

PRELIMINARY ACOUSTICAL IMPACT ANALYSIS

**Rancon Medical and Educational Center
Plot Plan No. 36492
City of Wildomar
Riverside County, CA**

Prepared for:

**Rancon Medical and Educational Center, LLC
41391 Kalmia Street, Suite 200
Murrieta, CA 92562**

Prepared by:

**Albert A. Webb Associates
3788 McCray Street
Riverside, CA 92506**

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Section 1 – Introduction and Project Description

This report has been prepared to provide information required by the California Environmental Quality Act (CEQA) and to satisfy the City of Wildomar’s requirements for determining noise impacts related to the proposed development of a medical and educational center (the Project) on approximately 29.46 gross acres (25.99 net acres) within the city of Wildomar in the County of Riverside.

1.1 Project Description

The proposed Project is located in the City of Wildomar, County of Riverside, and is bounded by Clinton Keith Road to the north, future alignment of Bunny Trail to the south, Elizabeth Lane to the east and Yamas Drive to the west, as shown on **Figure 1 – Project Location**. The Project, which includes Tentative Parcel Map No. 36492 and Plot Plan No. 36492, ultimately proposes business park uses, general offices, medical and dental offices, commercial retail uses, and drive-thru fast food restaurant on a total of 13 parcels, 2 parcels of which will be open space. See **Figure 2 – Proposed Tentative Parcel Map**.

The Plot Plan proposes to develop parcels 1, 2, 3, and a portion of parcels 5 and 13, which encompass 11.62 acres of the 29.46 gross acres of the full Project site. See **Figure 3 – Plot Plan**. The floor-to-area ratio (FAR) of Plot Plan No. 36492 is 0.26, which includes the open space/basin site area, and is consistent with the General Plan designation for Business Park¹ that allows a building intensity range of 0.25 to 0.60 FAR.

For the purposes of this analysis, the Project land uses were evaluated consistent with the Project-specific *Traffic Impact Analysis Report* that analyzed 294,900 square feet of business park uses, 42,420 square feet of general offices, 31,420 square feet of medical and dental offices, 19,400 square feet of commercial retail uses, and a 3,000-square-foot drive-thru fast food restaurant.

¹ FAR is calculated by taking the total proposed development square footage (96,240 square feet) divided by the size of the site proposed for development (including the open space/basin parcels) by Plot Plan No. 36492 (11.62 gross acres).



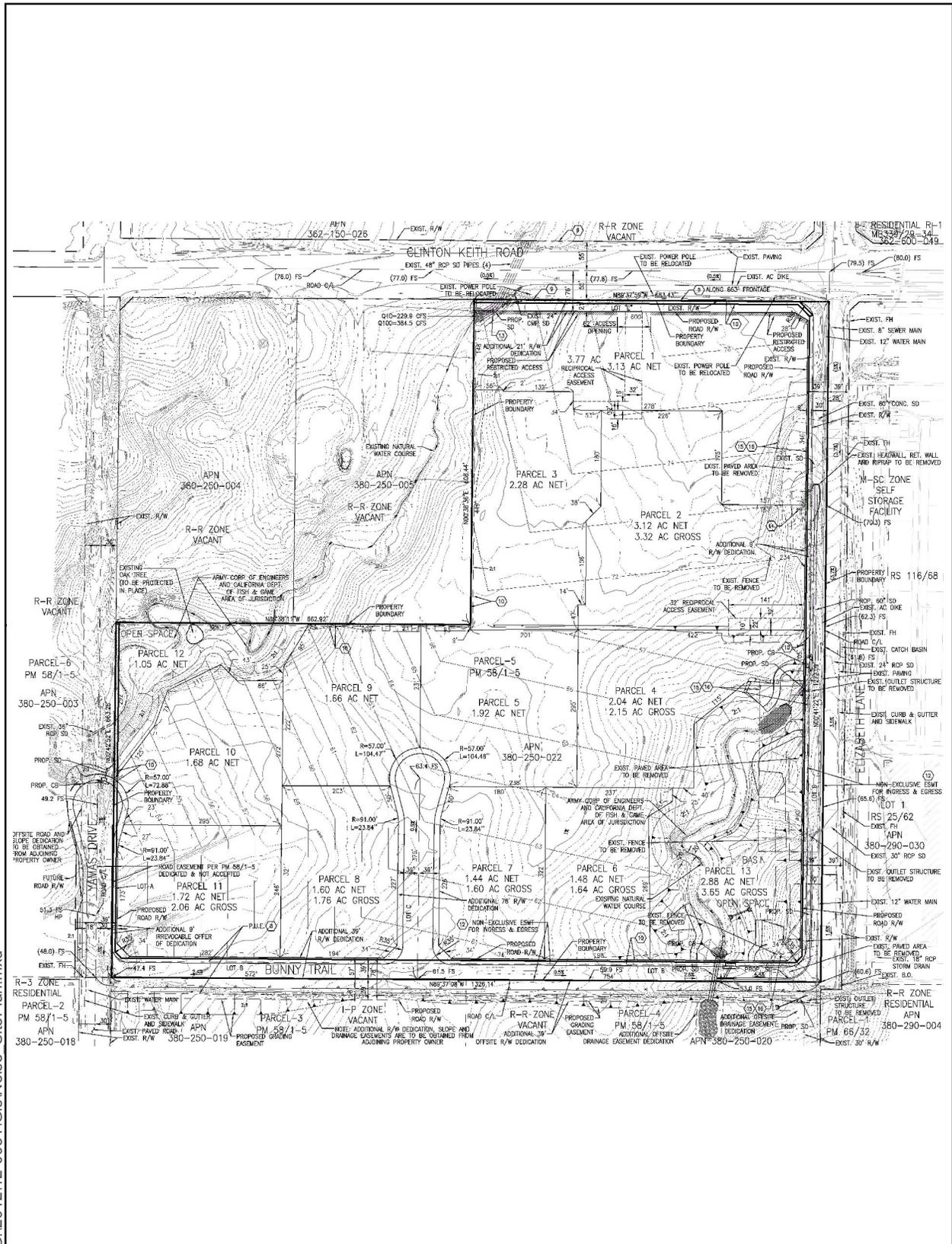
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Sources: County of Riverside GIS, 2012;
Eagle Aerial, April 2010.

Figure 1 - Project Location
Rancon Medical and Educational Center
Plot Plan No. 36492

0 250 500 750
Feet

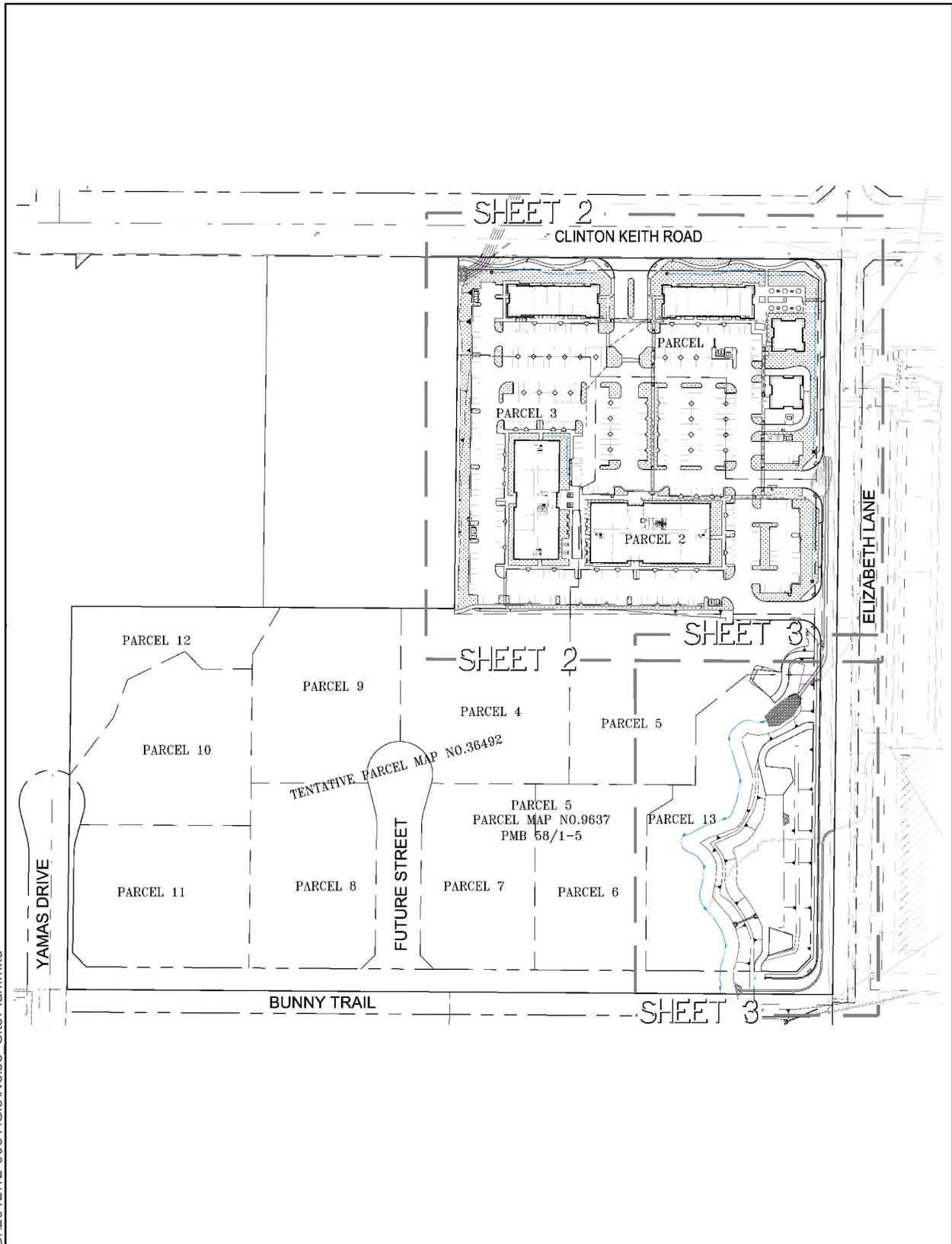




Sources: Albert A. Webb Associates, 2012.

Figure 2 - Proposed Tentative Parcel Map
 Rancon Medical and Educational Center
 Plot Plan No. 36492

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Sources: Albert A. Webb Associates, 2012.

Figure 3 - Proposed Plot Plan
Rancon Medical and Educational Center
Plot Plan No. 36492

1.2 Organization of the Report

The remainder of this acoustical impact analysis is organized as follows:

Section 2 – Setting and Methodology describes the existing and surrounding land uses and General Plan land use designations in the vicinity of the Project site, the basics of sound, applicable noise standards and general plan policies, and a discussion of the methodology used in the analysis.

Section 3 – Noise Impacts presents potential noise impacts to/from the Project.

Section 4 – Conclusions presents the findings of the analysis.

Section 5 – References identifies the references used in preparation of this report.

Section 2 – Setting and Methodology

2.1 Existing Conditions – Project Site

The Project site is vacant and undeveloped, (**Figure 1**). The City of Wildomar’s Consolidated General Plan Map designates the Project site as Business Park (BP), as shown on **Figure 4 – General Plan Land Use Designations**.

2.2 Surrounding Existing Land Uses

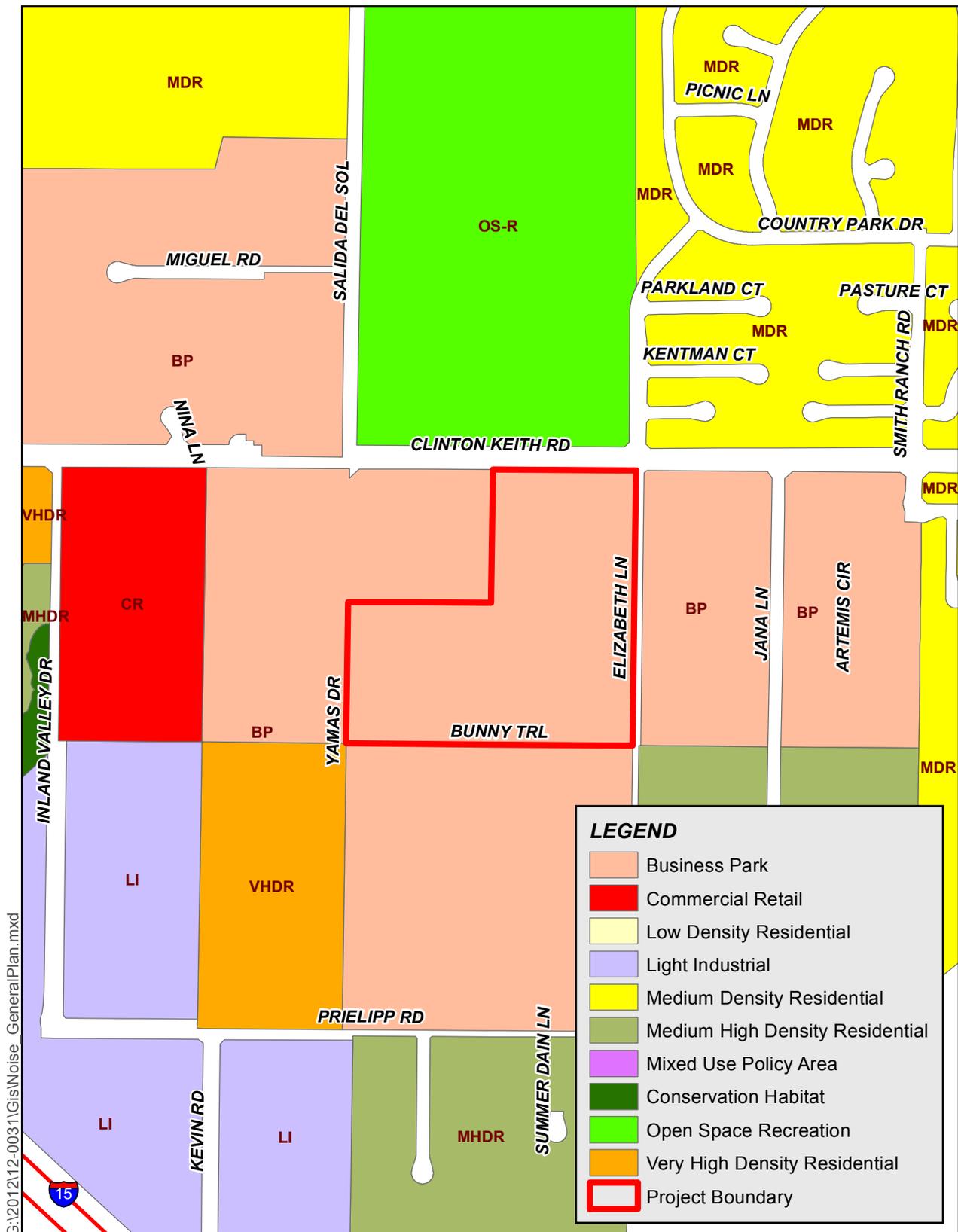
The existing land uses surrounding the Project site include a mini-storage facility to the east and vacant land to the north, south and west (**Figure 1**). There is also an existing very high density residential development located southwest of the Project site, west of Yamas Drive.

2.3 Surrounding Designated Land Uses

The General Plan land use designations for property surrounding the Project site are Open Space-Recreation (OS-R) to the north, Business Park (BP) to the south, east and west, and Very High Density Residential (VHDR) to the south west (**Figure 4**).

2.4 Existing Noise Barriers

There are no existing noise barriers on the Project site.

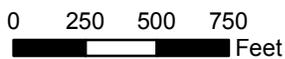


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Sources: County of Riverside GIS, 2012;
Eagle Aerial, April 2010.

**Figure 4 - General Plan
Land Use Designations**

Rancon Medical and Educational Center
Plot Plan No. 36492



2.5 Basics of Sound

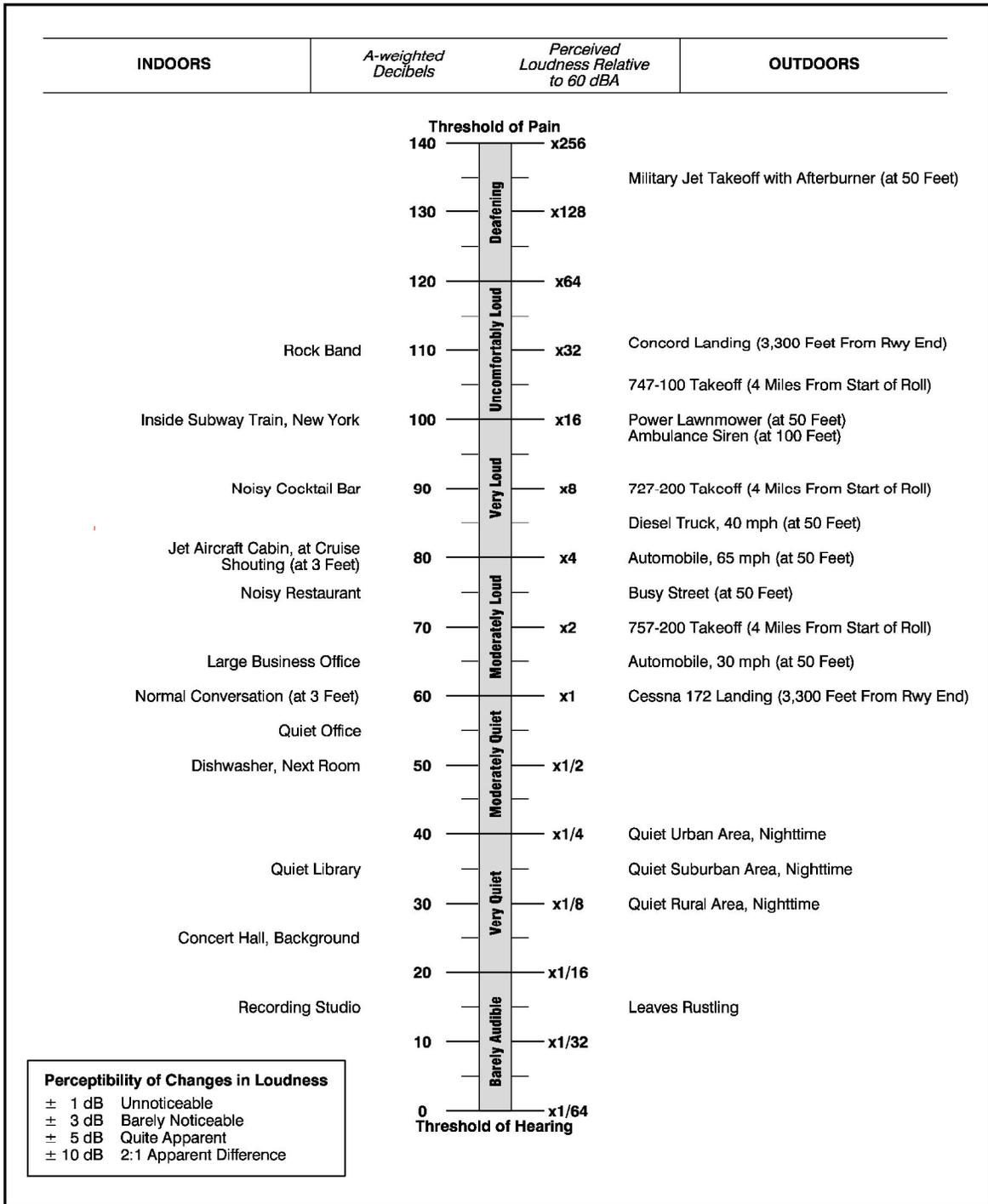
Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise is generally defined as unwanted or objectionable sound. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance and, in the extreme, hearing impairment. Sound is characterized by various parameters that describe the rate of oscillation of sound waves, the distance between successive troughs or crests, the speed of propagation, and the pressure level or energy content of a given sound wave. In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level.

The unit of measurement used to describe a noise level for the human ear is the decibel (dB). The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, the "A-weighted" noise scale, which weights the frequencies to which humans are sensitive, is used for measurements. Noise levels using "A-weighted" measurements are written dB(A) or dB. Decibels are measured on a logarithmic scale. Thus, a doubling of the energy of a noise source, such as doubling a traffic volume, would increase the noise level by 3 dB; a halving of the energy would result in a 3 dB decrease. A 10 dB increase represents a 10-fold increase in sound intensity, a 20 dB change is a 100-fold difference, 30 dB is a 1,000-fold increase, etc. Any further reference to decibels written as "dB" should be understood to be A-weighted. **Figure 5 – Typical Decibel Level of Common Sounds**, shows the relationship of various noise levels to commonly experienced noise events.

Rating scales (or noise "metrics") exist to analyze adverse effects of noise, including traffic-generated noise, on a community. These scales include the equivalent noise level (L_{eq}), the community noise equivalent level (CNEL), and the day/night noise level (L_{dn}). L_{eq} is a measurement of the sound energy level averaged over a specified time period (usually one hour). L_{eq} represents the amount of variable sound energy received by a receiver over a time interval in a single numerical value. For example, a one-hour L_{eq} noise level measurement represents the average amount of acoustic energy that occurred in that hour.

Unlike the L_{eq} metric, the CNEL noise metric is based on 24 hours of measurement. CNEL also differs from L_{eq} in that it applies a time-weighted factor designed to emphasize noise events that occur during the evening and nighttime hours (when quiet time and sleep disturbance are of particular concern). Noise during the daytime period (7:00 a.m. to 7:00 p.m.) receives no penalty. Noise during the evening time period (7:00 p.m. to 10:00 p.m.) is penalized by 5 dBA, while nighttime noise (10:00 p.m. to 7:00 a.m.) is penalized by 10 dBA. The L_{dn} noise metric is similar to the CNEL metric except that the period from 7:00 p.m. to 10:00 p.m. receives no penalty. Both the CNEL and L_{dn} metrics yield approximately the same 24-hour value (within 1 dBA) with the CNEL being the more restrictive/higher of the two.

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Sources: California Airport Land Use Planning Handbook, Jan. 2002

Figure 5 - Typical Decibel Levels
Rancon Medical and Educational Center
Plot Plan No. 36492

Noise may be generated from a point source, such as a piece of construction equipment, or from a line source, such as a road. Because noise spreads in an ever-widening pattern, the given amount of noise striking an object, such as an eardrum, is reduced with distance from the source. This is known as “spreading loss.” The typical spreading loss for point source noise is 6 dBA per doubling of the distance from the noise source.

A line source of noise, such as vehicles proceeding down a roadway, will also be reduced with distance, but the rate of reduction is a function of both distance and the type of terrain over which the noise passes. Hard sites, such as developed areas with paving, reduce noise at a rate of 3 dBA per doubling of the distance, while soft sites—such as undeveloped areas, open space, and vegetated areas—reduce noise at a rate of 4.5 dBA per doubling of the distance. These represent the extremes and most areas will actually contain a combination of hard and soft elements, with the noise reduction placed somewhere in between these two factors. The only way to determine the absolute amount of attenuation that an area provides is through field measurement under operating conditions.

Objects that block the line of sight attenuate the noise source if the receiver is located within the “shadow” of the blockage (such as behind a sound wall). If a receiver is located behind the wall, but has a view of the source, the wall will do little to reduce the noise. Additionally, a receiver located on the same side of the wall as the noise source may experience a slight increase in the perceived noise level, if the wall were to reflect noise back to the receiver.

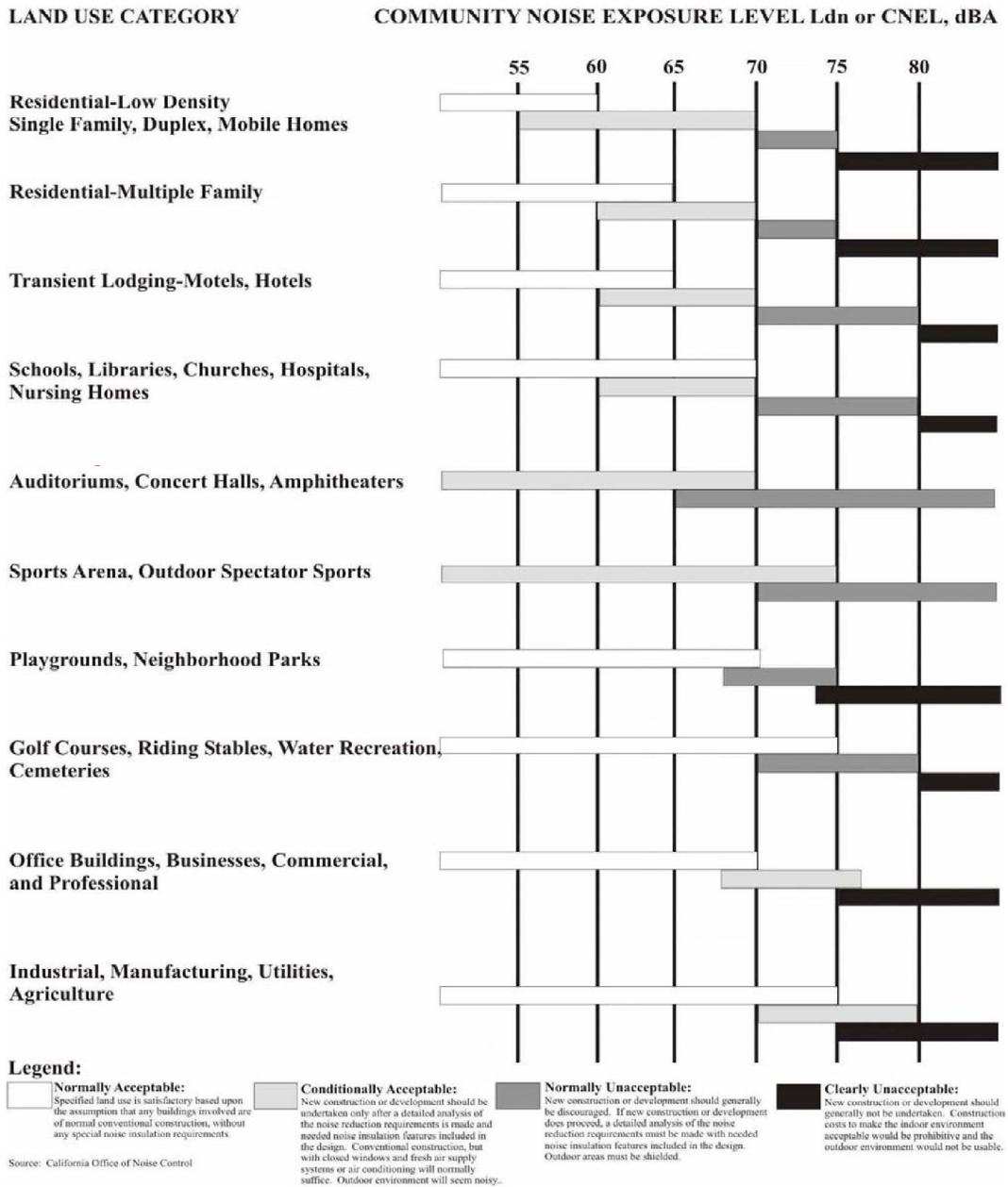
2.6 Noise Standards

2.6.1 Land Use Compatibility for Community Noise Exposure

Noise exposure standards have been developed by the State of California and recommended for inclusion into the Noise Element of local general plans. Adopted guidelines are included in the *Riverside County General Plan Noise Element*, as adopted by the City upon incorporation on July 1, 2008, and are presented on the following page as **Figure 6 – Land Use Compatibility for Community Noise Exposure**. These guidelines are mainly advisory. If noise levels are predicted to exceed these guidelines, noise mitigation must be evaluated and implemented, where feasible, before any land-use actions can be approved.

According to the guidelines presented in **Figure 6**, exterior noise impacts upon office and commercial land uses are normally acceptable up to 70 dBA $L_{dn}/CNEL$; and conditionally acceptable up to 77 dBA $L_{dn}/CNEL$. For the nearest neighboring multi-family residential located at the southwest of the Project area, exterior noise impacts are normally acceptable up to 65 dBA $L_{dn}/CNEL$; and conditionally acceptable up to 70 dBA $L_{dn}/CNEL$.

**Table N-1:
Land Use Compatibility for Community Noise Exposure**



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Sources: County of Riverside
General Plan, Oct. 2003.

**Figure 6 - Land Use Compatibility
for Community Noise Exposure**
Rancon Medical and Educational Center
Plot Plan No. 36492

In this regard, the phrase “normally acceptable” is defined by the City as, “specified land use is satisfactory based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.” Likewise, the phrase, “conditionally acceptable” is defined as, “new construction or development should be undertaken only after detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. Outdoor environment will seem noisy.”

General Plan Noise Element Policies

Additionally, it is recommended that the following *General Plan Noise Element* policies shall apply to the proposed Plot Plan No. 36492 in an effort to “protect noise-sensitive land uses from noise emitted by outside sources, and prevent new projects from generating adverse noise levels on adjacent properties.” (GP Noise)

- N1.1 Protect noise-sensitive land uses from high levels of noise by restricting noise-producing land uses from these areas. If the noise-producing land use cannot be relocated, then noise buffers such as setbacks, landscaping, or block-walls, shall be used.
- N 1.3 Consider the following noise-sensitive uses and discourage these uses in areas in excess of 65 CNEL:
- Schools
 - Hospitals
 - Rest Homes
 - Long-Term Care Facilities
 - Mental Care Facilities
 - Residential Uses
 - Libraries
 - Passive Recreation Uses
 - Places of Worship
- N 1.4 Determine if existing land uses will present noise compatibility issues with proposed projects by undertaking site surveys.
- N 1.5 Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors, and noise-sensitive uses of Riverside County.
- N 1.6 Minimize noise spillover or encroachment from commercial and industrial land uses into adjoining residential neighborhoods or noise sensitive uses.

N 2.3 Mitigate exterior and interior noises to the levels listed below to the extent feasible for stationary sources:

Land Use	Interior Standards		Exterior Standards	
Residential				
10:00 p.m. to 7:00 a.m.	40 L_{eq}	(10 minute)	45 L_{eq}	(10 minute)
7:00 a.m. to 10:00 p.m.	55 L_{eq}	(10 minute)	65 L_{eq}	(10 minute)

N 4.1 Prohibit facility-related noise received by any sensitive use from exceeding the following worst-case noise levels:

- a) 45 dBA 10-minute L_{eq} between 10:00 p.m. and 7:00 a.m.
- b) 65 dBA 10-minute L_{eq} between 7:00 a.m. and 10:00 p.m.

N 8.6 Require that all future exterior noise forecasts use Level of Service C, and be based on designed road capacity or 20-year projection of development (whichever is less) for future noise forecasts.

N 12.2 Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse noise impacts on surrounding areas.

N 12.4 Require that all construction equipment utilizes noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.

City Municipal Code

City Municipal Code at Chapter 9.48 (Noise Regulation) sets forth the City-wide standards for purposes of noise regulation but does not establish thresholds of significance for CEQA purposes. Pursuant to Section 9.48.020(l) of Municipal Code, sound emanating from any private construction project located within one-quarter of a mile from an occupied residence is exempt from the provisions of the City's noise regulations provided that construction does not occur between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September, or between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May. Also, pursuant to Section 15.04.010 of the Municipal Code, construction is prohibited on Sunday or nationally recognized holidays unless approval is obtained from the City Building Official or City Engineer.

The City Municipal Code also establishes general sound level standards at Section 9.48.040, wherein no person shall create any sound, or allow the creation of any sound, on any property that causes the exterior sound level on any other occupied property to exceed the sound level standards set forth on the following table.

Table 1 – Sound Level Standards (dB L_{max})

General Plan Foundation Component	General Plan Land Use Designation	General Plan Land Use Designation Name	Density	Maximum Decibel Level	
				7:00 a.m. to 10:00 p.m.	10:00 p.m. to 7:00 a.m.
Community Development	LDR	Low Density Residential	½ acre	55	45
	MDR	Medium Density Residential	2-5	55	45
	MHDR	Medium High Density Residential	5-8	55	45
	VHDR	Very High Density Residential	14-20	55	45
	CR	Retail Commercial	--	65	55
	LI	Light Industrial	--	75	55
	BP	Business Park	--	65	45
Open Space	CH	Conservation Habitat	--	45	45
	REC	Recreation	--	45	45

Source: City Municipal Code Section 9.48.040, Table 1 (abridged based on designations in vicinity of the Project shown on **Figure 4**).

Regarding motor vehicle-sourced noise, the City Municipal Code only regulates motor vehicle sound systems and off-highway vehicles requiring that: 1) they be equipped with a qualified spark arrester and properly operated and maintained muffler (Section 9.48.060(A)(1)(a)); and 2) vehicle noises shall not exceed 96 dBA for vehicles manufactured on or after January 1, 1986, or 101 dBA for vehicles manufactured before then as measured at 20 inches from the vehicle's tailpipe (Section 9.48.060(A)(1)(b)).

Noise from on-road motor vehicles is exempt from these sound level standards. Therefore, traffic-related noise on area roadways is compared to the community land use noise levels in **Figure 6**.

2.7 Traffic Noise Modeling Methodology

Existing and future noise impacts related to vehicular traffic were modeled using a version of the Federal Highway Administration (FHWA) Traffic Noise Prediction Model (FHWA-RD-77-108), as modified for CNEL and the “Calveno” energy curves. Site-specific information is entered, such as roadway traffic volumes, roadway active width, roadway elevations, source-to-receiver distances, travel speed, site elevations, noise source and receiver heights, and the percentages of automobiles, medium trucks, and heavy trucks that the traffic is made up of throughout the day, amongst other variables

Projects within the County of Riverside are required to comply with standards for roadway traffic noise analysis and mitigation. These standards are based upon the design capacity for a given type of roadway. The *Riverside County Circulation Element* provides average daily traffic (ADT) roadway volumes at Levels of Service (LOS) C, D, and E for the various roadway types or “classifications” located within the County (GP Circulation, Figure C-3). The main roadways in and around the Project site are Clinton Keith Road, which is classified as an Urban Arterial. All other roadways around the Project site are classified as Collector. A traffic impact study entitled, *Traffic Impact Analysis Report, Plot Plan No. 21603* (hereinafter referred to as the TIA), was conducted for the Project and is the source of the detailed traffic information used for the traffic noise analysis. Per, *Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Properties* (hereinafter referred to as the County Protocol), the mandatory vehicular volume to be used in noise analyses is LOS C (GP Appendix I, p. 33).

The TIA provided average daily traffic volumes for area roadways under various scenarios which account for existing traffic, the existing plus Project traffic, and the existing plus Project traffic plus traffic from all other anticipated projects in the area which are necessary for this analysis. Posted speed limits were not utilized in the analysis as those are subject to change and would not accurately represent the speed at which a roadway nearing capacity would travel at; therefore, since the City of Wildomar does not mandate a vehicular speed for modeling purposes, this acoustical analysis was modeled using the Riverside County standard of 40 miles per hour. **Table 2 – Primary Roadway Modeling Parameters**, summarizes some of the assumptions used in this portion of the analysis.

Table 2 – Primary Roadway Modeling Parameters

Roadway	Roadway Classification ¹	Right-of-Way (feet) ¹	Number of Lanes ¹	Speed (MPH)
Clinton Keith Road	Urban Arterial	152	5	40
Elizabeth Lane	Secondary	100	4	40
Yamas Drive	Secondary	100	4	40

¹ Source: TIA and Figure 7 (Elsinore Area Circulation Plan) of the General Plan, October 2003.

Vehicles on a given roadway are typically divided into three categories for acoustical analysis purposes. Each of those categories represents a vehicle’s propensity to create noise and the level of noise intensity that is likely to be produced. The categories are made up of automobiles, medium trucks (trucks with

two axles), and heavy trucks (trucks with three or more axles). A vehicle mix represents the percentage split of automobiles, medium trucks, and heavy trucks that make up a typical vehicle flow for a given roadway type. Generally, medium and heavy truck percentages increase along higher classification streets and, consequently, noise levels will increase along these roadways not only due to increased volume but also the types of vehicles using it.

The City of Wildomar does not mandate or provide vehicle mix percentages for use in acoustical studies and the TIA did not determine vehicle mix information in its analysis; however, Riverside County provides two vehicle mix percentages for use in their acoustical studies which correlate with roadway classification. Therefore, this acoustical analysis utilized the Riverside County vehicle mix percentages that were closest matched for the neighboring roadways and which also provided the highest truck percentages, to best represent a worst-case scenario. **Table 3 – Vehicle Mix Percentages** lists the vehicle mix percentages used for this analysis.

Table 3 – Vehicle Mix Percentages

Roadway GP Classification	Vehicle Type	Percentage			
		Total	Day (7 a.m. – 7 p.m.)	Evening (7 p.m. – 10 p.m.)	Night (10 p.m. – 7 a.m.)
Major, Arterial, or Expressway	Auto	92	69.5	12.9	9.6
	Medium Truck	3	1.44	0.06	1.5
	Heavy Truck	5	2.4	0.1	2.5
Secondary, Collector, or smaller	Auto	97.4	73.6	13.6	10.22
	Medium Truck	1.84	0.9	0.04	0.9
	Heavy Truck	0.74	0.35	0.04	0.35

Source: Day/Evening/Night vehicle mix percentages obtained from the Riverside County General Plan Memo, *Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures* (GP Appendix I).

Section 3 – Noise Impacts

There are two noise concerns typically identified in any given project: noise impacts *to* a project and noise impacts *from* a project. Noise impacts *to* a project could originate from railroad, airport, and vehicular traffic as well as noise generated from surrounding land uses. Noise impacts *from* a project could originate from construction activities, increased project-related traffic on area roadways, and on-site project operations and activities.

3.1 Noise Impacts to the Project

3.1.1 Noise Impacts from Local Railroads

There are no railroad lines located in the vicinity of the Project site; thus, this noise source will not impact the Project.

3.1.2 Noise Impacts from Local and Regional Airports

The Project is located approximately 17 miles from Hemet-Ryan Airport; therefore, the proposed Project site lies outside of the 55 dBA CNEL contours for this airport. (Hemet-Ryan Airport, Exhibit 5.)

3.1.3 Noise Impacts from Nearby Roadways

The Project site is adjacent to three roadways: Clinton Keith Road, Yamas Drive and Elizabeth Lane. Future vehicular-sourced noise impact levels were determined at the Project's property line adjacent to these roadways and contours were determined for the 70, 65, 60, and 55 dBA CNEL noise levels from the existing traffic plus Project traffic plus cumulative Project traffic and ambient growth at Project build out. These levels represent unattenuated impacts that characterize the site in its current state and are to be used for planning purposes only.

Using the parameters described above, in section 2.7, the highest anticipated vehicle-related noise level at the subject property line will be 68.9 dBA CNEL along Clinton Keith Road, which is below acceptable levels of 70 dBA according to the Land Use Compatibility for Community Noise Exposure. As noted above, the City's sound level standards, shown above in **Table 1**, do not apply to vehicular-sourced roadway noise but from one property's on-site noise to another occupied property. **Table 4 – Projected Unattenuated Noise Contours**, shows the calculated noise impact at the property line and the distances to various noise levels from each adjacent roadway centerline.

Table 4 – Projected Unattenuated Noise Contours

Roadway	Noise Level (dBA CNEL) at Property Line ¹	Distance to Noise Level from Roadway Centerline			
		70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
Clinton Keith Rd.	69.8	73 feet	231 feet	731 feet	2,311 feet
Elizabeth Ln.	68.1	25 feet	80 feet	253 feet	799 feet
Yamas Dr.	62.5	7 feet	21 feet	65 feet	206 feet

Note: ¹ Represents distance proposed property line at the edge of ultimate road right-of-way.

3.1.4 Non-Vehicular Sourced Noise Impacts from Surrounding Land Uses

As previously described in **Section 2 – Setting and Methodology**, existing surrounding land uses in the vicinity of the Project site include a mini-storage facility to the east and vacant land to the north, south and west, with an existing multi-family residential development located southwest of the Project site. None of these uses are anticipated to generate continuous noise levels in excess of the standards shown in **Table 1**, above.

3.1.5 Recommended Measures to Reduce Noise Impacts to the Project

On-site noise levels originating from off-site sources were determined to be below acceptable levels for the Project's land use. Therefore, no mitigation is recommended.

3.2 Noise Impacts from the Project

Temporary on-site noise increases will occur during Project construction. Once the Project is operational, potentially long-term or permanent noise increases will occur on site as a result of Project operations (i.e., air conditioning units) and off site as a result of Project-generated traffic on area roadways.

Community noise problems typically occur at levels that are well below the threshold for hearing loss. However, noise at less than hearing loss levels may create a variety of negative effects through loss of sleep, interference with communication, or lack of concentration. Noise-induced stress varies from one person to another and even varies within the same person from one day to the next. Therefore, there are no clear-cut limits that characterize a stress-free noise environment.

3.2.1 Noise Impacts from Construction Activities

Temporary noise impacts will result during Project construction. Construction noise levels will vary significantly based upon the size and topographical features of the active construction zone, duration of the work day, and types of equipment utilized. Project construction will involve multiple phases (site preparation, grading, building construction, paving, architectural coating) employing differing types and quantities of mechanical equipment. Each piece of equipment will produce varying levels of noise at varying distances from within the active maintenance/construction area, as indicated in **Table 5 – Construction Equipment Noise Levels**.

Table 5 – Construction Equipment Noise Levels

Type of Equipment	Range of Maximum Sound Levels Measured at 50 Feet (dBA)	Suggested Maximum Sound Levels for Analysis (dBA)	Maximum Sound Levels at 70 Feet (dBA)
Pile Drivers, 12,000 to 18,000 feet-lb/blow ^a	81–96	93	90
Rock Drills	83–99	96	93
Jack Hammers	75–85	82	79
Pneumatic Tools	78–88	85	82
Pumps	74–84	80	77

Type of Equipment	Range of Maximum Sound Levels Measured at 50 Feet (dBA)	Suggested Maximum Sound Levels for Analysis (dBA)	Maximum Sound Levels at 70 Feet (dBA)
Scrapers	83–91	87	84
Haul Trucks	83–94	88	85
Cranes	79–86	82	79
Portable Generators	71–87	80	77
Rollers	75–82	80	77
Dozers	77–90	85	82
Tractors	77–82	80	77
Front-End Loaders	77–90	86	83
Hydraulic Backhoe	81–90	86	83
Hydraulic Excavators	81–90	86	83
Graders	79–89	86	83
Air Compressors	76–89	86	83
Trucks	81–87	86	83

Source: Bolt, Beranek & Newman, *Noise Control for Buildings and Manufacturing Plants*, 1987

^a feet-lb/blow = foot-pounds per blow

To provide a point of reference, a typical construction day with an 8-hour duration can potentially generate 84 dBA CNEL at a distance of 50 feet from the noise source, on average. Using soft site parameters (a loss of 6 dBA per doubling of distance from the source), the 65 dBA CNEL contour (applicable to exterior areas of Residential uses) is calculated to occur at a distance of approximately 320 feet.

The City of Wildomar has determined that certain noise levels may jeopardize the health or general welfare of City residents; therefore, City Municipal Code Chapter 9.48 established noise standards, as shown in **Table 1**, above. The City Municipal Code determined that construction noise is exempt from noise restrictions if private projects located within one-fourth mile of occupied residences adhere to certain hours. Since occupied residential uses are within one-fourth mile of the Project site, Project-related noise shall be regulated pursuant to the hours set forth in the Municipal Code. Consistent with the intent of this restriction on construction noise hours, noise impacts resulting from construction within specified hours are not considered to jeopardize the health or general welfare of City residents. Therefore, compliance with the construction hours outlined in Section 9.48.020(1)(2) ensures compliance with City standards, as detailed in mitigation measure **MM Noise 1**.

There is only two areas with existing sensitive receptors that could be affected by Project-related construction activity. The closest area includes a multi-family residential development located to the southwest of Project's southern boundary, shown on **Figure 1**. There are also single-family residences northeast of the Project site, across Clinton Keith Road, an urban arterial roadway, behind an existing block wall. Therefore, to further minimize exposure upon neighboring residential properties from noise generated by typical construction methods anticipated to be used by the Project, proper tuning is incorporated into mitigation measure **MM Noise 2**, staging for the greatest distance between noise sources and receptors is incorporated into mitigation measure **MM Noise 3**, and stationary noise-

generating construction equipment shall be placed a minimum of 320 feet from the property line of the closest existing residences is incorporated in mitigation measure **MM Noise 4**.

3.2.2 Noise Impacts from Future On-Site Activities

The Project proposes a multi use development consisting of a mix of business park, general offices, medical and dental-use facilities, commercial retail, and a drive-thru fast food restaurant. Noise impact sources typically associated with these types of uses could include mechanical equipment, such as air conditioning units. Limited amounts of truck trips also occur with business park uses and commercial retail uses. Commercial retail uses typically contain one to three loading areas that are located at the rear of the building and screened from view and considering the small size of the business park parcels (approximately two acres or less), truck trips within the Project site would be limited and at low speeds. Thus, noise from these sources are not anticipated to exceed the City's normally acceptable noise levels in **Figure 6**. On-site noise associated with any manufacturing uses would not be substantial as they would be conducted indoors.

Mechanical Equipment

The Project's proposed development includes medical-use facilities and offices; as with most commercial-type facilities, the buildings will be air conditioned. The air conditioning units will be roof-mounted; mitigation measure **MM Noise 5** is included to ensure mechanical air conditioning equipment has a 25-foot setback from the roof's edge, or the equipment is set back from the building's edge far enough to break the line of sight between the air conditioning units and potential receivers, whichever is greater of the two. This will provide a minimum 3 to 5 dBA reduction at the building's edge, prior to distance that will provide an additional 3 dBA attenuation per doubling of distance.

3.2.3 Noise Impacts from Project-Specific Traffic Increases

It is widely accepted that most people only notice a change in the noise environment when the difference in noise levels is greater than 3 dBA. However, it is widely accepted that the average healthy ear can barely perceive changes of 3 dBA and that a change of 5 dBA is readily perceptible.

There is the potential for noise increases along area roadways, resulting from Project-related traffic. As previously discussed in **Section 2 – Setting and Methodology**, the City Municipal Code exempts roadway noise from motor vehicles; it only regulates off-highway vehicle noise produced by its tailpipe and motor vehicle sound systems (Section 9.48.060(A)). These regulations are enforced by the Riverside County Sheriff's Department. Nonetheless, for purposes of this analysis, noise level increases resulting from Project-related increases in traffic volumes on Clinton Keith Road, Elizabeth Lane and Yamas Drive are quantified and evaluated for the Project area for the following scenarios:

- Existing and Existing plus Project; and
- Existing plus ambient growth plus cumulative projects plus Project conditions.

Using the traffic noise modeling parameters described in **Section 2.7 – Traffic Noise Modeling Methodology**, the various scenarios that are described above were modeled to determine increases in

noise levels. The increase in traffic due to the addition of Project traffic allows for direct comparisons of potential increases or decreases in noise levels based upon the associated growth in traffic. Therefore, the incremental change in a noise level is the focus of this portion of the analysis results, rather than the resulting independent noise level for any given receiver.

Table 6 – Noise Contours at 50 feet from Roadway Centerline from Existing Plus Project Conditions compares existing noise levels (without the Project) with predicted noise levels resulting from Project-specific traffic. As indicated below, noise levels associated from Project-specific traffic increases are expected to increase by approximately 18.6 dBA over existing levels along Elizabeth Lane, south of Clinton Keith Road. Although this increase in noise levels is perceptible, it does not exceed the acceptable levels for adjacent land uses according to **Figure 6** and there are no sensitive receivers adjacent to this segment. There is an existing mini-storage development located east of Elizabeth Lane and south of Clinton Keith; however, there is an existing wall along the perimeter of this mini-storage facility along Elizabeth Lane. The wall is approximately 6 feet in height and is elevated on an existing landscaped berm which will provide additional attenuation to the neighboring mini-storage facility.

**Table 6 — Noise Contours at 50 feet from Roadway Centerline
from Existing Plus Project Conditions**

Road Segment	Existing		Existing Plus Project				
	ADT	dB CNEL	ADT	Project Only ADT	dB CNEL	Total dB CNEL	Change
N/S Road Segment							
Yamas Dr. s/o Project	810	56.8	1,725	915	60.3	61.9	5.1
Elizabeth Ln s/o Clinton Keith	175	50.1	6,443	6,258	68.7	68.7	18.6
E/W Road Segment							
Clinton Keith w/o I-15	20,725	70.9	23,528	2,603	65.2	71.9	1.0
Clinton Keith e/o I-15	19,480	70.6	24,561	5,081	67.8	72.4	1.8
Clinton Keith w/o Inland Valley	18,250	70.3	23,467	5,217	67.9	72.3	2.0
Clinton Keith w/o Salida del Sol	12,890	68.8	18,127	5,237	67.9	71.4	2.6
Clinton Keith w/o Elizabeth Ln	12,765	68.8	18,002	5,237	67.9	71.4	2.6
Clinton Keith w/o Nutmeg	11,355	68.3	13,015	1,660	62.9	69.4	1.1
Clinton Keith w/o California Oaks	15,640	69.6	16,563	923	60.4	70.1	0.5
Prielipp Rd e/o Yamas	4,590	64.3	5,504	914	60.3	65.8	1.5
Prielipp Rd e/o Elizabeth	5,170	64.8	6,084	914	60.3	66.1	1.3

Table 7 — Noise Contours at 50 feet from Roadway Centerline from Existing Plus Cumulative Project Traffic Plus Project Conditions

Road Segment	Existing+Cumulative		Existing Plus Cumulative Plus Project				
	ADT	dB CNEL	ADT	Project Only ADT	dB CNEL	Total	Change
N/S Road Segment							
Yamas Dr. s/o Project	851	57.0	1,766	915	60.3	62.0	5.0
Elizabeth Ln s/o Clinton Keith	184	50.3	6,452	6,268	68.7	68.7	18.4
E/W Road Segment							
Clinton Keith w/o I-15	27,497	72.1	30,300	2,803	65.2	72.9	0.8
Clinton Keith e/o I-15	26,353	71.9	31,434	5,081	67.8	73.3	1.4
Clinton Keith w/o Inland Valley	24,209	71.5	29,446	5,237	67.9	73.1	1.6
Clinton Keith w/o Salida del Sol	16,667	69.9	21,904	5,237	67.9	72.0	2.1
Clinton Keith w/o Elizabeth Ln	16,535	69.9	21,772	5,237	67.9	72.0	2.1
Clinton Keith w/o Nutmeg	14,675	69.4	16,335	1,660	62.9	70.3	0.9
Clinton Keith w/o California Oaks	18,257	70.3	19,180	923	60.4	70.7	0.4
Prielipp Rd e/o Yamas	6,924	66.1	7,838	914	60.3	67.1	1.0
Prielipp Rd e/o Elizabeth	7,662	66.5	8,576	914	60.3	67.5	0.9

Note: Cumulative traffic ADT includes ambient growth projections.

As shown in **Table 7**, above, the Project's traffic increases noise levels compared to that existing without the Project, but is also not expected to exceed acceptable levels for adjacent land uses.

3.2.4 Noise Impacts from Vibration

Regarding the Project's potential to generate ground-borne vibrations during construction, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Common sources of ground-borne vibration are trains, buses on rough roads, and heavy construction activities such as blasting, pile-driving, and extensive grading and heavy earth-moving equipment. Construction of the Project will not incorporate the use of blasting or pile-driving. Vibration from equipment can only be felt out to a distance of approximately 50 feet from the source. Additionally, ground-borne vibration are not associated with the typical operation of the land uses proposed by the Project. Thus, construction and operation will not produce any substantial ground-borne vibration.

3.2.5 Recommended Mitigation Measures to Reduce Noise Impacts from the Project

Recommendations during Construction

Although construction-related noise will be temporary, it may exceed the Land Use Compatibility for Community Noise Exposure's conditionally acceptable exterior residential standard of 70 dBA at the Project boundary, which is an advisory guideline threshold. Nonetheless, in order to reduce the Project-related construction noise, the following measures are recommended:

MM Noise 1: Adhere to City of Wildomar Municipal Code Section 9.48 which states: construction within one-quarter mile of an inhabited dwelling does not occur between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September, and 6:00 p.m. to 7:00 a.m. during the months of October through May.

MM Noise 2: To minimize noise impacts resulting from poorly tuned or improperly modified vehicles and construction equipment, all vehicles and construction equipment shall maintain equipment engines in good condition and in proper tune per manufacturers' specifications to the satisfaction of the City of Wildomar Building Department. Equipment maintenance records and equipment design specification data sheets shall be kept on site during construction. Compliance with this measure shall be subject to periodic inspections by the City of Wildomar Building Department.

MM Noise 3: The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the Project site during all Project construction.

MM Noise 4: Stationary noise-generating construction equipment shall be placed a minimum of 320 feet from the property line of existing sensitive receptors (residences to the south), when and where feasible.

Recommendations during Operation

With regards to non-vehicular operational Project noise, noise from roof-mounted equipment is anticipated to be limited because these noise sources are enclosed or screened such that the line of sight from potential receivers is broken. However, the following is recommended:

MM Noise 5: Roof-mounted air conditioning equipment shall be set back either 25 feet from the building's closest edge or to a distance capable of breaking the line-of-sight of equipment from neighboring potential receivers, whichever provides the greater set back from the building's edge of the two.

Recommendations for Traffic-Sourced Noise

While noise levels from Project-specific traffic increases will result in noise level increases greater than 5 dBA along Elizabeth Lane, it does not exceed the acceptable levels for adjacent land uses and the neighboring mini-storage facility located east of the Project site is not a sensitive land use. In addition, there is an existing wall surrounding the mini-storage facility which breaks the line of sight and is anticipated to attenuate noise caused by traffic along Elizabeth Lane. Similarly, the resulting traffic noise levels on Yamas Drive south of the Project will not exceed the acceptable levels for adjacent land uses. No mitigation is recommended at this time.

Section 4 – Conclusion

4.1 Noise Impacts to the Project

Based upon the findings of this analysis, the proposed Project is compatible with the site with regards to impacts from traffic-related noise and does not require any mitigation at this time.

4.2 Noise Impacts From the Project

Based upon the findings of this analysis, Project-related construction noise may exceed the Land Use Compatibility for Community Noise Exposure's conditionally acceptable exterior residential standard of 70 dBA, which is an advisory guideline threshold. Nonetheless, with implementation of the following recommendations, construction noise will be reduced to the extent feasible:

MM Noise 1: Adhere to City of Wildomar Municipal Code Section 9.48 which states: construction within one-quarter mile of an inhabited dwelling does not occur between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September, and 6:00 p.m. to 7:00 a.m. during the months of October through May.

MM Noise 2: To minimize noise impacts resulting from poorly tuned or improperly modified vehicles and construction equipment, all vehicles and construction equipment shall maintain equipment engines in good condition and in proper tune per manufacturers' specifications to the satisfaction of the City of Wildomar Building Department. Equipment maintenance records and equipment design specification data sheets shall be kept on site during construction. Compliance with this measure shall be subject to periodic inspections by the City of Wildomar Building Department.

MM Noise 3: The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the Project site during all Project construction.

MM Noise 4: Stationary noise-generating construction equipment shall be placed a minimum of 320 feet from the property line of existing sensitive receptors (residences to the south), when and where feasible.

With regards to non-vehicular operational Project noise, noise from roof-mounted equipment and loading spaces is anticipated to be less than significant because these noise sources are enclosed or shielded such that the line of sight from potential receivers is broken. To ensure the placement of roof-mounted equipment provides adequate distance to break the line of sight, the following is mitigation measure is recommended:

MM Noise 5: Roof-mounted air conditioning equipment shall be set back either 25 feet from the building's closest edge or to a distance capable of breaking the line-of-sight of equipment from neighboring potential receivers, whichever provides the greater set back from the building's edge of the two.

With regards to Project-specific traffic increases, Project-specific traffic increases will result in noise level increases greater than 5 dBA along Elizabeth Lane; however, the noise levels do not exceed the acceptable levels for adjacent land uses and the neighboring mini-storage facility located east of the Project site is not a sensitive land use. In addition, there is an existing wall surrounding the mini-storage facility which breaks the line of sight and is anticipated to attenuate noise caused by traffic along Elizabeth Lane. Similarly, the resulting traffic noise levels on Yamas Drive south of the Project will not exceed the acceptable levels for adjacent land uses. No mitigation is recommended at this time.

Section 5 – References

5.1 References Cited

The following documents were referred to as general information sources during the preparation of this document. They are available for public review online or at the locations listed below. Some of these documents are also available at public libraries and at other public agency offices.

Cited as	Source
Caltrans TeNS	California Department of Transportation, <i>Technical Noise Supplement</i> , November 2009. (Available at http://www.placer.ca.gov/Departments/CommunityDevelopment/EnvCoordSvcs/EIR/Homewood/drafteir/~media/cdr/ECS/EIR/Homewood/Noise/N%201_Caltrans_1998.ashx , accessed December 8, 2011.)
Elsinore Area Plan	County of Riverside, <i>General Plan Elsinore Area Plan</i> , adopted October, 2003, as adopted July 1, 2008 by the City of Wildomar. (Available at http://www.rctlma.org/genplan/content/ap1/elsinore.html , accessed July 3, 2012.)
Hemet-Ryan Airport	Hemet-Ryan Airport, <i>Comprehensive Airport Land Use Plan</i> , Prepared in 1992 (Available at http://www.rcaluc.org/filemanager/plan/hemet_ryan//Second%20Edition%20Hemet-Ryan%20Airport%20Comprehensive%20ALUP.pdf , accessed July 11, 2012.)
GP Appendix I	County of Riverside, <i>General Plan Appendix I, Memo: Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Properties</i> , November 23, 2009. (Available at http://www.rctlma.org/genplan/content/appendix/appendixi.html , accessed July 11, 2012.)
GP Circulation	County of Riverside, <i>General Plan Circulation Element</i> , adopted October 7, 2003, as adopted July 1, 2008 by the City of Wildomar. (Available at http://www.rctlma.org/genplan/content/gp/chapter04.html#List_1_3 , accessed July 11, 2012.)
GP Noise	County of Riverside, <i>General Plan Noise Element</i> , adopted October 7, 2003, as adopted July 1, 2008 by the City of Wildomar. (Available at http://www.rctlma.org/genplan/content/gp/chapter07.html , accessed July 11, 2012.)
RCLIS	County of Riverside, <i>Riverside County Land Information System Website</i> . (Available at http://www3.tlma.co.riverside.ca.us/pa/rclis/index.html , accessed July 11, 2012.)
Webb 2013	Albert A. Webb Associates, <i>Traffic Impact Analysis Report, Tentative Parcel Map No. 36492</i> , July 2013. (Available at the City of Wildomar.)
WMC	City of Wildomar Municipal Code, <i>Title 9, Chapter 9.48, Noise Regulation</i> , current through September 2012 code supplement. (Available at http://qcode.us/codes/wildomar/ , accessed January 24, 2013.)

Location:

Address:

City of Wildomar

23873 Clinton Keith Road, Suite 201
Wildomar, CA 92595

5.2 Document Preparation Staff

ALBERT A. WEBB ASSOCIATES

Eliza Laws, Senior Environmental Analyst

Laura Hudson, Assistant Environmental Technician

Brad Perrine, Assistant Environmental Analyst

Appendix A

Calculation Printouts

NOISE CONTOUR WORKSHEET

(calculations based on the FHWA-RD-77-108 Highway Noise Prediction Model)

PROJECT INFORMATION

Project:	PP36492	W.O. #:	12-0031
City/County:	City of Wildomar	Date Entered:	July 17, 2013
Comments:	--	Entered By:	Laura

SITE INFORMATION

Adjacent Planning Area(s):	0	Adjacent Land Use(s):	Business Park
Obs. Location:	--	Scenario:	LOS 'C' volumes

ROADWAY SEGMENT, VEHICULAR AND OBSERVER CHARACTERISTICS

Roadway:	Clinton Keith west of Elizabeth			Roadway Class:	Urban Arterial
Segment:	0			Right of Way:	varies - 110 feet min
ADT:	21,772			Travel Speed:	40 MPH
Pad Elev. (opt.):	0.0 feet			Obs. Height:	5.0 feet
Roadway Elev.:	0.0 feet			Roadway Grade:	0.1%
Mitigation:	<u>Included</u>	<u>Type</u>	<u>Height</u>	Noise Height:	
	No	--	0.0 feet	(above roadway)	Autos: 0.00 feet Med Trucks: 2.30 feet Heavy Trucks: 8.01 feet
Exposure:	<u>Left</u>	<u>Right</u>	<u>Total</u>	Hard/Soft Site:	Autos: Hard Med Trucks: Hard Heavy Trucks: Hard
	90°	90°	180°		
Veh. Distribution:	<u>Daytime</u>	<u>Evening</u>	<u>Nighttime</u>	<u>Daily</u>	Notes:
Automobiles	0.755	0.1396	0.105	0.9742	No pad or roadway elevations available
Medium Trucks	0.4891	0.0217	0.4891	0.0184	
Heavy Trucks	0.4729	0.054	0.4729	0.0070	

CALCULATED CNEL NOISE CONTOURS

Distance needed to attain indicated noise level:	73'	231'	731'	2311'
	to 70 dBA	to 65 dBA	to 60 dBA	to 55 dBA

(results do not include the effects of topo or mitigation)

NOISE CONTOUR WORKSHEET

(calculations based on the FHWA-RD-77-108 Highway Noise Prediction Model)

PROJECT INFORMATION

Project:	PP36492	W.O. #:	12-0031
City/County:	City of Wildomar	Date Entered:	July 17, 2013
Comments:	--	Entered By:	Laura

SITE INFORMATION

Adjacent Planning Area(s):	0	Adjacent Land Use(s):	Business Park
Obs. Location:	--	Scenario:	LOS 'C' volumes

ROADWAY SEGMENT, VEHICULAR AND OBSERVER CHARACTERISTICS

Roadway:	Elizabeth Lane s/o Clinton Keith			Roadway Class:	Secondary
Segment:	0			Right of Way:	varies - 64 feet min
ADT:	6,452			Travel Speed:	40 MPH
Pad Elev. (opt.):	0.0 feet			Obs. Height:	5.0 feet
Roadway Elev.:	0.0 feet			Roadway Grade:	0.1%
Mitigation:	<u>Included</u>	<u>Type</u>	<u>Height</u>	Noise Height:	
	No	--	0.0 feet	(above roadway)	Autos: 0.00 feet Med Trucks: 2.30 feet Heavy Trucks: 8.01 feet
Exposure:	<u>Left</u>	<u>Right</u>	<u>Total</u>	Hard/Soft Site:	Autos: Hard Med Trucks: Hard Heavy Trucks: Hard
	90°	90°	180°		
Veh. Distribution:	<u>Daytime</u>	<u>Evening</u>	<u>Nighttime</u>	<u>Daily</u>	Notes:
Automobiles	0.755	0.1396	0.105	0.9742	No pad or roadway elevations available
Medium Trucks	0.4891	0.0217	0.4891	0.0184	
Heavy Trucks	0.4729	0.054	0.4729	0.0070	

CALCULATED CNEL NOISE CONTOURS

Distance needed to attain indicated noise level:	25'	80'	253'	799'
	to 70 dBA	to 65 dBA	to 60 dBA	to 55 dBA

(results do not include the effects of topo or mitigation)

Albert A. Webb Associates
NOISE CONTOUR WORKSHEET

(calculations based on the FHWA-RD-77-108 Highway Noise Prediction Model)

PROJECT INFORMATION

Project:	PP36492	W.O. #:	12-0031
City/County:	City of Wildomar	Date Entered:	July 17, 2013
Comments:	--	Entered By:	Laura

SITE INFORMATION

Adjacent Planning Area(s): 0	Adjacent Land Use(s): Business Park
Obs. Location: --	Scenario: LOS 'C' volumes

ROADWAY SEGMENT, VEHICULAR AND OBSERVER CHARACTERISTICS

Roadway: Yamas Dr. s/o Clinton Keith	Roadway Class: Secondary																									
Segment: 0	Right of Way: varies - 64 feet min																									
ADT: 1,766	Travel Speed: 40 MPH																									
Pad Elev. (opt.): 0.0 feet	Obs. Height: 5.0 feet																									
Roadway Elev.: 0.0 feet	Roadway Grade: 0.1%																									
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"></td> <td style="width: 15%; text-align: center;"><u>Included</u></td> <td style="width: 15%; text-align: center;"><u>Type</u></td> <td style="width: 15%; text-align: center;"><u>Height</u></td> </tr> <tr> <td>Mitigation:</td> <td style="text-align: center;">No</td> <td style="text-align: center;">--</td> <td style="text-align: center;">0.0 feet</td> </tr> </table>		<u>Included</u>	<u>Type</u>	<u>Height</u>	Mitigation:	No	--	0.0 feet	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"></td> <td style="width: 15%; text-align: center;"><u>Autos</u></td> <td style="width: 15%; text-align: center;"><u>Med Trucks</u></td> <td style="width: 15%; text-align: center;"><u>Heavy Trucks</u></td> </tr> <tr> <td>Noise Height: (above roadway)</td> <td style="text-align: center;">0.00 feet</td> <td style="text-align: center;">2.30 feet</td> <td style="text-align: center;">8.01 feet</td> </tr> </table>		<u>Autos</u>	<u>Med Trucks</u>	<u>Heavy Trucks</u>	Noise Height: (above roadway)	0.00 feet	2.30 feet	8.01 feet									
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Mitigation:	No	--	0.0 feet																							
	<u>Autos</u>	<u>Med Trucks</u>	<u>Heavy Trucks</u>																							
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	<u>Daytime</u>	<u>Evening</u>	<u>Nighttime</u>	<u>Daily</u>																						
Veh. Distribution:																										
Automobiles	0.755	0.1396	0.105	0.9742																						
Medium Trucks	0.4891	0.0217	0.4891	0.0184																						
Heavy Trucks	0.4729	0.054	0.4729	0.0070																						

CALCULATED CNEL NOISE CONTOURS

Distance needed to attain indicated noise level:	7' to 70 dBA	21' to 65 dBA	65' to 60 dBA	206' to 55 dBA
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(results do not include the effects of topo or mitigation)

Noise Levels 50 feet from Roadway Centerline

N/S Road Segment	Existing		Existing Plus Project				
	ADT	dB CNEL	ADT	Project Only	dB CNEL	Total	Change
Yamas Dr. s/o Project	810	56.8	1725	915	60.3	61.9	5.1
Elizabeth Ln s/o Clinton Keith	175	50.1	6443	6268	68.7	68.7	18.6

E/W Road Segment	Existing		Existing Plus Project				
	ADT	dB CNEL	ADT	Project Only	dB CNEL	Total	Change
Clinton Keith w/o I-15	20725	70.9	23528	2803	65.2	71.9	1.0
Clinton Keith e/o I-15	19480	70.6	24561	5081	67.8	72.4	1.8
Clinton Keith w/o Inland Valley	18250	70.3	23467	5217	67.9	72.3	2.0
Clinton Keith w/o Salida del Sol	12890	68.8	18127	5237	67.9	71.4	2.6
Clinton Keith w/o Elizabeth Ln	12765	68.8	18002	5237	67.9	71.4	2.6
Clinton Keith w/o Nutmeg	11355	68.3	13015	1660	62.9	69.4	1.1
Clinton Keith w/o California Oaks	15640	69.6	16563	923	60.4	70.1	0.5
Prielipp Rd e/o Yamas	4590	64.3	5504	914	60.3	65.8	1.5
Prielipp Rd e/o Elizabeth	5170	64.8	6084	914	60.3	66.1	1.3

N/S Road Segment	Existing+Cum		Existing Plus Cumulative Plus Project				
	ADT	dB CNEL	Cumulative ADT	Project Only ADT	dB CNEL	Total	Change
Yamas Dr. s/o Project	851	57.0	1766	915	60.3	62.0	5.0
Elizabeth Ln s/o Clinton Keith	184	50.3	6452	6268	68.7	68.7	18.4

E/W Road Segment	Existing + Cume		Existing Plus Cumulative Plus Project				
	ADT	dB CNEL	Cumulative ADT	Project Only	dB CNEL	Total	Change
Clinton Keith w/o I-15	27497	72.1	30300	2803	65.2	72.9	0.8
Clinton Keith e/o I-15	26353	71.9	31434	5081	67.8	73.3	1.4
Clinton Keith w/o Inland Valley	24209	71.5	29446	5237	67.9	73.1	1.6
Clinton Keith w/o Salida del Sol	16667	69.9	21904	5237	67.9	72.0	2.1
Clinton Keith w/o Elizabeth Ln	16535	69.9	21772	5237	67.9	72.0	2.1
Clinton Keith w/o Nutmeg	14675	69.4	16335	1660	62.9	70.3	0.9
Clinton Keith w/o California Oaks	18257	70.3	19180	923	60.4	70.7	0.4
Prielipp Rd e/o Yamas	6924	66.1	7838	914	60.3	67.1	1.0
Prielipp Rd e/o Elizabeth	7662	66.5	8576	914	60.3	67.5	0.9