56.8	43.8	23.8
-Fourth Floor	68.8	56.8	43.8	23.8
-Fifth Floor	68.9	56.9	43.9	23.9
-Sixth Floor	68.9	56.9	43.9	23.9
-Seventh Floor	68.9	56.9	43.9	23.9
-Eighth Floor	68.9	56.9	43.9	23.9
-Ninth Floor	69.0	57.0	44.0	24.0
West Side of Building G				
-Second Floor	65.0	53.0	40.0	20.0
-Third Floor	65.0	53.0	40.0	20.0
-Fourth Floor	65.0	53.0	40.0	20.0
-Fifth Floor	64.5	52.5	39.5	19.5
-Sixth Floor	65.1	53.1	40.1	20.1
-Seventh Floor	65.4	53.4	40.4	20.4
-Eighth Floor	65.2	53.2	40.2	20.2
-Ninth Floor	65.3	53.3	40.3	20.3
Notes: ¹ A minimum of 12-dBA noise reduction is assumed with a windows open condition. ² A minimum of 20-dBA noise reduction is assumed with a windows closed condition. ³ Interior noise reduction is not required when interior noise level with “windows open” condition does not exceed 45 dBA Ldn noise standards. Source: SoundPlan Version 6.4.				

As shown in Table T, in order to meet the 45-dBA CNEL interior noise standards, an interior noise level reduction of up to 24.0 dBA CNEL is required. The incorporation of the following mitigation measures would reduce the significant onsite long-term noise impacts to a less than significant level.

Mitigation Measure 1 The applicant shall provide a windows closed condition for all units. A windows closed condition requires a means of mechanical ventilation per the Uniform Building Code standards. This shall be achieved with standard air conditioning or a fresh air intake system.

- Mitigation Measure 2** The applicant shall ensure that all air ducts and vents for the residential units shall incorporate either: (a) sound baffle ducting, or (b) be oriented away from the respective traffic noise source and incorporate at least 6' of flexible fiberglass ducting and at least one 90 degree bend.
- Mitigation Measure 3** The applicant shall provide exterior walls with a minimum STC rating of 46 for all exterior walls of the residential units. Typical walls with this rating will have 2x4 studs or greater, 16" o.c. with R-13 insulation, a minimum 7/8" exterior surface of cement plaster and a minimum interior surface of 1/2" gypsum board.
- Mitigation Measure 4** The applicant shall provide window and door assemblies used throughout the project that are free of cutouts and openings, well fitted and well weather-stripped.

With these mitigation measures incorporated as design features into the proposed project, the future interior noise levels will be at or below 44.0 dBA CNEL, which is below the City's 45-dBA CNEL interior noise level standard.

7.3 - Potential Long-Term Vibration Impacts

Since the City of San Ramon does not have specific vibration impact criteria for operations-related vibration levels, Caltrans' vibration impact thresholds presented in the *Transportation- and Construction-Induced Vibration Guidance Manual*, June 2004, were utilized. The report recommends a threshold of 0.02 inches per second or 86 VdB (dB re: 1 micro-inch per second) as the significance level for on-going operation-related impacts.

The proposed project would result in the operation of a total of 2,168,466 square feet of mixed uses, including retail, office, hotel, residential, and civic, on the project site. The commercial uses would require the use of delivery trucks that may create vibration. In addition, in Block A, D, and E of the Plaza District propose parking and residential uses on the same floor levels, which may create vibration impacts to the proposed residential uses.

The nearest offsite sensitive uses include a Marriott Residence Inn approximately 150 feet east of the nearest path of travel for delivery trucks on the project site and residential apartments approximately 180 feet east of the nearest path of travel for delivery trucks on the project site. Due to this distance and the relatively low vibration impact caused by delivery trucks, no offsite or onsite vibration impacts are anticipated from the operation of delivery trucks.

Detailed architectural plans are not yet available for Blocks A, D, and E of the Plaza District to adequately analysis the potential vibration impacts that may be created by the proposed parking and

residential uses on the same floor levels. This vibration may result in a significant impact to the proposed residential units in Block A, D, and E of the Plaza District.

The incorporation of the following mitigation measures would reduce the possibly significant onsite long-term vibration impacts to a less than significant level.

Mitigation Measure 5 Upon completion of the architectural plans for Block A, D, and E of the Plaza District and prior to the issuance of a building permit, a vibration analysis shall be required in order to assess the potential vibration impacts onto the proposed residential units.

SECTION 8: FINDINGS AND RECOMMENDATIONS

8.1 - Short-Term Construction Impacts

8.1.1 - Potential Short-Term Construction Noise Impacts

Construction noise is of short-term duration and would not present any long-term impacts on the project site or surrounding area. Short-term noise impacts could occur during construction activities from either the noise impacts occurring offsite, created from the transport of workers and movement of construction materials to and from the project site, or from the noise generated onsite during ground clearing/excavation, grading, and construction activities.

Construction Noise Occurring Offsite

The transport of workers and movement of construction materials could incrementally increase the noise levels along nearby roadways. In order for offsite roadway noise impacts created by construction trips associated with the proposed project to be considered significant, the offsite roadway noise levels would have to increase by 5 dBA CNEL and the resulting noise level would have to exceed the City's 60 dBA CNEL exterior noise standard for noise sensitive uses. This criterion for significance has been previously discussed above in Section 4.0. The greatest construction-related offsite noise impact is expected to occur when the existing 194,652 square feet of the Bishop Ranch 2 office park is demolished and the debris is hauled offsite. According to the URBEMIS2002 Model default, settings this would require haul trucks to make approximately 45 round-trips per day for 20 days.

According to the Traffic Analysis, construction traffic would not be permitted east of the Bollinger Canyon Road and Bishop Ranch East intersection or north of Bishop Drive. With this limitation, no offsite noise sensitive land uses would be impacted by the construction-related traffic. Therefore, no significant impact is anticipated due to construction noise impacts that would occur off the project site.

Construction Noise Occurring Onsite

The analysis shows that the Marriott Residence Inn located approximately 180 feet east of the nearest construction will experience the greatest construction noise impact from the proposed project with combined maximum average noise levels from the construction equipment at 83.3 dBA Leq.

Since construction noise is of a temporary nature, the City does not require noise mitigations to specific levels. However, they do require construction-related operational considerations such as limitation on the hours of construction and proper maintenance of sound attenuation equipment on construction equipment. With application of the of the City's regulatory requirements from the General Plan Noise Element, the short-term construction-related noise from the proposed project will not result in a short-term significant noise impact.

8.1.2 - Potential Short-Term Construction Vibration Impacts

The analysis shows that the closest potentially impacted land from vibration includes the Marriott Residence Inn located approximately 180 feet east of the nearest construction activities. It is anticipated that the vibration levels created at the Marriott Residence Inn caused by an impact pile driver operating on the eastern portion of the Bishop Ranch 1A third office building would be around 95 VdB. This vibration level is below the 106 VdB significance level discussed in Section 4.0. Therefore, the short-term construction-related vibration from the proposed project will not result in a significant vibration impact.

8.2 - Long-Term Operations Noise Impacts

8.2.1 - Offsite Long-Term Project Noise Impacts

In order for offsite roadway noise impacts created by the proposed project's operations to be considered significant, the roadway noise levels would have to increase by 5 dBA CNEL and the resulting noise level would have to exceed the City's 60 dBA CNEL exterior noise standard. This criterion for significance has been previously discussed in Section 4.0. The proposed project's offsite noise impacts have been analyzed for both existing conditions and year 2020 conditions.

Existing Conditions

The proposed project's potential offsite noise impacts have been calculated through a comparison of the existing without project scenario to the existing with project scenario. The results of this comparison indicate that the noise level contributions from the proposed project to the study area roadways would range from -0.5 to 7.4 dBA CNEL. The greatest increase of 7.4 dBA CNEL would be anticipated to occur on Bishop Drive east of Camino Ramon. Although the proposed project would have the potential to result in a large increase in traffic-related noise on Bishop Drive east of Camino Ramon, the resulting with project noise level at 100 feet is expected to be 59.0 dBA CNEL which is less than the City's threshold of 60 dBA CNEL. Therefore, for the existing conditions and based on thresholds of significance defined above, no significant long-term offsite noise impacts from project-related vehicle noise would occur along the study area roadways segments.

Year 2020 Conditions

The proposed project's potential offsite noise impacts have been calculated through a comparison of the Year 2020 without project scenario to the Year 2020 with project scenario. The results of this comparison shown in Table N indicate that the noise level contributions from the proposed project to the study area roadways would range from 0.0 to 3.9 dBA CNEL. The greatest increase of 3.9 dBA CNEL would be anticipated to occur on Bishop Ranch East south of Bollinger Canyon Road. Although the proposed project will have the potential to result in a large increase in traffic-related noise on Bishop Ranch East south of Bollinger Canyon Road, the with project noise level at 100 feet is expected to be 53.0 CNEL which is less than the City's threshold of 60 dBA CNEL. Therefore for the year 2020 conditions and based on thresholds of significance defined above, no significant long-

term offsite noise impacts from project-related vehicle noise would occur along the study area roadways segments.

8.2.2 - Onsite Noise Impacts

According to the City's General Plan, a noise impact would be considered significant if the noise level from onsite sources exceeds an exterior noise level standard of 60 dBA CNEL or an interior noise level standard of 45 dBA CNEL onto any onsite or nearby noise-sensitive land uses.

Project Impacts to Offsite Receptors

The analysis shows that the noise impacts onto the nearby homes will range from -0.9 to 4.5 dBA CNEL. The greatest increase of 4.5 dBA is anticipated to occur at the apartments to the east of Bishop Ranch 1, which would result in a noise level of 55.9 dBA CNEL. This increase is below the 5.0 dBA threshold of significance and the resulting noise level is below the City's 60-dBA exterior noise standard, therefore no significant noise impact is anticipated to occur at the nearby noise sensitive land uses.

Onsite Noise Impacts

The analysis shows that the exterior noise levels at the proposed residential building façades would range from 59.9 to 69.0 dBA CNEL. The calculations show that the "windows open" condition will result in interior noise levels that will exceed the City's 45 dBA CNEL interior standard for all analyzed units. This would be considered a significant impact. The incorporation of the following mitigation measures would reduce the significant onsite long-term noise impacts to a less than significant level.

- Mitigation Measure 1** The applicant shall provide a windows closed condition for all units. A windows closed condition requires a means of mechanical ventilation per the Uniform Building Code standards. This shall be achieved with standard air conditioning or a fresh air intake system.
- Mitigation Measure 2** The applicant shall ensure that all air ducts and vents for the residential units shall incorporate either: (a) sound baffle ducting, or (b) be oriented away from the respective traffic noise source and incorporate at least 6' of flexible fiberglass ducting and at least one 90 degree bend.
- Mitigation Measure 3** The applicant shall provide exterior walls with a minimum STC rating of 46 for all exterior walls of the residential units. Typical walls with this rating will have 2x4 studs or greater, 16" o.c. with R-13 insulation, a minimum 7/8" exterior surface of cement plaster and a minimum interior surface of 1/2" gypsum board.

Mitigation Measure 4 The applicant shall provide window and door assemblies used throughout the project that are free of cutouts and openings, well fitted and well weather-stripped.

8.2.3 - Long-Term Vibration Impacts

Since the City of San Ramon does not have specific vibration impact criteria for operations-related vibration levels, Caltrans' vibration impact thresholds presented in the *Transportation- and Construction-Induced Vibration Guidance Manual*, June, 2004, were utilized. The report recommends a threshold of 0.02 inches per second or 86 VdB (dB re: 1 micro-inch per second) as the significance level for on-going operation-related impacts.

The proposed project would result in the operation of a total of 2,168,466 square feet of mixed uses, including retail, office, hotel, residential, and civic, on the project site. The commercial uses would require the use of delivery trucks that may create vibration. In addition, in Block A, D, and E of the Plaza District propose parking and residential uses on the same floor levels, which may create vibration impacts to the proposed residential uses.

The nearest offsite sensitive uses include a Marriott Residence Inn approximately 150 feet east of the nearest path of travel for delivery trucks on the project site and residential apartments approximately 180 feet east of the nearest path of travel for delivery trucks on the project site. Due to this distance and the relatively low vibration impact caused by delivery trucks, no offsite or onsite vibration impacts are anticipated from the operation of delivery trucks.

Detailed architectural plans are not yet available for Blocks A, D, and E of the Plaza District to adequately analysis the potential vibration impacts that may be created by the proposed parking and residential uses on the same floor levels. This vibration may result in a significant impact to the proposed residential units in Block A, D, and E of the Plaza District.

The incorporation of the following mitigation measures would reduce the possibly significant onsite long-term vibration impacts to a less than significant level.

Mitigation Measure 5 Upon completion of the architectural plans for Block A, D, and E of the Plaza District and prior to the issuance of a building permit, a vibration analysis shall be required in order to assess the potential vibration impacts onto the proposed residential units.

SECTION 9: REFERENCES

- California Air Resources Board, URBEMIS2002 Air Emissions from Land Development.
- California Department of Transportation. October 1998. Technical Noise Supplement.
- California Department of Transportation. June, 2004. Transportation- and Construction-Induced Vibration Guidance Manual.
- City of San Ramon. March 5, 2002. A New Plan for the Future San Ramon 2020 General Plan.
- City of San Ramon. Municipal Code Chapter B6-97, Machinery or Air Conditioning Equipment.
- City of San Ramon. Municipal Code Chapter B6-100, Construction Projects.
- City of San Ramon. Municipal Code Chapter B6-101, Business and Residential Relationships.
- DMJM Harris. June 2007. Draft Traffic Operations Evaluation For San Ramon City Center Project.
- Federal Transit Administration. April 1995. Transit Noise and Vibration Impact Assessment.

Appendix A: City of San Ramon Noise Standards

10 Noise

The purpose of San Ramon’s Noise Element is to set forth policies that regulate the ambient noise environment and protect residents from exposure to excessive noise.

Noises vary widely in their scope, source, and volume, ranging from individual occurrences such as leaf blowers, to the intermittent disturbances of overhead aircraft, to the fairly constant noise generated by traffic on freeways. Noise is primarily a concern with regard to noise-sensitive uses such as residences, schools, churches, and hospitals. Figure 10-1 shows the decibel levels associated with different common sounds, and illustrates typical sound levels, while Figure 10-2 provides noise level criteria for a variety of land uses.

Noise is commonly defined as undesirable or unwanted sound. The major noise source in San Ramon is vehicular traffic on Interstate 680, some residential streets, and near some schools and shopping centers. Other noise sources include overflights from Livermore and Buchanan Airfields, and flight operations and training from the Camp Parks Reserve Forces Training Area. Noise produced by industrial facilities has a negligible effect on the City’s noise environment.

Sound levels are usually measured and expressed in decibels (dB). Noise descriptors used for analysis need to account for human sensitivity to nighttime noise. Common descriptors include the Community Noise Equivalent Level (CNEL) and

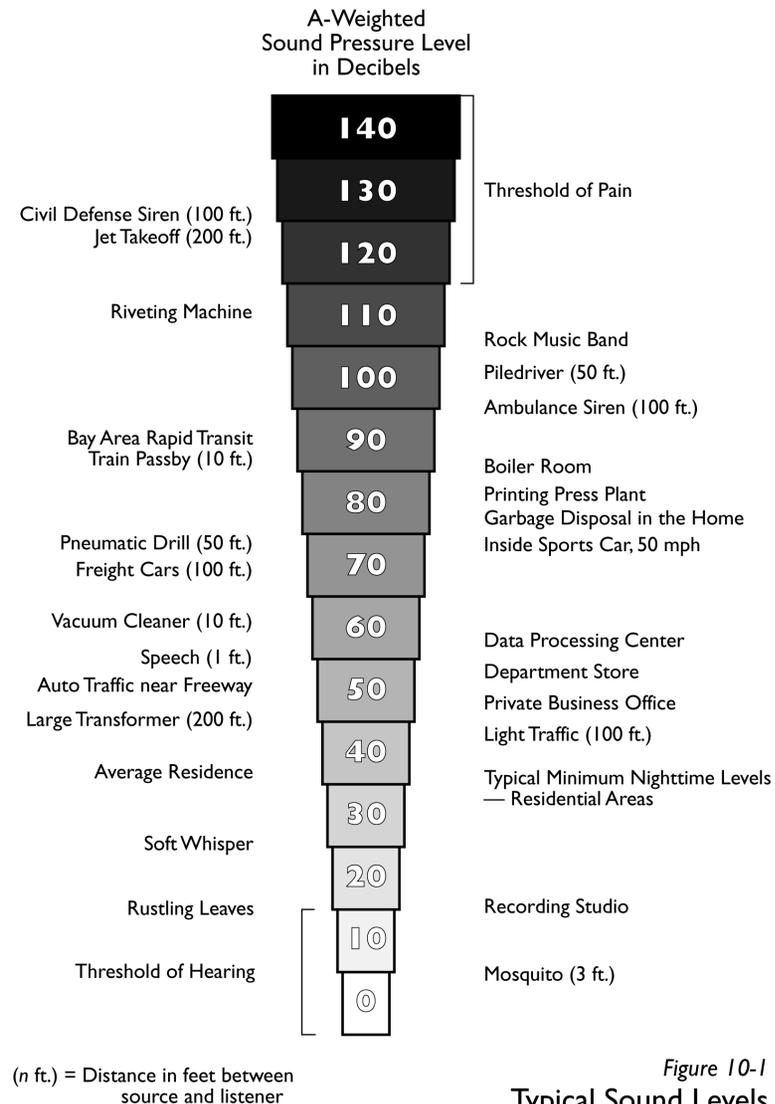


Figure 10-1
Typical Sound Levels

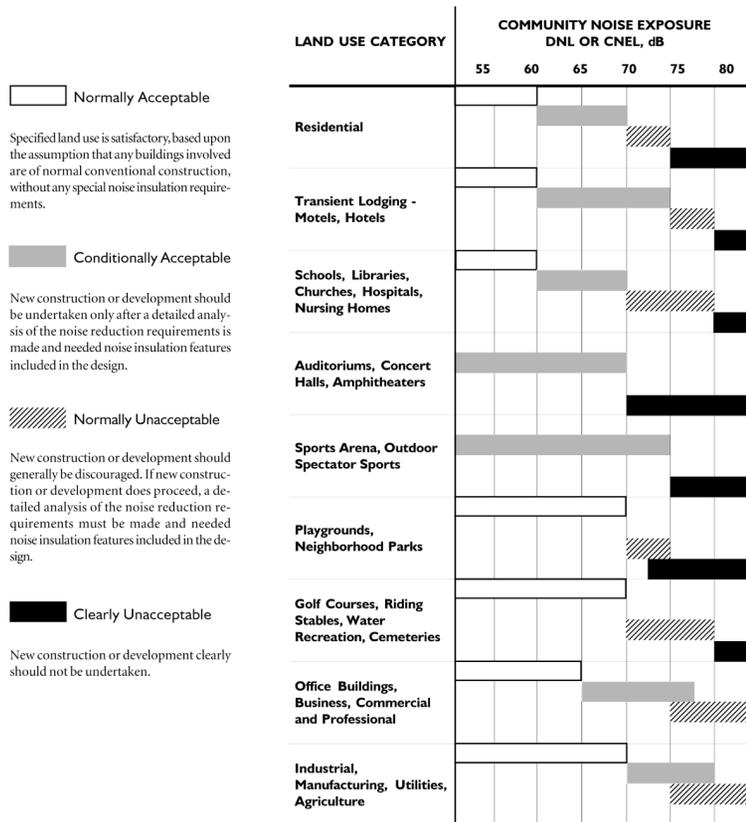


Figure 10-2
Land Use Compatibility

the Day-Night Average Level (DNL, symbol (L_{dn})). Both reflect noise exposure over an average day with weighting to reflect

the increased sensitivity to noise during the evening and night. The two descriptors are roughly equivalent. The CNEL descriptor is used in relation to major continuous noise sources, such as aircraft or traffic, and is the reference level for State noise law.

Knowledge of the following relationships is helpful in understanding how changes in noise and noise exposure are perceived:

- Except under special conditions, a change in sound level of 1 dB cannot be perceived;
- A 3 dB change is considered a just-noticeable difference;
- A 5 dB change is required before any noticeable change in community response would be expected. A 5 dB increase is often considered a significant impact; and
- A 10 dB increase is subjectively heard as an approximate doubling in loudness and almost always causes an adverse community response.

10.1 NOISE IN SAN RAMON

Noise in San Ramon is the result of both traffic and other sources. The nature of this noise is outlined below.

Traffic noise depends primarily on the speed of traffic and the percentage of truck traffic. Traffic volume has a lesser influence on traffic noise levels. The primary source of noise from automobiles is high frequency tire noise, which increases with speed. In addition, trucks and older automobiles produce engine and exhaust noise, and trucks also generate wind noise.

While tire noise from autos is generally located at ground level, truck noise sources can be located as high as ten to fifteen feet above the roadbed due to tall exhaust stacks and higher engines. Sound walls are not effective for mitigating such noise unless they are very tall.

According to common practice for residential areas, CNEL noise exposure up to 60 dB is considered “normally acceptable” for unshielded residential development. Noise levels from 60 to 70 dB fall within the “conditionally unacceptable” range, and those in the 70 to 75 dB range are considered “normally unacceptable”.

TRAFFIC NOISE LEVELS

The San Ramon Planning Area is subject to noise impacts from several transportation corridors, as illustrated in Figure 10-3.

Figure 10-4 illustrates future contours throughout the Planning Area. By far the greatest contributor to noise is traffic on I-680. The State Department of Transportation has constructed sound walls adjacent to the freeway and existing nearby homes, but this measure has increased ambient noise levels for residences located uphill and at greater distances from the sound walls. This traffic noise thus presents the City with the challenge of providing adequate noise mitigation without more sound walls along the freeway or throughout the City. Other areas that will experience significant increases in ambient noise levels include Crow Canyon Road, Bollinger Canyon Road, Old Ranch Road, and Dougherty Road.

OTHER NOISE

Although traffic is the primary source of noise in San Ramon, other sources do exist. These sources include construction, maintenance and repair activities, manufacturing activities, lawn care activities, etc. The policies of this Chapter address the full range of these sources.

GUIDING POLICY

- 10.1-G-1 Strive to achieve an acceptable noise environment for the present and future residents of San Ramon.

IMPLEMENTING POLICIES

- 10.1-I-1 Minimize vehicular and stationary noise sources and noise emanating from temporary activities.

The City’s regulations restrict the hours of operation for a variety of noise sources, and State laws limit the noise levels of motor vehicles and some activities at industrial plants.

- 10.1-I-2 Require a noise study for all projects that have noise exposure greater than “normally acceptable” levels indicated in Figure 10-2.

If noise exposure is greater than levels considered normally acceptable, some form of noise mitigation will have to be incorporated, to the extent practicable, unless the impacts are found to be less than significant. The mitigation can be conventional insulation features or techniques that require more complex building or equipment design and site layout. The City applies the standards of Title 24,

- Part II of the California Code of Regulations to all housing, thereby requiring an acoustical study if a proposed development will be located in an area exposed to a DNL (Day-Night Average Sound Level) in excess of 60 dB. The Code requires mitigation to reduce the DNL to 45 dB in all habitable rooms.*
- 10.1-I-3 Develop uniform guidelines for acoustical studies based on current professional standards.
- Uniform guidelines for the preparation of noise studies will help applicants understand City requirements for adequate acoustical evaluation.*
- 10.1-I-4 Include noise attenuation measures in new developments that expose the community to greater than “normally acceptable” noise levels.
- Open space, building orientation and design, and landscaping and running water can be used to buffer or mask sound. The new City Center complex is an area where these techniques can be used.*
- 10.1-I-5 Discourage the use of sound walls.
- The construction of sound walls will be considered where noise mitigation to acceptable levels by other means is not feasible.*
- 10.1-I-6 Require developers to reduce the noise impacts of new development on adjacent properties through appropriate means, including, but not limited to, the following actions:
- Screen and control noise sources, such as parking and loading facilities, outdoor activities and mechanical equipment,
 - Increase setbacks for noise sources from adjacent dwellings,
 - Retain fences, walls, and landscaping that serve as noise buffers,
 - Use soundproofing materials and double-glazed windows,
 - Control hours of operation, including deliveries and trash pickup, to minimize noise impacts, and
 - As a last resort, construct noise walls along highways and arterials when compatible with aesthetic concerns and neighborhood character. This would be a developer responsibility.
- Mitigation for noise impacts should not transfer noise from one resident to another. Proposed development can introduce potential noise sources, even when it is compatible with existing adjacent uses. An example is the handling of large trash bins for multi-family housing. Site design and/or screening techniques can help mitigate the resulting noise.*
- 10.1-I-7 Minimize noise impacts of flight operations on existing noise-sensitive development.
- 10.1-I-8 Protect especially sensitive uses, including schools, hospitals, and senior care facilities, from excessive noise.

Noise

- 10.1-I-9 Implement the City's regulations and performance standards for noise control to ensure appropriate regulation of common residential, commercial, and industrial noise sources.
- 10.1-I-10 Require new noise sources to use best available control technology (BACT) to minimize noise from all sources.
- 10.1-I-11 Accept applications from residents for exceptions to the 60 dB Residential Noise Level for the operation of standby electrical equipment used to meet medical needs.

This assumes that equipment noise will be mitigated to reduce the noise level at the property line to the 60 decibel level requirement.

[DIVISION B6 HEALTH, SANITATION AND ENVIRONMENTAL QUALITY](#)

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B6-97. Machinery or air conditioning equipment.

It is unlawful for a person to operate machinery, equipment, pump, fan, air conditioning apparatus or similar mechanical device used for commercial purposes in the manner which creates noise, unless the noise is muffled and the device is equipped with a muffler sufficient to deaden the noise. (Prior code § B7-184)

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[DIVISION B6 HEALTH, SANITATION AND ENVIRONMENTAL QUALITY](#)

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B6-100. Construction projects.

It is unlawful for a person within a residential land use district to operate or perform construction or repair work on a building, structure or project, or to operate a pile driver, steam shovel, pneumatic hammer, derrick, steam or electric hoist or other construction-type device on holidays celebrated by the federal government, and on Monday through Friday, prior to seven-thirty a.m. and after seven p.m. on each day and on Saturdays and Sundays, prior to nine a.m. and after six p.m. (Prior code § B7-187)

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[DIVISION B6 HEALTH, SANITATION AND ENVIRONMENTAL QUALITY](#)

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B6-101. Business and residential relationships.

A. Store deliveries by any vehicle in the area between the business and residences is prohibited between ten p.m. and six-thirty a.m. weekdays and between ten p.m. and eight a.m. on weekends and federal holidays. Delivery vehicles will have their engines turned off during deliveries.

B. Garbage disposal, construction and maintenance by power equipment in the area between the business and residences is prohibited between ten p.m. and six-thirty a.m. weekdays and between ten p.m. and eight a.m. on weekends and federal holidays.

C. Pedestrian, cycle or unauthorized vehicle traffic in the area between the business and residences is prohibited between ten p.m. and eight a.m. (Prior code § B7-188)

[<< previous](#) | [next >>](#)



Northeast corner of project site - looking north



Northeast corner of project site - looking northeast



Northeast corner of project site - looking east



Northeast corner of project site - looking southeast



Northeast corner of project site - looking south



Northeast corner of project site - looking southwest



Northeast corner of project site - looking west



Northeast corner of project site - looking northwest



Bishop Ranch 3 southern office building



Southern portion of AT&T Building



Chevron Office Park



Marriott Residence Inn



Apartment Homes to the east of the project site



Single-family homes to the southeast of the project site - looking northeast



Single-family homes to the south of the project site - looking southwest



Camino Ramon south of Bishop - looking north



Bishop Ranch East - looking south



Noise Measurement Site 1 - looking north



Noise Measurement Site 1 - looking southeast



Noise Measurement Site 1 - looking south



Noise Measurement Site 2 - looking south



Noise Measurement Site 2 - looking west



Noise Measurement Site 3 - looking northwest



Noise Measurement Site 3 - looking southeast



Noise Measurement Site 4 - looking northwest



Noise Measurement Site 4 - looking northeast



Noise Measurement Site 5 - looking east



Noise Measurement Site 5 - looking northwest



Noise Measurement Site 6 - looking south



Noise Measurement Site 7 - looking north



Noise Measurement Site 7 - looking southeast



Noise Measurement Site 8 - looking northwest



Noise Measurement Site 8 - looking southeast



Noise Measurement Site 9 - looking northwest



Noise Measurement Site 9 - looking northeast



Noise Measurement Site 9 - looking east northeast



Noise Measurement Site 9 - looking southeast



Noise Measurement Site 9 - looking southwest



Noise Measurement Site A - looking northeast



Noise Measurement Site A - looking northwest



Noise Measurement Site B - looking north



Noise Measurement Site B - looking south

Appendix B: Study Area Photo Index



Northeast corner of project site - looking north



Northeast corner of project site - looking northeast



Northeast corner of project site - looking east



Northeast corner of project site - looking southeast



Northeast corner of project site - looking south



Northeast corner of project site - looking southwest



Northeast corner of project site - looking west



Northeast corner of project site - looking northwest



Bishop Ranch 3 southern office building



Southern portion of AT&T Building



Chevron Office Park



Marriott Residence Inn



Apartment Homes to the east of the project site



Single-family homes to the southeast of the project site - looking northeast



Single-family homes to the south of the project site - looking southwest



Camino Ramon south of Bishop - looking north



Bishop Ranch East - looking south



Noise Measurement Site 1 - looking north



Noise Measurement Site 1 - looking southeast



Noise Measurement Site 1 - looking south



Noise Measurement Site 2 - looking south



Noise Measurement Site 2 - looking west



Noise Measurement Site 3 - looking northwest



Noise Measurement Site 3 - looking southeast



Noise Measurement Site 4 - looking northwest



Noise Measurement Site 4 - looking northeast



Noise Measurement Site 5 - looking east



Noise Measurement Site 5 - looking northwest



Noise Measurement Site 6 - looking south



Noise Measurement Site 7 - looking north



Noise Measurement Site 7 - looking southeast



Noise Measurement Site 8 - looking northwest



Noise Measurement Site 8 - looking southeast



Noise Measurement Site 9 - looking northwest



Noise Measurement Site 9 - looking northeast



Noise Measurement Site 9 - looking east northeast



Noise Measurement Site 9 - looking southeast



Noise Measurement Site 9 - looking southwest



Noise Measurement Site A - looking northeast



Noise Measurement Site A - looking northwest



Noise Measurement Site B - looking north



Noise Measurement Site B - looking south

Appendix C: Field Noise Measurement Printouts

File Translated: C:\Vista Env\2007\070404 - San Ramon\Noise Measurements\LD\1.slmml
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.261 / 3.120
Name: Vista Environmental
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm.ism / Simple Integrating SLM
Location:
Notel:
Note2:

Current Any Data

Start Time: 04-Jun-2007 03:22:55
Elapsed Time: 00:15:30.1

	A Weight	C Weight	Flat
Leq:	71.8 dBA	79.6 dBC	80.4 dBF
SEL:	101.5 dBA	109.3 dBC	110.1 dBF
Peak:	101.4 dBA	108.8 dBC	109.9 dBF
04-Jun-2007 03:30:31		04-Jun-2007 03:36:49	04-Jun-2007 03:36:49
Lmax (slow):	80.7 dBA	99.2 dBC	100.2 dBF
04-Jun-2007 03:36:50		04-Jun-2007 03:36:49	04-Jun-2007 03:36:49
Lmin (slow):	64.7 dBA	69.3 dBC	69.9 dBF
04-Jun-2007 03:27:46		04-Jun-2007 03:33:12	04-Jun-2007 03:33:13
Lmax (fast):	83.4 dBA	102.6 dBC	103.6 dBF
04-Jun-2007 03:36:50		04-Jun-2007 03:36:49	04-Jun-2007 03:36:49
Lmin (fast):	64.0 dBA	68.5 dBC	69.0 dBF
04-Jun-2007 03:27:43		04-Jun-2007 03:33:12	04-Jun-2007 03:33:12
Lmax (impulse):	83.9 dBA	104.0 dBC	105.0 dBF
04-Jun-2007 03:36:50		04-Jun-2007 03:36:49	04-Jun-2007 03:36:49
Lmin (impulse):	64.4 dBA	69.7 dBC	70.3 dBF
04-Jun-2007 03:27:44		04-Jun-2007 03:33:11	04-Jun-2007 03:33:11

File Translated: C:\Vista Env\2007\070404 - San Ramon\Noise Measurements\LD\10.slmdl
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.261 / 3.120
Name: Vista Environmental
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm.ism / Simple Integrating SLM
Location:
Notel:
Note2:

Current Any Data

Start Time: 04-Jun-2007 19:11:08
Elapsed Time: 00:10:01.1

	A Weight	C Weight	Flat
Leq:	71.9 dBA	84.8 dBC	85.7 dBF
SEL:	99.7 dBA	112.6 dBC	113.5 dBF
Peak:	97.6 dBA	105.5 dBC	106.3 dBF
04-Jun-2007 19:12:40		04-Jun-2007 19:19:29	04-Jun-2007 19:19:29
Lmax (slow):	80.5 dBA	100.3 dBC	101.1 dBF
04-Jun-2007 19:11:34		04-Jun-2007 19:19:30	04-Jun-2007 19:19:30
Lmin (slow):	66.6 dBA	71.7 dBC	72.4 dBF
04-Jun-2007 19:14:57		04-Jun-2007 19:14:55	04-Jun-2007 19:14:55
Lmax (fast):	82.4 dBA	100.6 dBC	101.5 dBF
04-Jun-2007 19:11:34		04-Jun-2007 19:19:30	04-Jun-2007 19:19:29
Lmin (fast):	65.6 dBA	70.7 dBC	71.1 dBF
04-Jun-2007 19:14:54		04-Jun-2007 19:14:55	04-Jun-2007 19:14:55
Lmax (impulse):	82.8 dBA	100.9 dBC	101.9 dBF
04-Jun-2007 19:11:34		04-Jun-2007 19:19:29	04-Jun-2007 19:19:28
Lmin (impulse):	66.3 dBA	72.3 dBC	72.9 dBF
04-Jun-2007 19:14:54		04-Jun-2007 19:17:14	04-Jun-2007 19:14:55

File Translated: C:\Vista Env\2007\070404 - San Ramon\Noise Measurements\LD\2.slmdl
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.261 / 3.120
Name: Vista Environmental
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm.ism / Simple Integrating SLM
Location:
Notel:
Note2:

Current Any Data

Start Time: 04-Jun-2007 03:53:48
Elapsed Time: 00:12:00.4

	A Weight	C Weight	Flat
Leq:	65.0 dBA	71.2 dBC	73.0 dBF
SEL:	93.6 dBA	99.8 dBC	101.5 dBF
Peak:	92.0 dBA	96.7 dBC	98.9 dBF
04-Jun-2007 04:03:46	04-Jun-2007 04:04:51	04-Jun-2007 04:04:51	04-Jun-2007 04:04:51
Lmax (slow):	76.8 dBA	87.4 dBC	88.3 dBF
04-Jun-2007 03:56:35	04-Jun-2007 04:04:52	04-Jun-2007 04:04:52	04-Jun-2007 04:04:52
Lmin (slow):	47.0 dBA	53.6 dBC	55.1 dBF
04-Jun-2007 04:00:16	04-Jun-2007 04:00:25	04-Jun-2007 04:00:25	04-Jun-2007 04:00:25
Lmax (fast):	79.0 dBA	89.8 dBC	90.8 dBF
04-Jun-2007 04:03:46	04-Jun-2007 04:04:52	04-Jun-2007 04:04:52	04-Jun-2007 04:04:52
Lmin (fast):	46.4 dBA	52.7 dBC	53.6 dBF
04-Jun-2007 04:00:16	04-Jun-2007 04:00:25	04-Jun-2007 04:00:25	04-Jun-2007 04:00:23
Lmax (impulse):	80.2 dBA	90.7 dBC	92.3 dBF
04-Jun-2007 04:03:46	04-Jun-2007 04:04:52	04-Jun-2007 04:04:52	04-Jun-2007 04:04:52
Lmin (impulse):	46.8 dBA	53.9 dBC	54.6 dBF
04-Jun-2007 03:55:18	04-Jun-2007 04:00:25	04-Jun-2007 04:00:25	04-Jun-2007 04:00:23

File Translated: C:\Vista Env\2007\070404 - San Ramon\Noise Measurements\LD\11.slmdl
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.261 / 3.120
Name: Vista Environmental
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm.ism / Simple Integrating SLM
Location:
Notel:
Note2:

Current Any Data

Start Time: 04-Jun-2007 19:26:44
Elapsed Time: 00:10:30.8

	A Weight	C Weight	Flat
Leq:	65.5 dBA	72.9 dBC	73.5 dBF
SEL:	93.5 dBA	100.9 dBC	101.5 dBF
Peak:	90.5 dBA	98.3 dBC	98.9 dBF
04-Jun-2007 19:32:59		04-Jun-2007 19:34:30	04-Jun-2007 19:34:30
Lmax (slow):	75.0 dBA	91.0 dBC	91.6 dBF
04-Jun-2007 19:30:04		04-Jun-2007 19:34:31	04-Jun-2007 19:34:31
Lmin (slow):	43.8 dBA	53.5 dBC	54.6 dBF
04-Jun-2007 19:27:35		04-Jun-2007 19:27:34	04-Jun-2007 19:27:35
Lmax (fast):	77.9 dBA	92.8 dBC	93.3 dBF
04-Jun-2007 19:30:04		04-Jun-2007 19:34:30	04-Jun-2007 19:34:30
Lmin (fast):	42.9 dBA	51.8 dBC	53.3 dBF
04-Jun-2007 19:27:33		04-Jun-2007 19:27:33	04-Jun-2007 19:27:33
Lmax (impulse):	78.4 dBA	93.9 dBC	94.5 dBF
04-Jun-2007 19:30:04		04-Jun-2007 19:34:30	04-Jun-2007 19:34:30
Lmin (impulse):	43.4 dBA	54.3 dBC	55.9 dBF
04-Jun-2007 19:27:34		04-Jun-2007 19:27:14	04-Jun-2007 19:27:35

File Translated: C:\Vista Env\2007\070404 - San Ramon\Noise Measurements\LD\3.slmdl
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.261 / 3.120
Name: Vista Environmental
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm.ism / Simple Integrating SLM
Location:
Notel:
Note2:

Current Any Data

Start Time: 04-Jun-2007 04:16:30
Elapsed Time: 00:11:00.6

	A Weight	C Weight	Flat
Leq:	67.1 dBA	77.7 dBC	79.1 dBF
SEL:	95.4 dBA	105.9 dBC	107.3 dBF
Peak:	101.5 dBA	107.1 dBC	107.3 dBF
04-Jun-2007 04:25:27		04-Jun-2007 04:25:27	04-Jun-2007 04:25:27
Lmax (slow):	84.9 dBA	95.2 dBC	95.4 dBF
04-Jun-2007 04:25:26		04-Jun-2007 04:25:26	04-Jun-2007 04:25:26
Lmin (slow):	58.5 dBA	69.9 dBC	71.3 dBF
04-Jun-2007 04:23:28		04-Jun-2007 04:26:19	04-Jun-2007 04:26:23
Lmax (fast):	87.9 dBA	97.1 dBC	97.2 dBF
04-Jun-2007 04:25:26		04-Jun-2007 04:25:26	04-Jun-2007 04:25:26
Lmin (fast):	57.8 dBA	68.1 dBC	69.5 dBF
04-Jun-2007 04:23:26		04-Jun-2007 04:26:18	04-Jun-2007 04:26:18
Lmax (impulse):	88.8 dBA	97.8 dBC	97.9 dBF
04-Jun-2007 04:25:26		04-Jun-2007 04:25:26	04-Jun-2007 04:25:26
Lmin (impulse):	58.0 dBA	71.0 dBC	72.1 dBF
04-Jun-2007 04:23:26		04-Jun-2007 04:26:19	04-Jun-2007 04:26:15

File Translated: C:\Vista Env\2007\070404 - San Ramon\Noise Measurements\LD\12.slmdl
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.261 / 3.120
Name: Vista Environmental
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm.ism / Simple Integrating SLM
Location:
Notel:
Note2:

Current Any Data

Start Time: 04-Jun-2007 19:50:08
Elapsed Time: 00:10:00.4

	A Weight	C Weight	Flat
Leq:	65.1 dBA	76.0 dBC	76.9 dBF
SEL:	92.9 dBA	103.8 dBC	104.7 dBF
Peak:	95.9 dBA	100.6 dBC	101.7 dBF
04-Jun-2007 19:52:32		04-Jun-2007 19:52:33	04-Jun-2007 19:52:33
Lmax (slow):	81.7 dBA	88.5 dBC	89.2 dBF
04-Jun-2007 19:52:33		04-Jun-2007 19:52:33	04-Jun-2007 19:52:33
Lmin (slow):	58.1 dBA	69.3 dBC	70.4 dBF
04-Jun-2007 19:55:10		04-Jun-2007 19:55:13	04-Jun-2007 19:55:12
Lmax (fast):	83.6 dBA	90.6 dBC	91.2 dBF
04-Jun-2007 19:52:32		04-Jun-2007 19:52:33	04-Jun-2007 19:52:33
Lmin (fast):	57.3 dBA	68.2 dBC	69.2 dBF
04-Jun-2007 19:55:09		04-Jun-2007 19:55:12	04-Jun-2007 19:55:12
Lmax (impulse):	84.3 dBA	91.2 dBC	92.2 dBF
04-Jun-2007 19:52:32		04-Jun-2007 19:52:33	04-Jun-2007 19:52:33
Lmin (impulse):	57.7 dBA	68.2 dBC	68.8 dBF
04-Jun-2007 19:55:10		04-Jun-2007 19:50:08	04-Jun-2007 19:50:08

File Translated: C:\Vista Env\2007\070404 - San Ramon\Noise Measurements\LD\4.slmdl
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.261 / 3.120
Name: Vista Environmental
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm.ism / Simple Integrating SLM
Location:
Notel:
Note2:

Current Any Data

Start Time: 04-Jun-2007 04:34:51
Elapsed Time: 00:11:30.4

	A Weight	C Weight	Flat
Leq:	64.6 dBA	73.3 dBC	74.2 dBF
SEL:	93.0 dBA	101.7 dBC	102.6 dBF
Peak:	88.0 dBA	94.5 dBC	95.1 dBF
04-Jun-2007 04:35:00		04-Jun-2007 04:41:04	04-Jun-2007 04:41:01
Lmax (slow):	71.5 dBA	87.4 dBC	88.0 dBF
04-Jun-2007 04:35:01		04-Jun-2007 04:46:14	04-Jun-2007 04:46:14
Lmin (slow):	53.7 dBA	64.6 dBC	65.9 dBF
04-Jun-2007 04:43:43		04-Jun-2007 04:35:23	04-Jun-2007 04:44:46
Lmax (fast):	73.3 dBA	89.6 dBC	90.2 dBF
04-Jun-2007 04:34:58		04-Jun-2007 04:46:14	04-Jun-2007 04:46:14
Lmin (fast):	53.2 dBA	62.4 dBC	63.4 dBF
04-Jun-2007 04:44:43		04-Jun-2007 04:35:23	04-Jun-2007 04:35:21
Lmax (impulse):	74.7 dBA	90.0 dBC	90.8 dBF
04-Jun-2007 04:34:58		04-Jun-2007 04:46:14	04-Jun-2007 04:46:14
Lmin (impulse):	53.6 dBA	65.8 dBC	66.7 dBF
04-Jun-2007 04:43:43		04-Jun-2007 04:43:41	04-Jun-2007 04:44:45

File Translated: C:\Vista Env\2007\070404 - San Ramon\Noise Measurements\LD\13.slmdl
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.261 / 3.120
Name: Vista Environmental
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm.ism / Simple Integrating SLM
Location:
Notel:
Note2:

Current Any Data

Start Time: 04-Jun-2007 20:04:41
Elapsed Time: 00:10:30.6

	A Weight	C Weight	Flat
Leq:	63.9 dBA	73.5 dBC	74.4 dBF
SEL:	91.9 dBA	101.5 dBC	102.4 dBF
Peak:	85.8 dBA	94.3 dBC	97.1 dBF
04-Jun-2007 20:04:46		04-Jun-2007 20:04:46	04-Jun-2007 20:15:07
Lmax (slow):	72.6 dBA	83.2 dBC	84.3 dBF
04-Jun-2007 20:04:46		04-Jun-2007 20:07:11	04-Jun-2007 20:04:47
Lmin (slow):	53.5 dBA	66.5 dBC	67.9 dBF
04-Jun-2007 20:09:48		04-Jun-2007 20:09:51	04-Jun-2007 20:09:51
Lmax (fast):	75.0 dBA	85.5 dBC	88.1 dBF
04-Jun-2007 20:04:46		04-Jun-2007 20:07:11	04-Jun-2007 20:15:07
Lmin (fast):	52.8 dBA	64.9 dBC	66.2 dBF
04-Jun-2007 20:09:48		04-Jun-2007 20:09:50	04-Jun-2007 20:09:50
Lmax (impulse):	76.1 dBA	86.9 dBC	91.6 dBF
04-Jun-2007 20:04:46		04-Jun-2007 20:07:11	04-Jun-2007 20:15:07
Lmin (impulse):	53.3 dBA	67.6 dBC	68.8 dBF
04-Jun-2007 20:09:47		04-Jun-2007 20:09:48	04-Jun-2007 20:05:04

File Translated: C:\Vista Env\2007\070404 - San Ramon\Noise Measurements\LD\5.slm₁
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.261 / 3.120
Name: Vista Environmental
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm.ism / Simple Integrating SLM
Location:
Notel:
Note2:

Current Any Data

Start Time: 04-Jun-2007 04:51:02
Elapsed Time: 00:10:00.4

	A Weight	C Weight	Flat
Leq:	51.6 dBA	64.5 dBC	69.2 dBF
SEL:	79.4 dBA	92.3 dBC	97.0 dBF
Peak:	86.7 dBA	88.7 dBC	92.6 dBF
04-Jun-2007 04:51:02	04-Jun-2007 04:51:02	04-Jun-2007 04:51:02	04-Jun-2007 04:51:02
Lmax (slow):	63.8 dBA	76.0 dBC	81.9 dBF
04-Jun-2007 04:51:02	04-Jun-2007 04:51:03	04-Jun-2007 04:51:03	04-Jun-2007 04:51:03
Lmin (slow):	48.6 dBA	58.6 dBC	60.0 dBF
04-Jun-2007 04:53:02	04-Jun-2007 04:58:59	04-Jun-2007 04:58:59	04-Jun-2007 04:58:59
Lmax (fast):	63.6 dBA	80.1 dBC	85.4 dBF
04-Jun-2007 04:51:02	04-Jun-2007 04:52:29	04-Jun-2007 04:52:29	04-Jun-2007 04:52:29
Lmin (fast):	47.9 dBA	57.1 dBC	58.1 dBF
04-Jun-2007 04:52:56	04-Jun-2007 04:58:59	04-Jun-2007 04:58:59	04-Jun-2007 04:58:59
Lmax (impulse):	61.9 dBA	82.8 dBC	88.6 dBF
04-Jun-2007 04:54:04	04-Jun-2007 04:58:34	04-Jun-2007 04:58:34	04-Jun-2007 04:58:34
Lmin (impulse):	48.4 dBA	58.5 dBC	60.4 dBF
04-Jun-2007 04:52:56	04-Jun-2007 05:00:31	04-Jun-2007 04:58:59	04-Jun-2007 04:58:59

File Translated: C:\Vista Env\2007\070404 - San Ramon\Noise Measurements\LD\14.slmdl
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.261 / 3.120
Name: Vista Environmental
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm.ism / Simple Integrating SLM
Location:
Notel:
Note2:

Current Any Data

Start Time: 04-Jun-2007 20:18:46
Elapsed Time: 00:10:00.6

	A Weight	C Weight	Flat
Leq:	52.0 dBA	63.6 dBC	66.1 dBF
SEL:	79.8 dBA	91.4 dBC	93.9 dBF
Peak:	83.1 dBA	82.6 dBC	87.4 dBF
04-Jun-2007 20:27:07		04-Jun-2007 20:21:12	04-Jun-2007 20:24:48
Lmax (slow):	61.3 dBA	68.8 dBC	75.4 dBF
04-Jun-2007 20:18:48		04-Jun-2007 20:18:48	04-Jun-2007 20:21:26
Lmin (slow):	50.2 dBA	60.6 dBC	61.9 dBF
04-Jun-2007 20:19:53		04-Jun-2007 20:27:21	04-Jun-2007 20:27:32
Lmax (fast):	64.8 dBA	72.7 dBC	79.4 dBF
04-Jun-2007 20:18:48		04-Jun-2007 20:18:48	04-Jun-2007 20:21:26
Lmin (fast):	49.7 dBA	58.3 dBC	59.6 dBF
04-Jun-2007 20:27:16		04-Jun-2007 20:27:19	04-Jun-2007 20:27:19
Lmax (impulse):	66.1 dBA	74.6 dBC	81.7 dBF
04-Jun-2007 20:18:48		04-Jun-2007 20:21:06	04-Jun-2007 20:21:37
Lmin (impulse):	50.2 dBA	60.7 dBC	61.4 dBF
04-Jun-2007 20:19:52		04-Jun-2007 20:18:46	04-Jun-2007 20:18:46

File Translated: C:\Vista Env\2007\070404 - San Ramon\Noise Measurements\LD\6.slmdl
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.261 / 3.120
Name: Vista Environmental
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm.ism / Simple Integrating SLM
Location:
Notel:
Note2:

Current Any Data

Start Time: 04-Jun-2007 05:06:29
Elapsed Time: 00:05:00.4

	A Weight	C Weight	Flat
Leq:	66.3 dBA	71.1 dBC	75.4 dBF
SEL:	91.1 dBA	95.8 dBC	100.2 dBF
Peak:	91.7 dBA	97.0 dBC	100.8 dBF
04-Jun-2007 05:08:00		04-Jun-2007 05:06:31	04-Jun-2007 05:06:31
Lmax (slow):	68.9 dBA	82.4 dBC	88.2 dBF
04-Jun-2007 05:06:29		04-Jun-2007 05:06:29	04-Jun-2007 05:06:32
Lmin (slow):	65.0 dBA	67.7 dBC	68.6 dBF
04-Jun-2007 05:11:05		04-Jun-2007 05:06:56	04-Jun-2007 05:06:59
Lmax (fast):	68.4 dBA	87.8 dBC	93.3 dBF
04-Jun-2007 05:08:00		04-Jun-2007 05:06:31	04-Jun-2007 05:06:31
Lmin (fast):	64.5 dBA	67.0 dBC	67.9 dBF
04-Jun-2007 05:10:38		04-Jun-2007 05:10:06	04-Jun-2007 05:07:48
Lmax (impulse):	71.1 dBA	90.7 dBC	95.7 dBF
04-Jun-2007 05:08:00		04-Jun-2007 05:06:31	04-Jun-2007 05:06:31
Lmin (impulse):	63.7 dBA	67.5 dBC	68.7 dBF
04-Jun-2007 05:06:29		04-Jun-2007 05:10:06	04-Jun-2007 05:07:19

File Translated: C:\Vista Env\2007\070404 - San Ramon\Noise Measurements\LD\15.slmdl
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.261 / 3.120
Name: Vista Environmental
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm.ism / Simple Integrating SLM
Location:
Notel:
Note2:

Current Any Data

Start Time: 04-Jun-2007 20:34:10
Elapsed Time: 00:04:00.4

	A Weight	C Weight	Flat
Leq:	66.2 dBA	69.0 dBC	70.8 dBF
SEL:	90.0 dBA	92.8 dBC	94.6 dBF
Peak:	83.3 dBA	85.6 dBC	89.1 dBF
04-Jun-2007 20:35:34		04-Jun-2007 20:37:46	04-Jun-2007 20:37:14
Lmax (slow):	67.3 dBA	73.9 dBC	78.8 dBF
04-Jun-2007 20:34:10		04-Jun-2007 20:37:48	04-Jun-2007 20:37:16
Lmin (slow):	65.6 dBA	67.2 dBC	68.2 dBF
04-Jun-2007 20:35:05		04-Jun-2007 20:36:06	04-Jun-2007 20:36:06
Lmax (fast):	67.2 dBA	76.7 dBC	81.8 dBF
04-Jun-2007 20:35:11		04-Jun-2007 20:37:45	04-Jun-2007 20:37:14
Lmin (fast):	65.1 dBA	66.7 dBC	67.4 dBF
04-Jun-2007 20:34:50		04-Jun-2007 20:35:52	04-Jun-2007 20:35:52
Lmax (impulse):	68.1 dBA	78.7 dBC	83.9 dBF
04-Jun-2007 20:35:11		04-Jun-2007 20:37:45	04-Jun-2007 20:37:14
Lmin (impulse):	64.0 dBA	66.9 dBC	68.2 dBF
04-Jun-2007 20:34:10		04-Jun-2007 20:34:10	04-Jun-2007 20:36:06

File Translated: C:\Vista Env\2007\070404 - San Ramon\Noise Measurements\LD\7.slm₁
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.261 / 3.120
Name: Vista Environmental
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm.ism / Simple Integrating SLM
Location:
Notel:
Note2:

Current Any Data

Start Time: 04-Jun-2007 05:28:38
Elapsed Time: 00:12:30.4

	A Weight	C Weight	Flat
Leq:	69.6 dBA	78.1 dBC	78.7 dBF
SEL:	98.4 dBA	106.9 dBC	107.5 dBF
Peak:	90.3 dBA	101.7 dBC	102.0 dBF
04-Jun-2007 05:36:06		04-Jun-2007 05:34:53	04-Jun-2007 05:34:53
Lmax (slow):	79.3 dBA	92.6 dBC	92.7 dBF
04-Jun-2007 05:34:54		04-Jun-2007 05:34:54	04-Jun-2007 05:34:54
Lmin (slow):	54.9 dBA	66.6 dBC	68.6 dBF
04-Jun-2007 05:39:26		04-Jun-2007 05:33:26	04-Jun-2007 05:33:27
Lmax (fast):	80.7 dBA	95.3 dBC	95.5 dBF
04-Jun-2007 05:34:54		04-Jun-2007 05:34:51	04-Jun-2007 05:34:51
Lmin (fast):	54.2 dBA	63.8 dBC	65.0 dBF
04-Jun-2007 05:39:26		04-Jun-2007 05:33:25	04-Jun-2007 05:33:25
Lmax (impulse):	81.5 dBA	96.5 dBC	96.7 dBF
04-Jun-2007 05:34:54		04-Jun-2007 05:34:51	04-Jun-2007 05:34:51
Lmin (impulse):	54.6 dBA	67.4 dBC	69.6 dBF
04-Jun-2007 05:39:26		04-Jun-2007 05:33:26	04-Jun-2007 05:35:26

File Translated: C:\Vista Env\2007\070404 - San Ramon\Noise Measurements\LD\16.slmdl
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.261 / 3.120
Name: Vista Environmental
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm.ism / Simple Integrating SLM
Location:
Notel:
Note2:

Current Any Data

Start Time: 04-Jun-2007 20:46:44
Elapsed Time: 00:11:59.9

	A Weight	C Weight	Flat
Leq:	70.0 dBA	78.2 dBC	78.7 dBF
SEL:	98.6 dBA	106.7 dBC	107.2 dBF
Peak:	100.2 dBA	101.2 dBC	101.9 dBF
04-Jun-2007 20:52:16		04-Jun-2007 20:56:42	04-Jun-2007 20:56:42
Lmax (slow):	81.6 dBA	94.3 dBC	94.8 dBF
04-Jun-2007 20:54:57		04-Jun-2007 20:56:43	04-Jun-2007 20:56:43
Lmin (slow):	54.8 dBA	64.4 dBC	66.0 dBF
04-Jun-2007 20:53:21		04-Jun-2007 20:49:19	04-Jun-2007 20:49:19
Lmax (fast):	86.1 dBA	95.9 dBC	96.4 dBF
04-Jun-2007 20:52:16		04-Jun-2007 20:56:42	04-Jun-2007 20:56:42
Lmin (fast):	54.1 dBA	62.6 dBC	64.2 dBF
04-Jun-2007 20:53:21		04-Jun-2007 20:49:16	04-Jun-2007 20:53:21
Lmax (impulse):	88.2 dBA	96.7 dBC	97.2 dBF
04-Jun-2007 20:52:16		04-Jun-2007 20:56:42	04-Jun-2007 20:56:42
Lmin (impulse):	54.6 dBA	65.0 dBC	66.8 dBF
04-Jun-2007 20:53:22		04-Jun-2007 20:49:17	04-Jun-2007 20:53:21

File Translated: C:\Vista Env\2007\070404 - San Ramon\Noise Measurements\LD\8.slm₁
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.261 / 3.120
Name: Vista Environmental
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm.ism / Simple Integrating SLM
Location:
Notel:
Note2:

Current Any Data

Start Time: 04-Jun-2007 05:49:52
Elapsed Time: 00:11:30.1

	A Weight	C Weight	Flat
Leq:	50.8 dBA	61.8 dBC	64.2 dBF
SEL:	79.2 dBA	90.2 dBC	92.6 dBF
Peak:	74.3 dBA	90.3 dBC	92.0 dBF
04-Jun-2007 05:50:12	04-Jun-2007 05:50:12	04-Jun-2007 05:50:12	04-Jun-2007 05:50:12
Lmax (slow):	55.9 dBA	70.4 dBC	74.3 dBF
04-Jun-2007 05:50:04	04-Jun-2007 05:50:12	04-Jun-2007 05:50:12	04-Jun-2007 06:00:41
Lmin (slow):	46.9 dBA	57.0 dBC	58.5 dBF
04-Jun-2007 05:51:15	04-Jun-2007 05:51:18	04-Jun-2007 05:51:18	04-Jun-2007 05:51:18
Lmax (fast):	58.2 dBA	77.9 dBC	80.4 dBF
04-Jun-2007 05:50:12	04-Jun-2007 05:50:12	04-Jun-2007 05:50:12	04-Jun-2007 05:50:12
Lmin (fast):	45.9 dBA	55.4 dBC	56.2 dBF
04-Jun-2007 05:51:14	04-Jun-2007 05:51:20	04-Jun-2007 05:51:20	04-Jun-2007 05:51:20
Lmax (impulse):	61.5 dBA	81.2 dBC	84.1 dBF
04-Jun-2007 05:50:12	04-Jun-2007 05:50:12	04-Jun-2007 05:50:12	04-Jun-2007 05:50:12
Lmin (impulse):	46.7 dBA	57.5 dBC	59.5 dBF
04-Jun-2007 05:51:14	04-Jun-2007 05:51:13	04-Jun-2007 05:51:13	04-Jun-2007 05:51:13

File Translated: C:\Vista Env\2007\070404 - San Ramon\Noise Measurements\LD\17.slmdl
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.261 / 3.120
Name: Vista Environmental
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm.ism / Simple Integrating SLM
Location:
Notel:
Note2:

Current Any Data

Start Time: 04-Jun-2007 21:04:31
Elapsed Time: 00:10:00.6

	A Weight	C Weight	Flat
Leq:	52.6 dBA	63.0 dBC	65.0 dBF
SEL:	80.4 dBA	90.8 dBC	92.8 dBF
Peak:	82.8 dBA	88.9 dBC	91.1 dBF
04-Jun-2007 21:08:24		04-Jun-2007 21:12:56	04-Jun-2007 21:12:56
Lmax (slow):	59.3 dBA	70.3 dBC	75.8 dBF
04-Jun-2007 21:09:21		04-Jun-2007 21:04:37	04-Jun-2007 21:08:16
Lmin (slow):	48.6 dBA	58.3 dBC	59.4 dBF
04-Jun-2007 21:11:42		04-Jun-2007 21:13:47	04-Jun-2007 21:13:44
Lmax (fast):	61.4 dBA	76.5 dBC	81.5 dBF
04-Jun-2007 21:09:20		04-Jun-2007 21:12:56	04-Jun-2007 21:08:15
Lmin (fast):	48.1 dBA	57.1 dBC	58.1 dBF
04-Jun-2007 21:11:42		04-Jun-2007 21:13:45	04-Jun-2007 21:13:44
Lmax (impulse):	64.0 dBA	81.2 dBC	84.7 dBF
04-Jun-2007 21:09:20		04-Jun-2007 21:12:56	04-Jun-2007 21:08:15
Lmin (impulse):	48.5 dBA	59.2 dBC	60.2 dBF
04-Jun-2007 21:11:42		04-Jun-2007 21:13:45	04-Jun-2007 21:13:44

File Translated: C:\Vista Env\2007\070404 - San Ramon\Noise Measurements\LD\9.slm~~l~~
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.261 / 3.120
Name: Vista Environmental
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm.ism / Simple Integrating SLM
Location:
Notel:
Note2:

Current Any Data

Start Time: 04-Jun-2007 06:09:24
Elapsed Time: 00:11:00.6

	A Weight	C Weight	Flat
Leq:	72.5 dBA	79.2 dBC	79.7 dBF
SEL:	100.7 dBA	107.4 dBC	108.0 dBF
Peak:	102.2 dBA	103.3 dBC	103.8 dBF
04-Jun-2007 06:19:43		04-Jun-2007 06:19:43	04-Jun-2007 06:19:43
Lmax (slow):	85.4 dBA	90.6 dBC	90.7 dBF
04-Jun-2007 06:19:44		04-Jun-2007 06:09:56	04-Jun-2007 06:09:56
Lmin (slow):	60.0 dBA	68.3 dBC	69.3 dBF
04-Jun-2007 06:14:16		04-Jun-2007 06:11:47	04-Jun-2007 06:11:47
Lmax (fast):	89.7 dBA	93.4 dBC	93.5 dBF
04-Jun-2007 06:19:43		04-Jun-2007 06:09:56	04-Jun-2007 06:09:56
Lmin (fast):	59.2 dBA	66.7 dBC	67.3 dBF
04-Jun-2007 06:14:15		04-Jun-2007 06:11:46	04-Jun-2007 06:11:46
Lmax (impulse):	90.6 dBA	94.3 dBC	94.5 dBF
04-Jun-2007 06:19:43		04-Jun-2007 06:09:56	04-Jun-2007 06:09:56
Lmin (impulse):	60.0 dBA	68.8 dBC	70.0 dBF
04-Jun-2007 06:11:46		04-Jun-2007 06:11:46	04-Jun-2007 06:11:47

File Translated: C:\Vista Env\2007\070404 - San Ramon\Noise Measurements\LD\18.slmdl
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.261 / 3.120
Name: Vista Environmental
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm.ism / Simple Integrating SLM
Location:
Notel:
Note2:

Current Any Data

Start Time: 04-Jun-2007 21:21:23
Elapsed Time: 00:11:30.4

	A Weight	C Weight	Flat
Leq:	70.4 dBA	79.8 dBC	80.4 dBF
SEL:	98.8 dBA	108.2 dBC	108.8 dBF
Peak:	98.1 dBA	105.0 dBC	105.3 dBF
04-Jun-2007 21:26:08	04-Jun-2007 21:26:08	04-Jun-2007 21:26:08	04-Jun-2007 21:26:08
Lmax (slow):	84.4 dBA	94.9 dBC	95.2 dBF
04-Jun-2007 21:26:08	04-Jun-2007 21:26:09	04-Jun-2007 21:26:09	04-Jun-2007 21:26:09
Lmin (slow):	59.4 dBA	68.2 dBC	69.5 dBF
04-Jun-2007 21:23:13	04-Jun-2007 21:21:42	04-Jun-2007 21:21:42	04-Jun-2007 21:21:42
Lmax (fast):	85.6 dBA	96.7 dBC	97.1 dBF
04-Jun-2007 21:26:08	04-Jun-2007 21:26:08	04-Jun-2007 21:26:08	04-Jun-2007 21:26:08
Lmin (fast):	58.9 dBA	66.8 dBC	67.8 dBF
04-Jun-2007 21:23:11	04-Jun-2007 21:21:41	04-Jun-2007 21:21:41	04-Jun-2007 21:21:41
Lmax (impulse):	86.2 dBA	97.9 dBC	98.2 dBF
04-Jun-2007 21:26:08	04-Jun-2007 21:26:08	04-Jun-2007 21:26:08	04-Jun-2007 21:26:08
Lmin (impulse):	58.7 dBA	69.0 dBC	69.9 dBF
04-Jun-2007 21:21:23	04-Jun-2007 21:28:30	04-Jun-2007 21:28:30	04-Jun-2007 21:28:30

Site A

Date Time=06/04/07 10:55:00 AM
Sampling Time=5 Weighting=A
Record Num= 17520 Weighting=Slow CNEL(24hr)= 58.0
Leq alue=52.5 SEL Value=102.0 Ldn(24hr)= 57.7
MAX 77.7 Min Leq10min = 43.6 at 1:25 a.m.
MIN 39.9 Max Leq10min = 59.3 at 4:25 p.m.

Site A

Table with 4 columns: SPL, Time, Leq (10 min. Avg.), Ldn CNEL. Contains 100 rows of noise data for Site A.

Site B

Date Time=06/04/07 10:53:00 AM
Sampling Time=5 Freq Weighting=A
Record Num= 17520 Weighting=Slow CNEL(24hr)= 59.4
Leq alue=55.7 SEL Value=105.2 Ldn(24hr)= 59.2
MAX 76.4 Min Leq10min = 44.1 at 1:34 a.m.
MIN 39.8 Max Leq10min = 71.1 at 10:31 a.m.

Site B

Table with 5 columns: SPL, Time, Leq (10 min. Avg.), Ldn, CNEL. Contains 100 rows of noise data for Site B.

Appendix D: Construction - RCNM Printouts

Roadway Construction Noise Model (RCNM), Version 1.0

Report date: 6/27/2007
 Case Description: San Ramon City Center

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Marriott Residence Inr	Residential	60	60	60

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Impact Pile Driver	Yes	20		101.3	180	0
Excavator	No	40		80.7	200	0
Front End Loader	No	40		79.1	220	0

Equipment	Results				Noise Limits (dBA)			
	Calculated (dBA)		Day		Evening			
	*Lmax	Leq	Lmax	Leq	Lmax	Leq		
Impact Pile Driver	90.1	83.2	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	68.7	64.7	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	66.2	62.3	N/A	N/A	N/A	N/A	N/A	N/A
Total	90.1	83.3	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Apartment to the east	Residential	60	60	60

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Impact Pile Driver	Yes	20		101.3	210	0
Excavator	No	40		80.7	230	0
Front End Loader	No	40		79.1	240	0

Equipment	Results				Noise Limits (dBA)			
	Calculated (dBA)		Day		Evening			
	*Lmax	Leq	Lmax	Leq	Lmax	Leq		
Impact Pile Driver	88.8	81.8	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	67.5	63.5	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	65.5	61.5	N/A	N/A	N/A	N/A	N/A	N/A
Total	88.8	81.9	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Iron Horse Middle Sch	Commercial	60	60	60

Description	Impact Device	Usage(%)	Equipment	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)			
Impact Pile Driver	Yes	20		101.3	2000	0
Excavator	No	40		80.7	2020	0
Front End Loader	No	40		79.1	2040	0

Equipment	Calculated (dBA)			Results			
	*Lmax	Leq	Day Lmax	Noise Limits (dBA)			Leq
				Leq	Evening Lmax	Leq	
Impact Pile Driver	69.2	62.2	N/A	N/A	N/A	N/A	N/A
Excavator	48.6	44.6	N/A	N/A	N/A	N/A	N/A
Front End Loader	46.9	42.9	N/A	N/A	N/A	N/A	N/A
Total	69.2	62.4	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Appendix E: Offsite Traffic Noise Impact Calculations

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Bollinger Canyon Road **Segment:** South of Crow Canyon Road
 Average Daily Traffic: 5010 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: 2-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 98.37 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	65.11	-4.11	-4.51	-1.20	55.29	52.92	51.62	45.57	54.00	54.63	70 dBA:	10	11
Medium Trucks	74.83	-18.98	-4.51	-1.20	50.14	30.93	23.15	32.36	38.51	38.55	65 dBA:	22	24
Heavy Trucks	80.05	-16.76	-4.51	-1.20	57.58	40.59	32.81	42.01	48.17	48.20	60 dBA:	47	51
Total:					60.06	53.19	51.69	47.30	55.10	55.61	55 dBA:	102	110

Road Name: Bollinger Canyon Road **Segment:** North of Norris Canyon Road
 Average Daily Traffic: 7105 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: 2-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 98.37 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	65.11	-2.59	-4.51	-1.20	56.81	54.43	53.14	47.09	55.52	56.15	70 dBA:	13	14
Medium Trucks	74.83	-17.46	-4.51	-1.20	51.66	32.45	24.67	33.88	40.03	40.06	65 dBA:	28	30
Heavy Trucks	80.05	-15.24	-4.51	-1.20	59.09	42.10	34.32	43.53	49.69	49.72	60 dBA:	60	64
Total:					61.58	54.71	53.20	48.81	56.62	57.13	55 dBA:	128	139

Road Name: Bollinger Canyon Road **Segment:** South of Norris Canyon Road
 Average Daily Traffic: 8810 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	67.36	-2.24	-4.43	-1.20	59.50	57.12	55.83	49.78	58.21	58.84	70 dBA:	19	20
Medium Trucks	76.31	-16.53	-4.43	-1.20	54.16	34.37	26.59	35.80	41.95	41.99	65 dBA:	40	44
Heavy Trucks	81.16	-14.89	-4.43	-1.20	60.65	43.66	35.88	45.08	51.24	51.27	60 dBA:	87	94
Total:					63.64	57.34	55.88	51.17	59.09	59.62	55 dBA:	187	203

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: San Ramon Valley Boulevard **Segment: North of Crow Canyon Road**
 Average Daily Traffic: 20300 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	65.11	1.97	-4.43	-1.20	61.45	59.08	57.79	51.73	60.16	60.79	70 dBA:	26	28
Medium Trucks	74.83	-12.90	-4.43	-1.20	56.30	37.09	29.31	38.52	44.68	44.71	65 dBA:	56	61
Heavy Trucks	80.05	-10.68	-4.43	-1.20	63.74	46.75	38.97	48.18	54.33	54.36	60 dBA:	121	131
Total:					66.22	59.35	57.85	53.46	61.27	61.77	55 dBA:	262	283

Road Name: San Ramon Valley Boulevard **Segment: North of Norris Canyon Road**
 Average Daily Traffic: 12585 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	65.11	-0.11	-4.43	-1.20	59.37	57.00	55.71	49.65	58.09	58.72	70 dBA:	19	21
Medium Trucks	74.83	-14.98	-4.43	-1.20	54.23	35.02	27.24	36.44	42.60	42.63	65 dBA:	41	44
Heavy Trucks	80.05	-12.76	-4.43	-1.20	61.66	44.67	36.89	46.10	52.25	52.29	60 dBA:	88	95
Total:					64.14	57.28	55.77	51.38	59.19	59.69	55 dBA:	190	206

Road Name: San Ramon Valley Boulevard **Segment: North of Bollinger Canyon Road**
 Average Daily Traffic: 13400 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	67.36	-0.42	-4.43	-1.20	61.32	58.95	57.65	51.60	60.03	60.66	70 dBA:	25	27
Medium Trucks	76.31	-14.70	-4.43	-1.20	55.98	36.20	28.41	37.62	43.78	43.81	65 dBA:	53	58
Heavy Trucks	81.16	-13.07	-4.43	-1.20	62.47	45.48	37.70	46.91	53.06	53.09	60 dBA:	115	125
Total:					65.46	59.16	57.70	52.99	60.91	61.44	55 dBA:	248	269

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: San Ramon Valley Boulevard **Segment: South of Bollinger Canyon Road**
 Average Daily Traffic: 23175 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	67.36	1.96	-4.43	-1.20	63.70	61.32	60.03	53.98	62.41	63.04	70 dBA:	36	39
Medium Trucks	76.31	-12.32	-4.43	-1.20	58.36	38.57	30.79	40.00	46.16	46.19	65 dBA:	77	83
Heavy Trucks	81.16	-10.69	-4.43	-1.20	64.85	47.86	40.08	49.28	55.44	55.47	60 dBA:	166	180
Total:					67.84	61.54	60.08	55.37	63.29	63.82	55 dBA:	357	387

Road Name: San Ramon Valley Boulevard **Segment: South of Montevideo Drive**
 Average Daily Traffic: 16650 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	67.36	0.53	-4.43	-1.20	62.26	59.89	58.60	52.54	60.97	61.60	70 dBA:	29	31
Medium Trucks	76.31	-13.76	-4.43	-1.20	56.93	37.14	29.36	38.56	44.72	44.75	65 dBA:	62	67
Heavy Trucks	81.16	-12.12	-4.43	-1.20	63.41	46.42	38.64	47.85	54.00	54.04	60 dBA:	133	144
Total:					66.40	60.10	58.64	53.94	61.85	62.38	55 dBA:	286	310

Road Name: Sunset Drive **Segment: South of Bishop Drive**
 Average Daily Traffic: 9090 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 2 Roadway Classification: 4-lane Collector

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	65.11	-1.27	-4.43	-1.20	58.21	56.09	54.77	48.76	57.18	57.81	70 dBA:	14	15
Medium Trucks	74.83	-18.51	-4.43	-1.20	50.69	29.44	35.46	17.17	30.31	33.06	65 dBA:	30	33
Heavy Trucks	80.05	-22.47	-4.43	-1.20	51.95	26.60	23.20	27.85	34.05	34.15	60 dBA:	65	72
Total:					59.71	56.10	54.83	48.80	57.21	57.84	55 dBA:	140	155

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Crow Canyon Road **Segment: East of Camino Ramon**
 Average Daily Traffic: 33685 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 8-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 86.02 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	3.59	-3.64	-1.20	66.11	63.74	62.44	56.39	64.82	65.45	70 dBA:	52	56
Medium Trucks	76.31	-10.70	-3.64	-1.20	60.77	40.99	33.20	42.41	48.57	48.60	65 dBA:	111	121
Heavy Trucks	81.16	-9.06	-3.64	-1.20	67.26	50.27	42.49	51.70	57.85	57.89	60 dBA:	240	260
Total:					70.25	63.95	62.49	57.79	65.70	66.23	55 dBA:	517	560

Road Name: Crow Canyon Road **Segment: East of Alcosta Boulevard**
 Average Daily Traffic: 32220 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	3.39	-4.08	-1.20	65.47	63.10	61.81	55.75	64.18	64.81	70 dBA:	47	51
Medium Trucks	76.31	-10.89	-4.08	-1.20	60.14	40.35	32.57	41.78	47.93	47.96	65 dBA:	101	109
Heavy Trucks	81.16	-9.26	-4.08	-1.20	66.62	49.63	41.85	51.06	57.21	57.25	60 dBA:	218	236
Total:					69.62	63.31	61.86	57.15	65.06	65.59	55 dBA:	469	508

Road Name: Crow Canyon Road **Segment: West of Dougherty Road**
 Average Daily Traffic: 19635 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	1.24	-4.08	-1.20	63.32	60.95	59.66	53.60	62.03	62.66	70 dBA:	34	37
Medium Trucks	76.31	-13.04	-4.08	-1.20	57.99	38.20	30.42	39.63	45.78	45.81	65 dBA:	73	79
Heavy Trucks	81.16	-11.41	-4.08	-1.20	64.47	47.48	39.70	48.91	55.06	55.10	60 dBA:	156	170
Total:					67.46	61.16	59.70	55.00	62.91	63.44	55 dBA:	337	365

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Bollinger Canyon Road **Segment: East of Market**
 Average Daily Traffic: 27100 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 8-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 86.02 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	2.64	-3.64	-1.20	65.16	62.79	61.50	55.44	63.88	64.51	70 dBA:	45	48
Medium Trucks	76.31	-11.65	-3.64	-1.20	59.83	40.04	32.26	41.47	47.62	47.66	65 dBA:	96	104
Heavy Trucks	81.16	-10.01	-3.64	-1.20	66.32	49.33	41.54	50.75	56.91	56.94	60 dBA:	208	225
Total:					69.31	63.01	61.55	56.84	64.76	65.28	55 dBA:	447	485

Road Name: Bollinger Canyon Road **Segment: East of Alcosta Boulevard**
 Average Daily Traffic: 26405 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	2.53	-4.08	-1.20	64.61	62.24	60.94	54.89	63.32	63.95	70 dBA:	41	45
Medium Trucks	76.31	-11.76	-4.08	-1.20	59.27	39.49	31.70	40.91	47.07	47.10	65 dBA:	88	96
Heavy Trucks	81.16	-10.12	-4.08	-1.20	65.76	48.77	40.99	50.20	56.35	56.38	60 dBA:	191	207
Total:					68.75	62.45	60.99	56.28	64.20	64.73	55 dBA:	410	445

Road Name: Bollinger Canyon Road **Segment: East of Canyon Lakes Drive**
 Average Daily Traffic: 20820 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	1.50	-4.08	-1.20	63.58	61.20	59.91	53.86	62.29	62.92	70 dBA:	35	38
Medium Trucks	76.31	-12.79	-4.08	-1.20	58.24	38.45	30.67	39.88	46.03	46.07	65 dBA:	75	82
Heavy Trucks	81.16	-11.15	-4.08	-1.20	64.73	47.74	39.96	49.16	55.32	55.35	60 dBA:	163	176
Total:					67.72	61.42	59.96	55.25	63.17	63.69	55 dBA:	350	380

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING PLUS PROJECT CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Bollinger Canyon Road **Segment: South of Crow Canyon Road**
 Average Daily Traffic: 6106 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: 2-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 98.37 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	65.11	-3.25	-4.51	-1.20	56.15	53.78	52.48	46.43	54.86	55.49	70 dBA:	12	13
Medium Trucks	74.83	-18.12	-4.51	-1.20	51.00	31.79	24.01	33.22	39.37	39.41	65 dBA:	25	27
Heavy Trucks	80.05	-15.90	-4.51	-1.20	58.44	41.45	33.66	42.87	49.03	49.06	60 dBA:	54	58
Total:					60.92	54.05	52.55	48.16	55.96	56.47	55 dBA:	116	125

Road Name: Bollinger Canyon Road **Segment: North of Norris Canyon Road**
 Average Daily Traffic: 8201 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: 2-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 98.37 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	65.11	-1.97	-4.51	-1.20	57.43	55.06	53.76	47.71	56.14	56.77	70 dBA:	14	15
Medium Trucks	74.83	-16.84	-4.51	-1.20	52.28	33.07	25.29	34.50	40.65	40.69	65 dBA:	30	33
Heavy Trucks	80.05	-14.62	-4.51	-1.20	59.72	42.73	34.95	44.15	50.31	50.34	60 dBA:	66	71
Total:					62.20	55.33	53.83	49.44	57.24	57.75	55 dBA:	141	152

Road Name: Bollinger Canyon Road **Segment: South of Norris Canyon Road**
 Average Daily Traffic: 9906 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	67.36	-1.73	-4.43	-1.20	60.01	57.63	56.34	50.29	58.72	59.35	70 dBA:	20	22
Medium Trucks	76.31	-16.02	-4.43	-1.20	54.67	34.88	27.10	36.31	42.46	42.50	65 dBA:	44	47
Heavy Trucks	81.16	-14.38	-4.43	-1.20	61.16	44.17	36.39	45.59	51.75	51.78	60 dBA:	94	102
Total:					64.15	57.85	56.39	51.68	59.60	60.12	55 dBA:	203	220

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING PLUS PROJECT CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: San Ramon Valley Boulevard **Segment: North of Crow Canyon Road**
 Average Daily Traffic: 20997 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	65.11	2.11	-4.43	-1.20	61.60	59.23	57.93	51.88	60.31	60.94	70 dBA:	27	29
Medium Trucks	74.83	-12.75	-4.43	-1.20	56.45	37.24	29.46	38.67	44.82	44.86	65 dBA:	58	62
Heavy Trucks	80.05	-10.53	-4.43	-1.20	63.89	46.90	39.11	48.32	54.48	54.51	60 dBA:	124	134
Total:					66.37	59.50	58.00	53.61	61.41	61.92	55 dBA:	268	289

Road Name: San Ramon Valley Boulevard **Segment: North of Norris Canyon Road**
 Average Daily Traffic: 12998 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	65.11	0.03	-4.43	-1.20	59.51	57.14	55.85	49.80	58.23	58.86	70 dBA:	19	21
Medium Trucks	74.83	-14.84	-4.43	-1.20	54.37	35.16	27.38	36.58	42.74	42.77	65 dBA:	42	45
Heavy Trucks	80.05	-12.62	-4.43	-1.20	61.80	44.81	37.03	46.24	52.39	52.43	60 dBA:	90	97
Total:					64.28	57.42	55.91	51.52	59.33	59.83	55 dBA:	194	210

Road Name: San Ramon Valley Boulevard **Segment: North of Bollinger Canyon Road**
 Average Daily Traffic: 13813 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	67.36	-0.29	-4.43	-1.20	61.45	59.08	57.78	51.73	60.16	60.79	70 dBA:	25	27
Medium Trucks	76.31	-14.57	-4.43	-1.20	56.12	36.33	28.55	37.75	43.91	43.94	65 dBA:	54	59
Heavy Trucks	81.16	-12.93	-4.43	-1.20	62.60	45.61	37.83	47.04	53.19	53.23	60 dBA:	117	127
Total:					65.59	59.29	57.83	53.13	61.04	61.57	55 dBA:	253	274

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING PLUS PROJECT CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: San Ramon Valley Boulevard **Segment: South of Bollinger Canyon Road**
 Average Daily Traffic: 23759 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	67.36	2.07	-4.43	-1.20	63.80	61.43	60.14	54.08	62.52	63.15	70 dBA:	36	39
Medium Trucks	76.31	-12.22	-4.43	-1.20	58.47	38.68	30.90	40.11	46.26	46.30	65 dBA:	78	85
Heavy Trucks	81.16	-10.58	-4.43	-1.20	64.96	47.97	40.18	49.39	55.55	55.58	60 dBA:	168	183
Total:					67.95	61.65	60.19	55.48	63.40	63.92	55 dBA:	363	393

Road Name: San Ramon Valley Boulevard **Segment: South of Montevideo Drive**
 Average Daily Traffic: 16954 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	67.36	0.60	-4.43	-1.20	62.34	59.97	58.67	52.62	61.05	61.68	70 dBA:	29	31
Medium Trucks	76.31	-13.68	-4.43	-1.20	57.00	37.22	29.44	38.64	44.80	44.83	65 dBA:	62	68
Heavy Trucks	81.16	-12.04	-4.43	-1.20	63.49	46.50	38.72	47.93	54.08	54.12	60 dBA:	135	146
Total:					66.48	60.18	58.72	54.02	61.93	62.46	55 dBA:	290	314

Road Name: Sunset Drive **Segment: South of Bishop Drive**
 Average Daily Traffic: 15822 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 2 Roadway Classification: 4-lane Collector

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	65.11	1.13	-4.43	-1.20	60.62	58.49	57.18	51.17	59.59	60.21	70 dBA:	20	22
Medium Trucks	74.83	-16.11	-4.43	-1.20	53.10	31.85	37.87	19.58	32.72	35.47	65 dBA:	44	48
Heavy Trucks	80.05	-20.06	-4.43	-1.20	54.36	29.01	25.61	30.26	36.46	36.55	60 dBA:	94	104
Total:					62.12	58.51	57.23	51.21	59.62	60.25	55 dBA:	203	224

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING PLUS PROJECT CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Crow Canyon Road **Segment: East of Camino Ramon**
 Average Daily Traffic: 35590 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 8-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 86.02 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	3.83	-3.64	-1.20	66.35	63.98	62.68	56.63	65.06	65.69	70 dBA:	54	58
Medium Trucks	76.31	-10.46	-3.64	-1.20	61.01	41.23	33.44	42.65	48.81	48.84	65 dBA:	116	125
Heavy Trucks	81.16	-8.82	-3.64	-1.20	67.50	50.51	42.73	51.94	58.09	58.12	60 dBA:	249	270
Total:					70.49	64.19	62.73	58.03	65.94	66.47	55 dBA:	536	581

Road Name: Crow Canyon Road **Segment: East of Alcosta Boulevard**
 Average Daily Traffic: 34867 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	3.74	-4.08	-1.20	65.81	63.44	62.15	56.09	64.53	65.16	70 dBA:	49	54
Medium Trucks	76.31	-10.55	-4.08	-1.20	60.48	40.69	32.91	42.12	48.27	48.31	65 dBA:	106	115
Heavy Trucks	81.16	-8.91	-4.08	-1.20	66.97	49.98	42.19	51.40	57.56	57.59	60 dBA:	229	249
Total:					69.96	63.66	62.20	57.49	65.41	65.93	55 dBA:	494	536

Road Name: Crow Canyon Road **Segment: West of Dougherty Road**
 Average Daily Traffic: 21243 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	1.58	-4.08	-1.20	63.66	61.29	60.00	53.94	62.37	63.01	70 dBA:	36	38
Medium Trucks	76.31	-12.70	-4.08	-1.20	58.33	38.54	30.76	39.97	46.12	46.16	65 dBA:	76	83
Heavy Trucks	81.16	-11.06	-4.08	-1.20	64.81	47.82	40.04	49.25	55.41	55.44	60 dBA:	165	179
Total:					67.81	61.50	60.05	55.34	63.25	63.78	55 dBA:	355	385

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING PLUS PROJECT CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Bollinger Canyon Road **Segment: East of Market**
 Average Daily Traffic: 37492 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 8-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 86.02 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	4.05	-3.64	-1.20	66.57	64.20	62.91	56.85	65.29	65.92	70 dBA:	56	60
Medium Trucks	76.31	-10.24	-3.64	-1.20	61.24	41.45	33.67	42.88	49.03	49.07	65 dBA:	120	130
Heavy Trucks	81.16	-8.60	-3.64	-1.20	67.73	50.74	42.95	52.16	58.32	58.35	60 dBA:	258	279
Total:					70.72	64.41	62.96	58.25	66.17	66.69	55 dBA:	555	602

Road Name: Bollinger Canyon Road **Segment: East of Alcosta Boulevard**
 Average Daily Traffic: 32447 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	3.42	-4.08	-1.20	65.50	63.13	61.84	55.78	64.21	64.84	70 dBA:	47	51
Medium Trucks	76.31	-10.86	-4.08	-1.20	60.17	40.38	32.60	41.81	47.96	48.00	65 dBA:	101	110
Heavy Trucks	81.16	-9.22	-4.08	-1.20	66.65	49.66	41.88	51.09	57.24	57.28	60 dBA:	219	237
Total:					69.65	63.34	61.89	57.18	65.09	65.62	55 dBA:	471	511

Road Name: Bollinger Canyon Road **Segment: East of Canyon Lakes Drive**
 Average Daily Traffic: 26338 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	2.52	-4.08	-1.20	64.60	62.22	60.93	54.88	63.31	63.94	70 dBA:	41	44
Medium Trucks	76.31	-11.77	-4.08	-1.20	59.26	39.47	31.69	40.90	47.06	47.09	65 dBA:	88	96
Heavy Trucks	81.16	-10.13	-4.08	-1.20	65.75	48.76	40.98	50.18	56.34	56.37	60 dBA:	190	206
Total:					68.74	62.44	60.98	56.27	64.19	64.72	55 dBA:	410	444

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2020 BASELINE CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Bollinger Canyon Road **Segment: South of Crow Canyon Road**
 Average Daily Traffic: 6410 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: 2-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 98.37 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	65.11	-3.04	-4.51	-1.20	56.36	53.99	52.69	46.64	55.07	55.70	70 dBA:	12	13
Medium Trucks	74.83	-17.91	-4.51	-1.20	51.21	32.00	24.22	33.43	39.58	39.62	65 dBA:	26	28
Heavy Trucks	80.05	-15.69	-4.51	-1.20	58.65	41.66	33.88	43.08	49.24	49.27	60 dBA:	56	60
Total:					61.13	54.26	52.76	48.37	56.17	56.68	55 dBA:	120	129

Road Name: Bollinger Canyon Road **Segment: North of Norris Canyon Road**
 Average Daily Traffic: 8755 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: 2-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 98.37 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	65.11	-1.69	-4.51	-1.20	57.71	55.34	54.05	47.99	56.42	57.06	70 dBA:	15	16
Medium Trucks	74.83	-16.55	-4.51	-1.20	52.56	33.36	25.57	34.78	40.94	40.97	65 dBA:	32	34
Heavy Trucks	80.05	-14.33	-4.51	-1.20	60.00	43.01	35.23	44.44	50.59	50.63	60 dBA:	68	74
Total:					62.48	55.61	54.11	49.72	57.53	58.03	55 dBA:	147	159

Road Name: Bollinger Canyon Road **Segment: South of Norris Canyon Road**
 Average Daily Traffic: 10830 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	-1.34	-4.43	-1.20	60.39	58.02	56.73	50.67	59.10	59.74	70 dBA:	21	23
Medium Trucks	76.31	-15.63	-4.43	-1.20	55.06	35.27	27.49	36.70	42.85	42.89	65 dBA:	46	50
Heavy Trucks	81.16	-13.99	-4.43	-1.20	61.54	44.55	36.77	45.98	52.14	52.17	60 dBA:	100	108
Total:					64.54	58.23	56.78	52.07	59.98	60.51	55 dBA:	215	233

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2020 BASELINE CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: San Ramon Valley Boulevard **Segment: North of Crow Canyon Road**
 Average Daily Traffic: 23910 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	65.11	2.68	-4.43	-1.20	62.16	59.79	58.50	52.44	60.87	61.50	70 dBA:	29	32
Medium Trucks	74.83	-12.19	-4.43	-1.20	57.01	37.81	30.02	39.23	45.39	45.42	65 dBA:	63	68
Heavy Trucks	80.05	-9.97	-4.43	-1.20	64.45	47.46	39.68	48.89	55.04	55.08	60 dBA:	135	146
Total:					66.93	60.06	58.56	54.17	61.98	62.48	55 dBA:	292	315

Road Name: San Ramon Valley Boulevard **Segment: North of Norris Canyon Road**
 Average Daily Traffic: 15225 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	65.11	0.72	-4.43	-1.20	60.20	57.83	56.54	50.48	58.91	59.54	70 dBA:	22	23
Medium Trucks	74.83	-14.15	-4.43	-1.20	55.05	35.85	28.06	37.27	43.43	43.46	65 dBA:	47	50
Heavy Trucks	80.05	-11.93	-4.43	-1.20	62.49	45.50	37.72	46.93	53.08	53.11	60 dBA:	100	108
Total:					64.97	58.10	56.60	52.21	60.02	60.52	55 dBA:	216	233

Road Name: San Ramon Valley Boulevard **Segment: North of Bollinger Canyon Road**
 Average Daily Traffic: 15985 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	67.36	0.35	-4.43	-1.20	62.08	59.71	58.42	52.36	60.80	61.43	70 dBA:	28	30
Medium Trucks	76.31	-13.94	-4.43	-1.20	56.75	36.96	29.18	38.39	44.54	44.58	65 dBA:	60	65
Heavy Trucks	81.16	-12.30	-4.43	-1.20	63.23	46.25	38.46	47.67	53.83	53.86	60 dBA:	129	140
Total:					66.23	59.92	58.47	53.76	61.68	62.20	55 dBA:	279	302

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2020 BASELINE CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: San Ramon Valley Boulevard **Segment: South of Bollinger Canyon Road**
 Average Daily Traffic: 26080 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	2.47	-4.43	-1.20	64.21	61.84	60.54	54.49	62.92	63.55	70 dBA:	39	42
Medium Trucks	76.31	-11.81	-4.43	-1.20	58.88	39.09	31.31	40.51	46.67	46.70	65 dBA:	83	90
Heavy Trucks	81.16	-10.17	-4.43	-1.20	65.36	48.37	40.59	49.80	55.95	55.99	60 dBA:	179	194
Total:					68.35	62.05	60.59	55.89	63.80	64.33	55 dBA:	386	419

Road Name: San Ramon Valley Boulevard **Segment: South of Montevideo Drive**
 Average Daily Traffic: 21455 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	1.63	-4.43	-1.20	63.36	60.99	59.70	53.64	62.07	62.70	70 dBA:	34	37
Medium Trucks	76.31	-12.66	-4.43	-1.20	58.03	38.24	30.46	39.67	45.82	45.85	65 dBA:	73	79
Heavy Trucks	81.16	-11.02	-4.43	-1.20	64.51	47.52	39.74	48.95	55.10	55.14	60 dBA:	157	171
Total:					67.51	61.20	59.74	55.04	62.95	63.48	55 dBA:	339	368

Road Name: Sunset Drive **Segment: South of Bishop Drive**
 Average Daily Traffic: 11985 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 2 Roadway Classification: 4-lane Collector

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	65.11	-0.07	-4.43	-1.20	59.41	57.29	55.97	49.96	58.38	59.01	70 dBA:	17	19
Medium Trucks	74.83	-17.31	-4.43	-1.20	51.89	30.64	36.66	18.37	31.51	34.27	65 dBA:	36	40
Heavy Trucks	80.05	-21.27	-4.43	-1.20	53.15	27.80	24.40	29.05	35.25	35.35	60 dBA:	78	86
Total:					60.91	57.30	56.03	50.00	58.41	59.04	55 dBA:	169	186

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2020 BASELINE CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Canyon Lakes Road **Segment: North of Bollinger Canyon Road**
 Average Daily Traffic: 7065 Vehicles Vehicle Speed: 30 MPH Vehicle Mix: 1 Roadway Classification: 2-lane Collector

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 99.15 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	62.51	-1.95	-4.56	-1.20	54.80	52.43	51.14	45.08	53.51	54.14	70 dBA:	11	11
Medium Trucks	73.11	-17.48	-4.56	-1.20	49.87	31.33	23.55	32.76	38.91	38.94	65 dBA:	23	24
Heavy Trucks	80.26	-14.60	-4.56	-1.20	59.90	42.91	35.13	44.34	50.49	50.53	60 dBA:	49	53
Total:					61.39	52.92	51.25	47.87	55.37	55.80	55 dBA:	106	113

Road Name: Dougherty Road **Segment: South of Crow Canyon Road**
 Average Daily Traffic: 18630 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: 6-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	1.26	-4.08	-1.20	63.34	61.22	59.90	53.89	62.31	62.94	70 dBA:	31	34
Medium Trucks	76.31	-15.40	-4.08	-1.20	55.64	33.81	39.83	21.53	34.68	37.43	65 dBA:	66	73
Heavy Trucks	81.16	-19.93	-4.08	-1.20	55.95	30.60	27.20	31.84	38.04	38.14	60 dBA:	143	158
Total:					64.65	61.23	59.95	53.92	62.34	62.97	55 dBA:	308	340

Road Name: Dougherty Road **Segment: North of Bollinger Canyon Road**
 Average Daily Traffic: 31930 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	3.35	-4.08	-1.20	65.43	63.06	61.77	55.71	64.14	64.78	70 dBA:	47	51
Medium Trucks	76.31	-10.93	-4.08	-1.20	60.10	40.31	32.53	41.74	47.89	47.93	65 dBA:	100	109
Heavy Trucks	81.16	-9.29	-4.08	-1.20	66.58	49.59	41.81	51.02	57.18	57.21	60 dBA:	216	234
Total:					69.58	63.27	61.82	57.11	65.02	65.55	55 dBA:	466	505

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2020 BASELINE CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Crow Canyon Road **Segment: East of Bollinger Canyon Road**
 Average Daily Traffic: 24200 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	2.15	-4.08	-1.20	64.23	61.86	60.56	54.51	62.94	63.57	70 dBA:	39	42
Medium Trucks	76.31	-12.14	-4.08	-1.20	58.89	39.11	31.32	40.53	46.69	46.72	65 dBA:	83	90
Heavy Trucks	81.16	-10.50	-4.08	-1.20	65.38	48.39	40.61	49.82	55.97	56.01	60 dBA:	180	195
Total:					68.37	62.07	60.61	55.91	63.82	64.35	55 dBA:	387	420

Road Name: Crow Canyon Road **Segment: West of San Ramon Valley Boulevard**
 Average Daily Traffic: 33500 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	3.56	-4.08	-1.20	65.64	63.27	61.98	55.92	64.35	64.98	70 dBA:	48	52
Medium Trucks	76.31	-10.72	-4.08	-1.20	60.31	40.52	32.74	41.95	48.10	48.13	65 dBA:	104	112
Heavy Trucks	81.16	-9.09	-4.08	-1.20	66.79	49.80	42.02	51.23	57.38	57.42	60 dBA:	223	242
Total:					69.78	63.48	62.02	57.32	65.23	65.76	55 dBA:	481	522

Road Name: Crow Canyon Road **Segment: West of Camino Ramon**
 Average Daily Traffic: 43540 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 8-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 86.02 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	4.70	-3.64	-1.20	67.22	64.85	63.56	57.50	65.93	66.57	70 dBA:	61	67
Medium Trucks	76.31	-9.59	-3.64	-1.20	61.89	42.10	34.32	43.53	49.68	49.72	65 dBA:	132	143
Heavy Trucks	81.16	-7.95	-3.64	-1.20	68.37	51.38	43.60	52.81	58.97	59.00	60 dBA:	285	309
Total:					71.37	65.06	63.61	58.90	66.82	67.34	55 dBA:	613	665

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2020 BASELINE CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Crow Canyon Road **Segment: East of Camino Ramon**
 Average Daily Traffic: 40730 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 8-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 86.02 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	4.41	-3.64	-1.20	66.93	64.56	63.27	57.21	65.65	66.28	70 dBA:	59	64
Medium Trucks	76.31	-9.88	-3.64	-1.20	61.60	41.81	34.03	43.24	49.39	49.43	65 dBA:	126	137
Heavy Trucks	81.16	-8.24	-3.64	-1.20	68.08	51.10	43.31	52.52	58.68	58.71	60 dBA:	272	295
Total:					71.08	64.77	63.32	58.61	66.53	67.05	55 dBA:	587	636

Road Name: Crow Canyon Road **Segment: East of Alcosta Boulevard**
 Average Daily Traffic: 39075 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	4.23	-4.08	-1.20	66.31	63.94	62.64	56.59	65.02	65.65	70 dBA:	53	58
Medium Trucks	76.31	-10.06	-4.08	-1.20	60.98	41.19	33.41	42.61	48.77	48.80	65 dBA:	115	125
Heavy Trucks	81.16	-8.42	-4.08	-1.20	67.46	50.47	42.69	51.90	58.05	58.09	60 dBA:	247	268
Total:					70.45	64.15	62.69	57.99	65.90	66.43	55 dBA:	533	578

Road Name: Crow Canyon Road **Segment: West of Dougherty Road**
 Average Daily Traffic: 23785 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	2.07	-4.08	-1.20	64.15	61.78	60.49	54.43	62.87	63.50	70 dBA:	38	42
Medium Trucks	76.31	-12.21	-4.08	-1.20	58.82	39.03	31.25	40.46	46.61	46.65	65 dBA:	82	89
Heavy Trucks	81.16	-10.57	-4.08	-1.20	65.30	48.32	40.53	49.74	55.90	55.93	60 dBA:	178	193
Total:					68.30	61.99	60.54	55.83	63.75	64.27	55 dBA:	383	415

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2020 BASELINE CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Crow Canyon Road **Segment: East of Dougherty Road**
 Average Daily Traffic: 35215 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	3.78	-4.08	-1.20	65.86	63.49	62.19	56.14	64.57	65.20	70 dBA:	50	54
Medium Trucks	76.31	-10.51	-4.08	-1.20	60.52	40.74	32.95	42.16	48.32	48.35	65 dBA:	107	116
Heavy Trucks	81.16	-8.87	-4.08	-1.20	67.01	50.02	42.24	51.45	57.60	57.63	60 dBA:	231	250
Total:					70.00	63.70	62.24	57.54	65.45	65.98	55 dBA:	497	539

Road Name: Norris Canyon Road **Segment: West of Bollinger Canyon Road**
 Average Daily Traffic: 6270 Vehicles Vehicle Speed: 30 MPH Vehicle Mix: 1 Roadway Classification: 2-lane Collector

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 99.15 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	62.51	-2.47	-4.56	-1.20	54.28	51.91	50.62	44.56	52.99	53.63	70 dBA:	10	10
Medium Trucks	73.11	-18.00	-4.56	-1.20	49.35	30.81	23.03	32.24	38.39	38.43	65 dBA:	21	23
Heavy Trucks	80.26	-15.11	-4.56	-1.20	59.38	42.39	34.61	43.82	49.97	50.01	60 dBA:	45	48
Total:					60.87	52.40	50.73	47.35	54.85	55.28	55 dBA:	98	104

Road Name: Norris Canyon Road **Segment: West of San Ramon Valley Boulevard**
 Average Daily Traffic: 11915 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 2 Roadway Classification: 4-lane Collector

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	65.11	-0.10	-4.43	-1.20	59.38	57.26	55.95	49.94	58.36	58.98	70 dBA:	17	19
Medium Trucks	74.83	-17.34	-4.43	-1.20	51.87	30.62	36.64	18.34	31.49	34.24	65 dBA:	36	40
Heavy Trucks	80.05	-21.29	-4.43	-1.20	53.13	27.78	24.38	29.03	35.23	35.32	60 dBA:	78	86
Total:					60.89	57.28	56.00	49.97	58.39	59.02	55 dBA:	168	185

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2020 BASELINE CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Norris Canyon Road **Segment: West of Camino Ramon**
 Average Daily Traffic: 12890 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 2 Roadway Classification: 4-lane Collector

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels								
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL	Ldn	CNEL	
Automobiles	65.11	0.24	-4.43	-1.20	59.73	57.60	56.29	50.28	58.70	59.32	70 dBA:	18	20
Medium Trucks	74.83	-17.00	-4.43	-1.20	52.21	30.96	36.98	18.69	31.83	34.58	65 dBA:	38	42
Heavy Trucks	80.05	-20.95	-4.43	-1.20	53.47	28.12	24.72	29.37	35.57	35.66	60 dBA:	82	91
Total:					61.23	57.62	56.34	50.32	58.73	59.36	55 dBA:	177	195

Road Name: Bishop Drive **Segment: West of Sunset Drive**
 Average Daily Traffic: 6300 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 2 Roadway Classification: 4-lane Collector

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels								
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL	Ldn	CNEL	
Automobiles	65.11	-2.87	-4.43	-1.20	56.62	54.49	53.18	47.17	55.59	56.22	70 dBA:	11	12
Medium Trucks	74.83	-20.10	-4.43	-1.20	49.10	27.85	33.87	15.58	28.72	31.47	65 dBA:	24	26
Heavy Trucks	80.05	-24.06	-4.43	-1.20	50.36	25.01	21.61	26.26	32.46	32.55	60 dBA:	51	56
Total:					58.12	54.51	53.23	47.21	55.62	56.25	55 dBA:	110	121

Road Name: Bishop Drive **Segment: West of Camino Ramon**
 Average Daily Traffic: 5040 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 2 Roadway Classification: 4-lane Collector

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels								
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL	Ldn	CNEL	
Automobiles	65.11	-3.84	-4.43	-1.20	55.65	53.53	52.21	46.20	54.62	55.25	70 dBA:	9	10
Medium Trucks	74.83	-21.07	-4.43	-1.20	48.13	26.88	32.90	14.61	27.75	30.50	65 dBA:	20	22
Heavy Trucks	80.05	-25.03	-4.43	-1.20	49.39	24.04	20.64	25.29	31.49	31.58	60 dBA:	44	48
Total:					57.15	53.54	52.27	46.24	54.65	55.28	55 dBA:	95	104

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2020 BASELINE CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Bollinger Canyon Road **Segment: West of Camino Ramon**
 Average Daily Traffic: 42305 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 8-lane Arterial

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 86.02 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	4.58	-3.64	-1.20	67.10	64.73	63.43	57.38	65.81	66.44	70 dBA:	60	65
Medium Trucks	76.31	-9.71	-3.64	-1.20	61.76	41.98	34.19	43.40	49.56	49.59	65 dBA:	130	141
Heavy Trucks	81.16	-8.07	-3.64	-1.20	68.25	51.26	43.48	52.69	58.84	58.87	60 dBA:	279	303
Total:					71.24	64.94	63.48	58.78	66.69	67.22	55 dBA:	602	652

Road Name: Bollinger Canyon Road **Segment: East of Camino Ramon**
 Average Daily Traffic: 33560 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 8-lane Arterial

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 86.02 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	3.57	-3.64	-1.20	66.09	63.72	62.43	56.37	64.80	65.44	70 dBA:	52	56
Medium Trucks	76.31	-10.72	-3.64	-1.20	60.76	40.97	33.19	42.40	48.55	48.59	65 dBA:	111	120
Heavy Trucks	81.16	-9.08	-3.64	-1.20	67.24	50.25	42.47	51.68	57.84	57.87	60 dBA:	239	259
Total:					70.24	63.93	62.48	57.77	65.68	66.21	55 dBA:	516	559

Road Name: Bollinger Canyon Road **Segment: East of Bishop Ranch East**
 Average Daily Traffic: 39370 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 8-lane Arterial

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 86.02 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	4.26	-3.64	-1.20	66.79	64.41	63.12	57.07	65.50	66.13	70 dBA:	57	62
Medium Trucks	76.31	-10.02	-3.64	-1.20	61.45	41.66	33.88	43.09	49.24	49.28	65 dBA:	124	134
Heavy Trucks	81.16	-8.38	-3.64	-1.20	67.94	50.95	43.17	52.37	58.53	58.56	60 dBA:	266	289
Total:					70.93	64.63	63.17	58.46	66.38	66.91	55 dBA:	573	622

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2020 BASELINE CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Bollinger Canyon Road **Segment: East of Market**
 Average Daily Traffic: 33315 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 8-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 86.02 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	3.54	-3.64	-1.20	66.06	63.69	62.40	56.34	64.77	65.40	70 dBA:	51	56
Medium Trucks	76.31	-10.75	-3.64	-1.20	60.73	40.94	33.16	42.37	48.52	48.55	65 dBA:	111	120
Heavy Trucks	81.16	-9.11	-3.64	-1.20	67.21	50.22	42.44	51.65	57.80	57.84	60 dBA:	238	258
Total:					70.20	63.90	62.44	57.74	65.65	66.18	55 dBA:	513	556

Road Name: Bollinger Canyon Road **Segment: East of Alcosta Boulevard**
 Average Daily Traffic: 34110 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	3.64	-4.08	-1.20	65.72	63.35	62.05	56.00	64.43	65.06	70 dBA:	49	53
Medium Trucks	76.31	-10.65	-4.08	-1.20	60.39	40.60	32.82	42.02	48.18	48.21	65 dBA:	105	114
Heavy Trucks	81.16	-9.01	-4.08	-1.20	66.87	49.88	42.10	51.31	57.46	57.50	60 dBA:	226	245
Total:					69.86	63.56	62.10	57.40	65.31	65.84	55 dBA:	487	528

Road Name: Bollinger Canyon Road **Segment: East of Canyon Lakes Drive**
 Average Daily Traffic: 25605 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	2.40	-4.08	-1.20	64.47	62.10	60.81	54.75	63.19	63.82	70 dBA:	40	44
Medium Trucks	76.31	-11.89	-4.08	-1.20	59.14	39.35	31.57	40.78	46.93	46.97	65 dBA:	87	94
Heavy Trucks	81.16	-10.25	-4.08	-1.20	65.63	48.64	40.85	50.06	56.22	56.25	60 dBA:	187	202
Total:					68.62	62.31	60.86	56.15	64.07	64.59	55 dBA:	402	436

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2020 BASELINE CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Bollinger Canyon Road **Segment:** West of Dougherty Road
 Average Daily Traffic: 25180 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	67.36	2.32	-4.08	-1.20	64.40	62.03	60.74	54.68	63.11	63.74	70 dBA:	40	43
Medium Trucks	76.31	-11.96	-4.08	-1.20	59.07	39.28	31.50	40.71	46.86	46.89	65 dBA:	86	93
Heavy Trucks	81.16	-10.33	-4.08	-1.20	65.55	48.56	40.78	49.99	56.14	56.18	60 dBA:	185	200
Total:					68.54	62.24	60.78	56.08	63.99	64.52	55 dBA:	398	431

Road Name: Bollinger Canyon Road **Segment:** East of Dougherty Road
 Average Daily Traffic: 24805 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	67.36	2.26	-4.08	-1.20	64.34	61.96	60.67	54.62	63.05	63.68	70 dBA:	39	43
Medium Trucks	76.31	-12.03	-4.08	-1.20	59.00	39.21	31.43	40.64	46.79	46.83	65 dBA:	85	92
Heavy Trucks	81.16	-10.39	-4.08	-1.20	65.49	48.50	40.72	49.92	56.08	56.11	60 dBA:	183	198
Total:					68.48	62.18	60.72	56.01	63.93	64.46	55 dBA:	394	427

Road Name: Montevideo Drive **Segment:** East of San Ramon Valley Boulevard
 Average Daily Traffic: 18030 Vehicles Vehicle Speed: 30 MPH Vehicle Mix: 1 Roadway Classification: 2-lane Collector

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 99.15 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	62.51	2.12	-4.56	-1.20	58.87	56.50	55.20	49.15	57.58	58.21	70 dBA:	20	21
Medium Trucks	73.11	-13.41	-4.56	-1.20	53.94	35.40	27.62	36.82	42.98	43.01	65 dBA:	43	46
Heavy Trucks	80.26	-10.53	-4.56	-1.20	63.97	46.98	39.20	48.41	54.56	54.60	60 dBA:	92	98
Total:					65.46	56.99	55.32	51.94	59.44	59.87	55 dBA:	198	211

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2020 WITH PROJECT CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Bollinger Canyon Road **Segment: South of Crow Canyon Road**
 Average Daily Traffic: 7364 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: 2-lane Arterial

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 98.37 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	65.11	-2.44	-4.51	-1.20	56.96	54.59	53.30	47.24	55.67	56.30	70 dBA:	13	14
Medium Trucks	74.83	-17.30	-4.51	-1.20	51.81	32.60	24.82	34.03	40.19	40.22	65 dBA:	28	31
Heavy Trucks	80.05	-15.09	-4.51	-1.20	59.25	42.26	34.48	43.69	49.84	49.87	60 dBA:	61	66
Total:					61.73	54.86	53.36	48.97	56.78	57.28	55 dBA:	131	142

Road Name: Bollinger Canyon Road **Segment: North of Norris Canyon Road**
 Average Daily Traffic: 9709 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: 2-lane Arterial

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 98.37 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	65.11	-1.24	-4.51	-1.20	58.16	55.79	54.50	48.44	56.87	57.50	70 dBA:	16	17
Medium Trucks	74.83	-16.10	-4.51	-1.20	53.01	33.81	26.02	35.23	41.39	41.42	65 dBA:	34	37
Heavy Trucks	80.05	-13.88	-4.51	-1.20	60.45	43.46	35.68	44.89	51.04	51.08	60 dBA:	73	79
Total:					62.93	56.06	54.56	50.17	57.98	58.48	55 dBA:	158	171

Road Name: Bollinger Canyon Road **Segment: South of Norris Canyon Road**
 Average Daily Traffic: 11784 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	67.36	-0.98	-4.43	-1.20	60.76	58.39	57.09	51.04	59.47	60.10	70 dBA:	23	25
Medium Trucks	76.31	-15.26	-4.43	-1.20	55.43	35.64	27.86	37.06	43.22	43.25	65 dBA:	49	53
Heavy Trucks	81.16	-13.62	-4.43	-1.20	61.91	44.92	37.14	46.35	52.50	52.54	60 dBA:	106	114
Total:					64.90	58.60	57.14	52.44	60.35	60.88	55 dBA:	227	247

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2020 WITH PROJECT CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: San Ramon Valley Boulevard **Segment: North of Crow Canyon Road**
 Average Daily Traffic: 24544 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	65.11	2.79	-4.43	-1.20	62.28	59.90	58.61	52.56	60.99	61.62	70 dBA:	30	32
Medium Trucks	74.83	-12.08	-4.43	-1.20	57.13	37.92	30.14	39.35	45.50	45.53	65 dBA:	64	69
Heavy Trucks	80.05	-9.86	-4.43	-1.20	64.56	47.57	39.79	49.00	55.15	55.19	60 dBA:	138	149
Total:					67.05	60.18	58.67	54.28	62.09	62.59	55 dBA:	297	321

Road Name: San Ramon Valley Boulevard **Segment: North of Norris Canyon Road**
 Average Daily Traffic: 15575 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	65.11	0.82	-4.43	-1.20	60.30	57.93	56.64	50.58	59.01	59.64	70 dBA:	22	24
Medium Trucks	74.83	-14.05	-4.43	-1.20	55.15	35.94	28.16	37.37	43.52	43.56	65 dBA:	47	51
Heavy Trucks	80.05	-11.83	-4.43	-1.20	62.59	45.60	37.82	47.03	53.18	53.21	60 dBA:	102	110
Total:					65.07	58.20	56.70	52.31	60.12	60.62	55 dBA:	219	237

Road Name: San Ramon Valley Boulevard **Segment: North of Bollinger Canyon Road**
 Average Daily Traffic: 16745 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	67.36	0.55	-4.43	-1.20	62.29	59.91	58.62	52.57	61.00	61.63	70 dBA:	29	31
Medium Trucks	76.31	-13.74	-4.43	-1.20	56.95	37.16	29.38	38.59	44.74	44.78	65 dBA:	62	67
Heavy Trucks	81.16	-12.10	-4.43	-1.20	63.44	46.45	38.67	47.87	54.03	54.06	60 dBA:	133	145
Total:					66.43	60.13	58.67	53.96	61.88	62.40	55 dBA:	287	312

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2020 WITH PROJECT CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: San Ramon Valley Boulevard **Segment: South of Bollinger Canyon Road**
 Average Daily Traffic: 28935 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	2.93	-4.43	-1.20	64.66	62.29	61.00	54.94	63.37	64.00	70 dBA:	41	45
Medium Trucks	76.31	-11.36	-4.43	-1.20	59.33	39.54	31.76	40.97	47.12	47.15	65 dBA:	89	97
Heavy Trucks	81.16	-9.72	-4.43	-1.20	65.81	48.82	41.04	50.25	56.40	56.44	60 dBA:	192	208
Total:					68.80	62.50	61.04	56.34	64.25	64.78	55 dBA:	414	449

Road Name: San Ramon Valley Boulevard **Segment: South of Montevideo Drive**
 Average Daily Traffic: 21727 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 4-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	1.68	-4.43	-1.20	63.42	61.04	59.75	53.70	62.13	62.76	70 dBA:	34	37
Medium Trucks	76.31	-12.60	-4.43	-1.20	58.08	38.29	30.51	39.72	45.88	45.91	65 dBA:	74	80
Heavy Trucks	81.16	-10.97	-4.43	-1.20	64.57	47.58	39.80	49.00	55.16	55.19	60 dBA:	159	172
Total:					67.56	61.26	59.80	55.09	63.01	63.54	55 dBA:	342	371

Road Name: Sunset Drive **Segment: South of Bishop Drive**
 Average Daily Traffic: 15017 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 2 Roadway Classification: 4-lane Collector

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	65.11	0.91	-4.43	-1.20	60.39	58.27	56.95	50.94	59.36	59.99	70 dBA:	20	22
Medium Trucks	74.83	-16.33	-4.43	-1.20	52.87	31.62	37.64	19.35	32.49	35.24	65 dBA:	42	47
Heavy Trucks	80.05	-20.29	-4.43	-1.20	54.13	28.78	25.38	30.03	36.23	36.33	60 dBA:	91	100
Total:					61.89	58.28	57.01	50.98	59.39	60.02	55 dBA:	196	216

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2020 WITH PROJECT CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Sunset Drive **Segment:** North of Bollinger Canyon Road
 Average Daily Traffic: 23246 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 2 Roadway Classification: 4-lane Collector

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	65.11	2.80	-4.43	-1.20	62.29	60.16	58.85	52.84	61.26	61.89	70 dBA:	26	29
Medium Trucks	74.83	-14.43	-4.43	-1.20	54.77	33.52	39.54	21.25	34.39	37.14	65 dBA:	57	62
Heavy Trucks	80.05	-18.39	-4.43	-1.20	56.03	30.68	27.28	31.93	38.13	38.22	60 dBA:	122	134
Total:					63.79	60.18	58.90	52.88	61.29	61.92	55 dBA:	263	289

Road Name: Camino Ramon **Segment:** North of Crow Canyon Road
 Average Daily Traffic: 11553 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 2 Roadway Classification: 4-lane Collector

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	65.11	-0.23	-4.43	-1.20	59.25	57.13	55.81	49.80	58.22	58.85	70 dBA:	16	18
Medium Trucks	74.83	-17.47	-4.43	-1.20	51.73	30.48	36.50	18.21	31.35	34.11	65 dBA:	35	39
Heavy Trucks	80.05	-21.43	-4.43	-1.20	52.99	27.64	24.24	28.89	35.09	35.19	60 dBA:	76	84
Total:					60.75	57.14	55.87	49.84	58.25	58.88	55 dBA:	165	181

Road Name: Camino Ramon **Segment:** North of Norris Canyon Road
 Average Daily Traffic: 22033 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 2 Roadway Classification: 4-lane Collector

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	65.11	2.57	-4.43	-1.20	62.05	59.93	58.62	52.61	61.03	61.65	70 dBA:	25	28
Medium Trucks	74.83	-14.67	-4.43	-1.20	54.54	33.29	39.31	21.01	34.16	36.91	65 dBA:	55	60
Heavy Trucks	80.05	-18.62	-4.43	-1.20	55.80	30.45	27.05	31.70	37.89	37.99	60 dBA:	118	130
Total:					63.56	59.95	58.67	52.64	61.06	61.69	55 dBA:	253	279

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2020 WITH PROJECT CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Camino Ramon **Segment:** North of Executive Parkway
 Average Daily Traffic: 21509 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 2 Roadway Classification: 4-lane Collector

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	65.11	2.47	-4.43	-1.20	61.95	59.83	58.51	52.50	60.92	61.55	70 dBA:	25	27
Medium Trucks	74.83	-14.77	-4.43	-1.20	54.43	33.18	39.20	20.91	34.05	36.81	65 dBA:	54	59
Heavy Trucks	80.05	-18.73	-4.43	-1.20	55.69	30.34	26.94	31.59	37.79	37.89	60 dBA:	116	127
Total:					63.45	59.84	58.57	52.54	60.95	61.58	55 dBA:	249	275

Road Name: Camino Ramon **Segment:** North of Bishop Drive
 Average Daily Traffic: 21533 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 2 Roadway Classification: 4-lane Collector

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	65.11	2.47	-4.43	-1.20	61.95	59.83	58.52	52.51	60.93	61.55	70 dBA:	25	27
Medium Trucks	74.83	-14.77	-4.43	-1.20	54.44	33.19	39.21	20.91	34.06	36.81	65 dBA:	54	59
Heavy Trucks	80.05	-18.72	-4.43	-1.20	55.70	30.35	26.95	31.60	37.80	37.89	60 dBA:	116	128
Total:					63.46	59.85	58.57	52.54	60.96	61.59	55 dBA:	250	275

Road Name: Camino Ramon **Segment:** North of Bollinger Canyon Road
 Average Daily Traffic: 14410 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 2 Roadway Classification: 4-lane Collector

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	65.11	0.73	-4.43	-1.20	60.21	58.09	56.77	50.76	59.18	59.81	70 dBA:	19	21
Medium Trucks	74.83	-16.51	-4.43	-1.20	52.69	31.44	37.46	19.17	32.31	35.07	65 dBA:	41	45
Heavy Trucks	80.05	-20.47	-4.43	-1.20	53.95	28.60	25.20	29.85	36.05	36.15	60 dBA:	89	98
Total:					61.71	58.10	56.83	50.80	59.21	59.84	55 dBA:	191	210

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2020 WITH PROJECT CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Crow Canyon Road **Segment: East of Camino Ramon**
 Average Daily Traffic: 42524 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 8-lane Arterial

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 86.02 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	67.36	4.60	-3.64	-1.20	67.12	64.75	63.46	57.40	65.83	66.46	70 dBA:	60	65
Medium Trucks	76.31	-9.69	-3.64	-1.20	61.79	42.00	34.22	43.43	49.58	49.61	65 dBA:	130	141
Heavy Trucks	81.16	-8.05	-3.64	-1.20	68.27	51.28	43.50	52.71	58.86	58.90	60 dBA:	280	304
Total:					71.26	64.96	63.50	58.80	66.71	67.24	55 dBA:	604	655

Road Name: Crow Canyon Road **Segment: East of Alcosta Boulevard**
 Average Daily Traffic: 41468 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	67.36	4.49	-4.08	-1.20	66.57	64.20	62.90	56.85	65.28	65.91	70 dBA:	55	60
Medium Trucks	76.31	-9.80	-4.08	-1.20	61.23	41.45	33.66	42.87	49.03	49.06	65 dBA:	119	130
Heavy Trucks	81.16	-8.16	-4.08	-1.20	67.72	50.73	42.95	52.16	58.31	58.34	60 dBA:	257	279
Total:					70.71	64.41	62.95	58.25	66.16	66.69	55 dBA:	555	601

Road Name: Crow Canyon Road **Segment: West of Dougherty Road**
 Average Daily Traffic: 25233 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	67.36	2.33	-4.08	-1.20	64.41	62.04	60.74	54.69	63.12	63.75	70 dBA:	40	43
Medium Trucks	76.31	-11.96	-4.08	-1.20	59.08	39.29	31.51	40.71	46.87	46.90	65 dBA:	86	93
Heavy Trucks	81.16	-10.32	-4.08	-1.20	65.56	48.57	40.79	50.00	56.15	56.19	60 dBA:	185	200
Total:					68.55	62.25	60.79	56.09	64.00	64.53	55 dBA:	398	432

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2020 WITH PROJECT CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Norris Canyon Road **Segment: West of Camino Ramon**
 Average Daily Traffic: 13256 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 2 Roadway Classification: 4-lane Collector

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	65.11	0.36	-4.43	-1.20	59.85	57.72	56.41	50.40	58.82	59.45	70 dBA:	18	20
Medium Trucks	74.83	-16.87	-4.43	-1.20	52.33	31.08	37.10	18.81	31.95	34.70	65 dBA:	39	43
Heavy Trucks	80.05	-20.83	-4.43	-1.20	53.59	28.24	24.84	29.49	35.69	35.78	60 dBA:	84	92
Total:					61.35	57.74	56.47	50.44	58.85	59.48	55 dBA:	181	199

Road Name: Bishop Drive **Segment: West of Sunset Drive**
 Average Daily Traffic: 6478 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 2 Roadway Classification: 4-lane Collector

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	65.11	-2.75	-4.43	-1.20	56.74	54.62	53.30	47.29	55.71	56.34	70 dBA:	11	12
Medium Trucks	74.83	-19.98	-4.43	-1.20	49.22	27.97	33.99	15.70	28.84	31.59	65 dBA:	24	27
Heavy Trucks	80.05	-23.94	-4.43	-1.20	50.48	25.13	21.73	26.38	32.58	32.67	60 dBA:	52	57
Total:					58.24	54.63	53.36	47.33	55.74	56.37	55 dBA:	112	123

Road Name: Bishop Drive **Segment: West of Camino Ramon**
 Average Daily Traffic: 9565 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 2 Roadway Classification: 4-lane Collector

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 97.08 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	65.11	-1.05	-4.43	-1.20	58.43	56.31	54.99	48.98	57.40	58.03	70 dBA:	15	16
Medium Trucks	74.83	-18.29	-4.43	-1.20	50.91	29.66	35.68	17.39	30.53	33.29	65 dBA:	31	34
Heavy Trucks	80.05	-22.25	-4.43	-1.20	52.17	26.82	23.42	28.07	34.27	34.37	60 dBA:	67	74
Total:					59.93	56.32	55.05	49.02	57.43	58.06	55 dBA:	145	160

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2020 WITH PROJECT CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Bollinger Canyon Road **Segment: West of Camino Ramon**
 Average Daily Traffic: 50619 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 8-lane Arterial

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 86.02 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	67.36	5.36	-3.64	-1.20	67.88	65.51	64.21	58.16	66.59	67.22	70 dBA:	68	74
Medium Trucks	76.31	-8.93	-3.64	-1.20	62.54	42.76	34.97	44.18	50.34	50.37	65 dBA:	146	158
Heavy Trucks	81.16	-7.29	-3.64	-1.20	69.03	52.04	44.26	53.47	59.62	59.65	60 dBA:	315	341
Total:					72.02	65.72	64.26	59.55	67.47	68.00	55 dBA:	678	735

Road Name: Bollinger Canyon Road **Segment: East of Camino Ramon**
 Average Daily Traffic: 39659 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 8-lane Arterial

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 86.02 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	67.36	4.30	-3.64	-1.20	66.82	64.45	63.15	57.10	65.53	66.16	70 dBA:	58	62
Medium Trucks	76.31	-9.99	-3.64	-1.20	61.48	41.70	33.91	43.12	49.28	49.31	65 dBA:	124	135
Heavy Trucks	81.16	-8.35	-3.64	-1.20	67.97	50.98	43.20	52.41	58.56	58.59	60 dBA:	267	290
Total:					70.96	64.66	63.20	58.50	66.41	66.94	55 dBA:	576	625

Road Name: Bollinger Canyon Road **Segment: East of Bishop Ranch East**
 Average Daily Traffic: 49178 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 8-lane Arterial

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 86.02 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL			
Automobiles	67.36	5.23	-3.64	-1.20	67.75	65.38	64.09	58.03	66.46	67.09	70 dBA:	67	72
Medium Trucks	76.31	-9.06	-3.64	-1.20	62.42	42.63	34.85	44.06	50.21	50.24	65 dBA:	143	155
Heavy Trucks	81.16	-7.42	-3.64	-1.20	68.90	51.91	44.13	53.34	59.49	59.53	60 dBA:	309	335
Total:					71.90	65.59	64.14	59.43	67.34	67.87	55 dBA:	665	721

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2020 WITH PROJECT CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Bollinger Canyon Road **Segment:** East of Market
 Average Daily Traffic: 42737 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 8-lane Arterial

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 86.02 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	4.62	-3.64	-1.20	67.14	64.77	63.48	57.42	65.85	66.48	70 dBA:	61	66
Medium Trucks	76.31	-9.67	-3.64	-1.20	61.81	42.02	34.24	43.45	49.60	49.64	65 dBA:	130	142
Heavy Trucks	81.16	-8.03	-3.64	-1.20	68.29	51.30	43.52	52.73	58.88	58.92	60 dBA:	281	305
Total:				71.29	64.98	63.53	58.82	66.73	67.26		55 dBA:	606	657

Road Name: Bollinger Canyon Road **Segment:** East of Alcosta Boulevard
 Average Daily Traffic: 43533 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	4.70	-4.08	-1.20	66.78	64.41	63.11	57.06	65.49	66.12	70 dBA:	57	62
Medium Trucks	76.31	-9.59	-4.08	-1.20	61.44	41.66	33.88	43.08	49.24	49.27	65 dBA:	123	134
Heavy Trucks	81.16	-7.95	-4.08	-1.20	67.93	50.94	43.16	52.37	58.52	58.56	60 dBA:	266	288
Total:				70.92	64.62	63.16	58.46	66.37	66.90		55 dBA:	573	621

Road Name: Bollinger Canyon Road **Segment:** East of Canyon Lakes Drive
 Average Daily Traffic: 30615 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

Vehicle Type	NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)										Centerline Distance to Noise Contour (in feet)		
	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	3.17	-4.08	-1.20	65.25	62.88	61.58	55.53	63.96	64.59	70 dBA:	45	49
Medium Trucks	76.31	-11.12	-4.08	-1.20	59.92	40.13	32.35	41.55	47.71	47.74	65 dBA:	98	106
Heavy Trucks	81.16	-9.48	-4.08	-1.20	66.40	49.41	41.63	50.84	56.99	57.03	60 dBA:	210	228
Total:				69.39	63.09	61.63	56.93	64.84	65.37		55 dBA:	453	491

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2020 WITH PROJECT CONDITIONS

Project Name: San Ramon City Center

Vehicle Type	Vehicle Mix (Arterial)				Vehicle Mix (Collector or local)			
	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	69.50%	12.90%	9.60%	92.00%	73.60%	13.60%	10.22%	97.40%
Medium Trucks	1.44%	0.06%	1.50%	3.00%	0.90%	0.90%	0.04%	1.84%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%	0.35%	0.04%	0.35%	0.74%

Site Conditions: Soft

Road Name: Bollinger Canyon Road **Segment: West of Dougherty Road**
 Average Daily Traffic: 29534 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	3.02	-4.08	-1.20	65.09	62.72	61.43	55.37	63.81	64.44	70 dBA:	44	48
Medium Trucks	76.31	-11.27	-4.08	-1.20	59.76	39.97	32.19	41.40	47.55	47.59	65 dBA:	95	103
Heavy Trucks	81.16	-9.63	-4.08	-1.20	66.25	49.26	41.47	50.68	56.84	56.87	60 dBA:	205	223
Total:					69.24	62.93	61.48	56.77	64.69	65.21	55 dBA:	442	480

Road Name: Bollinger Canyon Road **Segment: East of Dougherty Road**
 Average Daily Traffic: 28197 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: 6-lane Arterial

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 92.08 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	2.81	-4.08	-1.20	64.89	62.52	61.23	55.17	63.60	64.24	70 dBA:	43	46
Medium Trucks	76.31	-11.47	-4.08	-1.20	59.56	39.77	31.99	41.20	47.35	47.39	65 dBA:	92	100
Heavy Trucks	81.16	-9.83	-4.08	-1.20	66.04	49.05	41.27	50.48	56.64	56.67	60 dBA:	199	216
Total:					69.04	62.73	61.28	56.57	64.48	65.01	55 dBA:	429	465

Road Name: Montevideo Drive **Segment: East of San Ramon Valley Boulevard**
 Average Daily Traffic: 18280 Vehicles Vehicle Speed: 30 MPH Vehicle Mix: 1 Roadway Classification: 2-lane Collector

NOISE PARAMETERS AT 100 FEET FROM CENTERLINE (Equiv. Lane Dist: 99.15 ft)											Centerline Distance to Noise Contour (in feet)		
Vehicle Type	Noise Adjustments				Unmitigated Noise Levels						Ldn	CNEL	
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	62.51	2.18	-4.56	-1.20	58.93	56.56	55.26	49.21	57.64	58.27	70 dBA:	20	21
Medium Trucks	73.11	-13.36	-4.56	-1.20	54.00	35.46	27.68	36.88	43.04	43.07	65 dBA:	43	46
Heavy Trucks	80.26	-10.47	-4.56	-1.20	64.03	47.04	39.26	48.47	54.62	54.66	60 dBA:	93	99
Total:					65.52	57.05	55.38	52.00	59.50	59.93	55 dBA:	199	213

Appendix F: Project Vicinity Traffic and Parking Lot Noise Impact Calculations

**San Ramon City Center
Assessed receiver levels - Existing**

Name	Usage	CNEL dB(A)	Lday dB(A)	Leve dB(A)	Lnight dB(A)	
Iron Horse Middle	GR	44.2	40.3	43.46	47.09	
Site 3	GR	68.2	65.2	68.34	70.55	
Site 4	GR	71.0	65.9	68.08	74.58	
Site 5	GR	56.4	52.9	56.72	58.87	
Site 6	GR	71.8	65.4	70.22	75.41	
Site A	GR	55.9	51.2	53.77	59.30	
Site B	GR	58.5	55.3	58.90	60.93	

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**San Ramon City Center
Assessed receiver levels - 2020 Base**

Name	Floor	X m	Dir	Y m	Z m	CNEL dB(A)	Lday dB(A)	Leve dB(A)	Lnight dB(A)
East Apartment1	1. Floor	885.0	W	242.5	132.6	51.4	47.5	50.4	54.4
	2. Floor								
East Apartment2	1. Floor	889.6	W	133.9	131.9	50.1	46.3	49.5	52.9
	2. Floor								
East Singl-family1	1. Floor	884.1	W	75.3	131.9	49.9	46.1	49.5	52.7
	2. Floor								
East Single-family2	1. Floor	896.4	W	44.4	131.8	49.0	45.4	48.8	51.7
	2. Floor								
East Single-family3	1. Floor	898.4	W	12.0	131.7	49.8	46.1	49.4	52.6
	2. Floor								
Iron Horse Middle	1. Floor	1190.0		1230.0	138.5	44.7	40.8	43.9	47.7
Mariott Residence Inn 3	1. Floor	862.6	W	584.3	135.2	60.9	56.1	58.4	64.3
	2. Floor								
Mariott Residence Inn 6	1. Floor	866.2	W	463.9	134.2	54.7	50.0	52.8	58.1
	2. Floor								
South Single-family1	1. Floor	750.2	N	1.6	131.9	52.7	48.9	52.6	55.4
	2. Floor								
South single-family2	1. Floor	642.2	N	-7.2	131.3	52.1	48.7	52.4	54.6
	2. Floor								
South single-family3	1. Floor	424.5	N	-3.7	132.8	59.4	55.9	59.3	62.1
	2. Floor								

**San Ramon City Center
Assessed receiver levels - 2020 With Project**

Name	Floor	X m	Dir	Y m	Z m	CNEL dB(A)	Lday dB(A)	Leve dB(A)	Lnight dB(A)
Building A1 South	1. Floor	396.7	S	772.7	140.5	59.1	55.6	58.3	61.9
	2. Floor				143.3	59.9	56.5	59.2	62.7
	3. Floor				146.1	60.8	57.3	60.1	63.6
	4. Floor				148.9	61.6	58.1	60.9	64.4
	5. Floor				151.7	62.9	59.3	62.1	65.8
Building B North	1. Floor	511.8	N	855.0	140.0	61.3	58.0	60.7	64.0
	2. Floor				142.8	61.7	58.4	61.1	64.4
	3. Floor				145.6	62.2	58.9	61.6	64.9
	4. Floor				148.4	62.7	59.4	62.1	65.4
	5. Floor				151.2	62.9	59.6	62.4	65.6
Building B West	1. Floor	503.2	W	815.9	137.8	57.4	53.6	56.2	60.4
	2. Floor				140.6	57.6	53.8	56.4	60.6
	3. Floor				143.4	57.7	53.9	56.5	60.7
	4. Floor				146.2	57.7	54.0	56.5	60.7
	5. Floor				149.0	57.8	54.1	56.6	60.8
Building D2	1. Floor	482.6	E	664.5	140.2	65.8	61.1	63.4	69.3
	2. Floor				142.9	66.1	61.5	63.8	69.5
	3. Floor				145.7	66.2	61.6	63.9	69.6
	4. Floor				148.5	66.3	61.7	64.0	69.7
	5. Floor				151.3	66.4	61.7	64.1	69.8
Building E1 West	1. Floor	617.3	W	835.7	139.9	62.6	59.2	61.7	65.5
	2. Floor				142.7	62.8	59.4	61.8	65.6
	3. Floor				145.5	63.0	59.5	62.0	65.8
	4. Floor				148.3	63.1	59.6	62.1	65.9
	5. Floor				151.1	63.3	59.8	62.3	66.1

San Ramon City Center
Assessed receiver levels - 2020 With Project

Name	Floor	X m	Dir	Y m	Z m	CNEL dB(A)	Lday dB(A)	Leve dB(A)	Lnight dB(A)
	6. Floor				153.9	63.3	59.9	62.4	66.2
Building F North	1. Floor	761.9	N	854.7	139.8	61.1	57.5	60.3	64.0
	2. Floor				142.5	61.3	57.6	60.4	64.1
	3. Floor				145.3	61.4	57.7	60.5	64.3
	4. Floor				148.1	61.5	57.9	60.7	64.4
	5. Floor				150.9	61.8	58.1	60.9	64.6
	6. Floor				153.7	61.9	58.3	61.1	64.8
	7. Floor				156.5	62.0	58.4	61.2	64.8
	8. Floor				159.3	61.9	58.3	61.1	64.8
	9. Floor				162.1	62.5	58.9	61.6	65.3
Building F West	1. Floor	732.9	W	848.3	139.8	61.4	57.7	61.1	64.1
	2. Floor				142.5	61.6	57.9	61.3	64.3
	3. Floor				145.3	61.8	58.1	61.5	64.5
	4. Floor				148.1	61.9	58.3	61.6	64.7
	5. Floor				150.9	62.1	58.5	61.8	64.9
	6. Floor				153.7	62.3	58.7	62.0	65.1
	7. Floor				156.5	62.3	58.7	62.0	65.1
	8. Floor				159.3	62.5	58.9	62.2	65.3
	9. Floor				162.1	63.0	59.4	62.6	65.8
Building G East	1. Floor	790.0	E	700.2	139.8	64.5	59.9	62.1	68.0
	2. Floor				142.5	64.8	60.2	62.4	68.2
	3. Floor				145.3	64.9	60.3	62.5	68.3
	4. Floor				148.1	64.8	60.2	62.5	68.2
	5. Floor				150.9	64.9	60.3	62.5	68.3
	6. Floor				153.7	64.8	60.2	62.4	68.1

San Ramon City Center
Assessed receiver levels - 2020 With Project

Name	Floor	X m	Dir	Y m	Z m	CNEL dB(A)	Lday dB(A)	Leve dB(A)	Lnight dB(A)
	7. Floor				156.5	64.8	60.2	62.4	68.1
	8. Floor				159.3	64.7	60.2	62.4	68.1
	9. Floor				162.1	66.0	61.4	63.6	69.4
Building G South	1. Floor	761.2	S	673.6	139.8	68.5	63.6	65.8	72.0
	2. Floor				142.5	68.7	63.9	66.1	72.2
	3. Floor				145.3	68.8	64.0	66.2	72.3
	4. Floor				148.1	68.8	64.0	66.3	72.3
	5. Floor				150.9	68.9	64.1	66.4	72.4
	6. Floor				153.7	68.9	64.1	66.4	72.4
	7. Floor				156.5	68.9	64.2	66.4	72.4
	8. Floor				159.3	68.9	64.2	66.4	72.4
	9. Floor				162.1	69.0	64.3	66.6	72.5
Building G West	1. Floor	732.6	W	682.1	137.6	64.8	60.0	62.3	68.3
	2. Floor				140.3	65.0	60.2	62.5	68.5
	3. Floor				143.1	65.0	60.3	62.5	68.5
	4. Floor				145.9	65.0	60.2	62.5	68.4
	5. Floor				148.7	64.5	59.8	62.1	68.0
	6. Floor				151.5	65.1	60.4	62.8	68.5
	7. Floor				154.3	65.1	60.5	62.9	68.5
	8. Floor				157.1	65.2	60.6	63.0	68.6
	9. Floor				159.9	65.3	60.7	63.2	68.7
East Apartment1	1. Floor	885.0	W	242.5	132.6	55.9	52.6	56.1	58.4
	2. Floor				135.4	56.4	53.0	56.5	59.0
East Apartment2	1. Floor	889.6	W	133.9	131.9	53.5	50.2	53.8	56.0
	2. Floor				134.7	54.2	50.8	54.3	56.8

San Ramon City Center
Assessed receiver levels - 2020 With Project

Name	Floor	X m	Dir	Y m	Z m	CNEL dB(A)	Lday dB(A)	Leve dB(A)	Lnight dB(A)
East Singl-family1	1. Floor	884.1	W	75.3	131.9	52.5	49.1	52.7	55.0
	2. Floor								
East Single-family2	1. Floor	896.4	W	44.4	131.8	51.0	47.6	51.2	53.5
	2. Floor								
East Single-family3	1. Floor	898.4	W	12.0	131.7	51.5	48.1	51.6	54.1
	2. Floor								
Iron Horse Middle	1. Floor	1190.0		1230.0	138.5	43.8	40.0	43.2	46.7
Mariott Residence	1. Floor	862.6	W	584.3	135.2	61.7	56.8	59.0	65.2
	2. Floor								
Mariott Residence	1. Floor	866.2	W	463.9	134.2	57.0	52.5	55.9	60.2
	2. Floor								
South Single-family1	1. Floor	750.2	N	1.6	131.9	53.9	50.2	54.0	56.5
	2. Floor								
South single-family2	1. Floor	642.2	N	-7.2	131.3	53.0	49.7	53.3	55.4
	2. Floor								
South single-family3	1. Floor	424.5	N	-3.7	132.8	59.7	56.2	59.5	62.4
	2. Floor								

San Ramon City Center
source level parking lots - 2020 With Project

Parking lot	Number	Movings day car/h	Movings night car/h	Addition "Taktmax" dB	Addition P-Type dB	Addition lanes dB	TL	Lw day dB(A)	Lw night dB(A)
Bishop Ranch 3 Southern Parking	1000.00	5.00	1.00		0.00	0.00		100.0	93.0
At&T SE Parking Lot	900.00	5.00	1.00		0.00	0.00		99.5	92.5
AT&T S Parking Lot	500.00	5.00	1.00		0.00	0.00		97.0	90.0
Bishop Ranch Shops Parking Lot S	550.00	31.00	2.00		0.00	0.00		105.3	93.4
Bishop Ranch Shops N Parking Lot	150.00	31.00	2.00		0.00	0.00		99.7	87.8
Chevron NE Parking Lot	500.00	11.00	1.00		0.00	0.00		100.4	90.0
Chevron N Parking Lot	500.00	12.00	1.00		0.00	0.00		100.8	90.0
Bishop Ranch 1 S Parking Lot	1000.00	4.00	1.00		0.00	0.00		99.0	93.0
Bishop Ranch 1A West	200.00	6.00	1.00		0.00	0.00		93.8	86.0
Chevron East	300.00	5.00	1.00		0.00	0.00		94.8	87.8
Chevron Southeast	600.00	5.00	2.00		0.00	0.00		97.8	93.8
Bishop 1 East Parking Structure	1300.00	5.00	1.00		0.00	0.00		101.1	94.1
Block D Parking	500.00	6.00	2.00		0.00	0.00		97.8	93.0
Block E Parking	600.00	6.00	2.00		0.00	0.00		98.6	93.8
Bishop Ranch 1A Shared Lot	450.00	7.00	2.00		0.00	0.00		98.0	92.5
Bishop 1 Parking Structure	2119.00	5.00	1.00		0.00	0.00		103.3	96.3
City Hall Parking Structure	422.00	7.00	2.00		0.00	0.00		97.7	92.3
Bishop 1A Visitor Lot	120.00	10.00	2.00		0.00	0.00		93.8	86.8
Bishop 1A Southwest Lot	150.00	7.00	1.50		0.00	0.00		93.2	86.5
Block A Parking	800.00	6.00	2.00		0.00	0.00		99.8	95.0