

# **Beaumont Pointe**

# NOISE AND VIBRATION ANALYSIS CITY OF BEAUMONT

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# **LIST OF ABBREVIATED TERMS**

(1) Reference

ADT Average Daily Traffic

ANSI American National Standards Institute

Calveno California Vehicle Noise

CEQA California Environmental Quality Act
CNEL Community Noise Equivalent Level

dBA A-weighted decibels

EPA Environmental Protection Agency
FHWA Federal Highway Administration
FTA Federal Transit Administration

I-15 Interstate 15

INCE Institute of Noise Control Engineering

mph Miles per hour

OPR Office of Planning and Research

PPV Peak particle velocity
Project Beaumont Pointe

REMEL Reference Energy Mean Emission Level

RMS Root-mean-square
USBM U.S. Bureau of Mines
VdB Vibration Decibels



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# **EXECUTIVE SUMMARY**

Urban Crossroads, Inc. has prepared this noise study to determine the potential noise impacts and the necessary noise mitigation measures, if any, for the proposed Beaumont Pointe development ("Project"). The Project site is located south of the SR-60 Freeway and west of Jack Rabbit Trail, in the City of Beaumont.

The Project would allow for the development on the Project site of a maximum of 246,000 square feet (sf) of general commercial uses in addition to a 125-room hotel (90,000 sf) and a maximum of 4,995,000 sf of industrial uses. The Project would provide 128.8 acres of open space to accommodate landscaped manufactured slopes, fuel modification areas, and natural open space as a buffer to adjacent conservation area and 134.7 acres of open space — conservation. The open space — conservation area would be preserved as natural habitat as required by the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Associated improvements to the Project site would include, but are not limited to, paved roads, paved parking areas, drive aisles, truck courts, utility infrastructure, landscaping, water quality basins, signage, lighting, property walls, gates, and fencing, including perimeter fencing for the Project site.

The Project is proposed to be constructed in three phases (described in this report as Phase 1, Phase 2, and Buildout). This noise study includes a conservative analysis of the proposed Project uses. This study has been prepared to satisfy applicable City of Beaumont standards and thresholds of significance based on guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) The off-site traffic noise impact analysis is based on the land use assumptions and trip generation outlined in the *Beaumont Pointe Specific Plan Traffic Analysis* prepared by Urban Crossroads, Inc. (2) Therefore, the off-site Project traffic impacts evaluated in this noise impact analysis account for any minor changes that may occur as part of the final land use plan.

# **SUMMARY OF CEQA SIGNIFICANCE FINDINGS**

The results of this Beaumont Pointe Noise and Vibration Analysis are summarized below based on the significance criteria in Section 4 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1). Table ES-1 shows the findings of significance for each potential noise and/or vibration impact under CEQA before and after any required mitigation measures.



**TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS** 

Anabaia	Report Section	Significance Findings		
Analysis		Unmitigated	Mitigated	
Off-Site Traffic Noise	7	Potentially Significant	Significant and Unavoidable	
Stationary Operational Noise	9	Less Than Significant	-	
Construction Noise	10	Less Than Significant	-	
Construction Vibration	10	Less Than Significant	-	
Blasting Noise	10	Less Than Significant	-	
Blasting Vibration	10	Less Than Significant	-	



# 1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Beaumont Pointe ("Project"). This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, sets out the local regulatory setting, presents the study methods and procedures for transportation related CNEL traffic noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term stationary-source operational noise as well as short-term construction noise and vibration impacts.

#### 1.1 SITE LOCATION

The proposed Beaumont Pointe site is located south of the SR-60 Freeway and west of Jack Rabbit Trail, in the City of Beaumont, as shown on Exhibit 1-A. Existing land uses near the site consist mostly of vacant land, an industrial project under construction to the east of the site and nearby residential homes located north across State Route 60. The nearest noise sensitive residential receiver is located approximately 417 feet south of the Project site near the Hoy Ranch property.

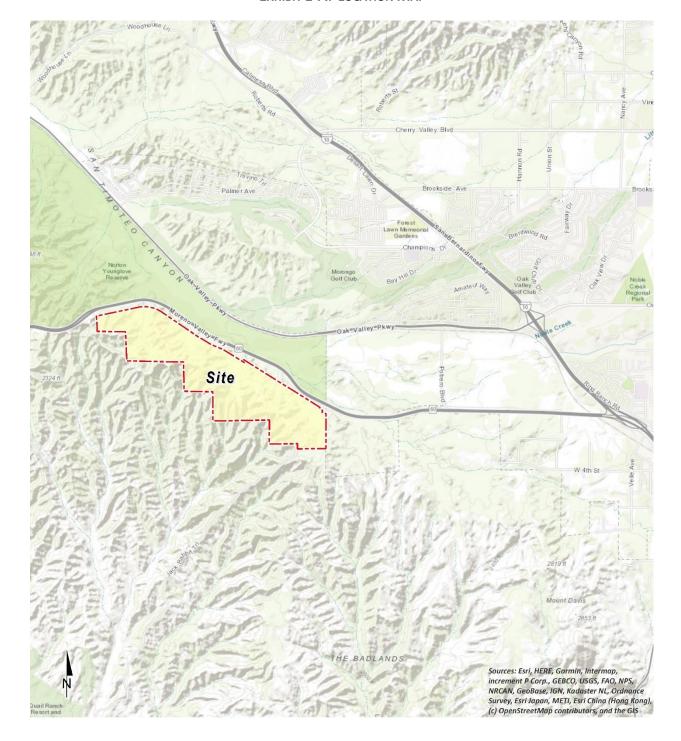
# 1.2 PROJECT DESCRIPTION

As shown in Exhibit 1-B, the Project is proposed to consist of a maximum of 246,000 square feet (sf) of general commercial uses in addition to a 125-room hotel (90,000 sf) and a maximum of 4,995,000 sf of industrial uses. The Project would provide 128.8 acres of open space to accommodate landscaped manufactured slopes, fuel modification areas, and natural open space as a buffer to adjacent conservation area and 134.7 acres of open space – conservation. The open space – conservation area would be preserved as natural habitat as required by the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Associated improvements to the Project site would include, but are not limited to, paved roads, paved parking areas, drive aisles, truck courts, utility infrastructure, landscaping, water quality basins, signage, lighting, property walls, gates, and fencing, including perimeter fencing for the Project site.

In addition, this noise analysis describes Project-related noise level associated with typical stationary operational activities at the Project site. The typical Project-related stationary operational noise sources are expected to include: loading dock activity, delivery van activity, truck movements, roof-top air conditioning units, parking lot vehicle movements and trash enclosure activity. This report assumes the Project-related operational noise source activity will function 24-hours daily for seven days per week. The Project is proposed to be constructed in three phases (described in this report as Phase 1, Phase 2, and Buildout). It is expected that the noise generated by the Project construction equipment will include a combination of crawler tractors, excavators, graders, dozers, scrapers, forklifts, generator sets, welders, paving equipment, and air compressors that when combined can reach high levels. In addition, rock blasting may be required during grading operations to support Project construction, therefore, this analysis considers the potential blasting noise and vibration levels at the nearest noise



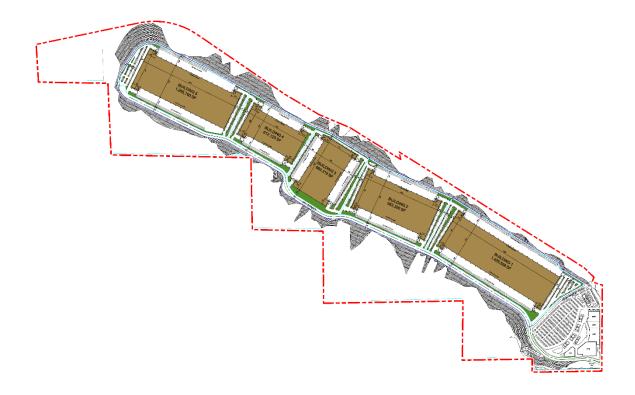
sensitive receiver locations. Rock blasting would occur infrequently on the site, required if at all approximately once per week.



**EXHIBIT 1-A: LOCATION MAP** 



**EXHIBIT 1-B: CONCEPTUAL SITE PLAN** 







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# 2 FUNDAMENTALS

Noise is simply 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. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to 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. Exhibit 2-A presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

**EXHIBIT 2-A: TYPICAL NOISE LEVELS** 

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140		
NEAR JET ENGINE		130	INTOLERABLE OR	
		120	DEAFENING	HEARING LOSS
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110		
LOUD AUTO HORN		100		
GAS LAWN MOWER AT 1m (3 ft)		90	VERY NOISY	
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80	VERT HOIST	
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD	SPEECH INTERFERENCE
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60		
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50		CLEED
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		SLEEP DISTURBANCE
QUIET SUBURBAN NIGHTTIME	LIBRARY	30		
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20	FAINT	
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	NO EFFECT
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0	VERT FAINT	

Source: Environmental Protection Agency Office of Noise Abatement and Control, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA/ONAC 550/9-74-004) March 1974.

# 2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. (3) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA



at approximately 100 feet, which can cause serious discomfort. (4) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

# 2.2 Noise Descriptors

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most used figure is the equivalent level ( $L_{eq}$ ). 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 ( $L_{eq}$ ) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period (typically one hour) and is commonly used to describe the "energy average" noise levels within the environment.

To describe the time-varying character of environmental noise, the City of Beaumont relies on the  $L_{25}$ ,  $L_8$ ,  $L_2$  and  $L_{max}$ , percentile noise levels to describe the stationary source noise level limits. The percentile noise descriptors are the noise levels equaled or exceeded during 25 percent, 8 percent, and 2 percent of a stated time. Sound levels associated with the  $L_8$  typically describe transient or short-term events, while levels associated with the  $L_{25}$  describe the base or typical noise conditions. The City of Beaumont relies on the percentile noise levels to describe the stationary source noise level limits. While the  $L_{25}$  describes the noise levels occurring 25 percent of the time, the  $L_{eq}$  accounts for the equivalent or energy average observed for the entire hour.

Peak hour or equivalent noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL 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 5 decibels to dBA L<sub>eq</sub> sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L<sub>eq</sub> sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City of Beaumont relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

# 2.3 SOUND PROPAGATION

When sound propagates over a distance, it changes in level and frequency content. Based on guidance from the U.S. Department of Transportation, Federal Highway Administration (FHWA), Office of Environment and Planning, Noise and Air Quality Branch, the way noise reduces with distance depends on the following factors.

#### 2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling



of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (3)

#### 2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (5)

#### 2.3.3 ATMOSPHERIC EFFECTS

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (3)

#### 2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an "out of sight, out of mind" effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby residents. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The Federal Highway Administration (FHWA) does not consider the planting of vegetation to be a noise abatement measure. (5)

# 2.3.5 REFLECTION

Field studies conducted by the FHWA have shown that the reflection from barriers and buildings does not substantially increase noise levels. (5) If all the noise striking a structure was reflected back to a given receiving point, the increase would be theoretically limited to 3 dBA. Further, not



all the acoustical energy is reflected back to same point. Some of the energy would go over the structure, some is reflected to points other than the given receiving point, some is scattered by ground coverings (e.g., grass and other plants), and some is blocked by intervening structures and/or obstacles (e.g., the noise source itself). Additionally, some of the reflected energy is lost due to the longer path that the noise must travel. FHWA measurements made to quantify reflective increases in traffic noise have not shown an increase of greater than 1-2 dBA; an increase that is not perceptible to the average human ear.

#### 2.4 Noise Control

Noise control is the process of obtaining an acceptable noise environment for an observation point or receiver by controlling the noise source, transmission path, receiver, or all three. This concept is known as the source-path-receiver concept. In general, noise control measures can be applied to these three elements.

#### 2.5 NOISE BARRIER ATTENUATION

Effective noise barriers can reduce noise levels by up to 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the path of the noise source. (5)

#### 2.6 LAND USE COMPATIBILITY WITH NOISE

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (6)

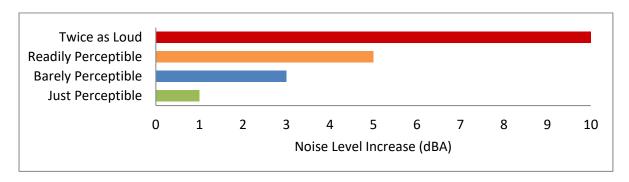
# 2.7 COMMUNITY RESPONSE TO NOISE

Community responses to noise varies depending upon everyone's susceptibility to noise and personal attitudes about noise. Several factors are related to the level of community annoyance including:

- Fear associated with noise producing activities.
- Socio-economic status and educational level.
- Perception that those affected are being unfairly treated.
- Attitudes regarding the usefulness of the noise-producing activity.
- Belief that the noise source can be controlled.



Approximately ten percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints will occur. Twenty-five percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment. (7) Surveys have shown that about ten percent of the people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one dBA is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. (7) Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. A change of 3 dBA is considered *barely perceptible*, and changes of 5 dBA are considered *readily perceptible*. (5)



**EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION** 

# 2.8 VIBRATION

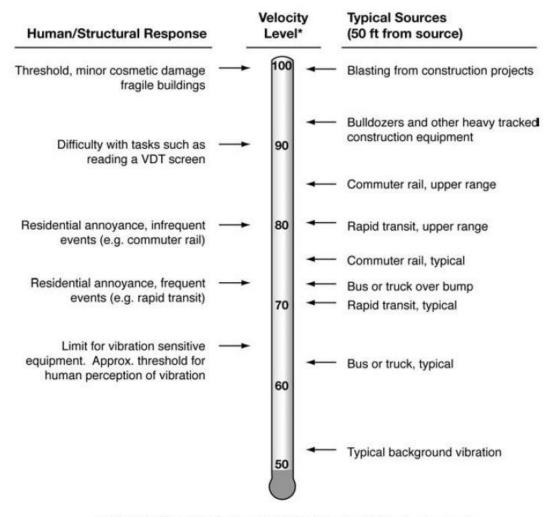
Per the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* (8), vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with



distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment and/or activities.

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Exhibit 2-C illustrates common vibration sources and the human and structural response to ground-borne vibration.



**EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION** 

\* RMS Vibration Velocity Level in VdB relative to 10-6 inches/second

Source: Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual.



# 2.9 BLASTING

Rock blasting is used when large boulders must be broken into smaller sizes for handling. Blasts typically occur for only a few seconds. As further discussed in Appendix 2.1, air overpressure, or "airblast," levels generated by blasting can travel up to 1,100 feet per second, depending on the size of the blast, distance from the blast, and amount of charge confinement. (9) For safety purposes, during blasting, no other construction equipment is operated on a site.

The intensity of the noise and vibration impacts associated with rock blasting depends on location, size, material, shape of the rock, and the methods used to crack it. While a blasting contractor can design the blasts to stay below a given vibration level that could cause damage to nearby structures, it is virtually impossible to design blasts that are not perceptible by people in the vicinity. (10) The noise produced by blasting activities is referred to as air overpressure, or an "airblast," which is generated when explosive energy in the form of gases escape from the detonating blast holes. Much like a point source, airblasts radiate outward in a spherical pattern and attenuate with each doubling of distance from the blast location, depending on the design of the blast and amount of containment.

Blasting activities generally include: the pre-drilling of holes in the hard rock area; preparation and placement of the charges in the drilled holes; a pre-blast horn signal; additional pre-blast horn signals immediately prior to the blast; and the blast itself. An additional horn signal is sounded to indicate the "all clear" after the blast and the blasting contractor has inspected the blasting area. The noise from the blast itself starts with a cracking sound from the detonator, located at a distance from the charges, and ends with the low crackling sound from each charge as they are subsequently set off.



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# 3 REGULATORY SETTING

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

# 3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research (OPR). (11) The purpose of the Noise Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

#### 3.2 CITY OF BEAUMONT GENERAL PLAN NOISE ELEMENT

The City of Beaumont has adopted a Noise Element of the General Plan to control and abate environmental noise, and to protect the citizens of City of Beaumont from excessive exposure to noise. (12) The Noise Element specifies the maximum allowable exterior noise levels for new developments impacted by transportation noise sources such as arterial roads, freeways, airports and railroads. In addition, the Noise Element identifies several policies to minimize the impacts of excessive noise levels throughout the community and establishes noise level requirements for all land uses. To protect City of Beaumont residents from excessive noise, the Noise Element contains the following noise programs related to the Project:

- N1: Requirement for Acoustical Studies. Amend development application requirements so that projects that could result in noise environments above normally acceptable noise ranges or all new development complete acoustical studies prepared by qualified professionals to ensure that the noise levels are at acceptable levels, per the Municipal Code.
- N3: Project Design Guidelines. Integrate project design guidelines that integrate features into new developments that minimize impacts associated with the operation of air conditioning and heating equipment, on-site traffic, and use of parking, loading, and trash storage facilities.
- N7: Stationary Equipment. Enforce requirements that all stationary construction equipment shall be operated with closed engine doors, equipped with properly operating and maintained mufflers, and placed so that emitted noise is directed away from the nearest sensitive receptors.



- N8: Equipment Staging Areas. Require that equipment staging shall be in areas that will create the greatest distance feasible between construction-related noise sources and noise-sensitive receptors.
- N9: Additional Noise Attenuation Techniques. Require that temporary sound barriers are installed and maintained between the construction site and the sensitive receptors during the clearing, earth moving, grading, and foundation/conditioning phases of construction. Temporary sound barriers shall consist of sound blankets affixed to construction fencing along all sides of the construction site boundary facing potentially sensitive receptors.
- N10: Vehicle and Equipment Idling. Establish requirements that construction vehicles and equipment are not left idling for longer than five minutes when not in use.

# 3.3 CITY OF BEAUMONT GENERAL PLAN NOISE ELEMENT ENVIRONMENTAL IMPACT REPORT

To support the General Plan Noise Element, the City of Beaumont adopted a Program Environmental Impact Report (EIR). (13) Section 5.12 of the EIR outlines the *regulations and polices intended to protect the community from excessive noise and vibration to ensure quality of life for residents and workers in the City*. In addition, Section 5.12.4 presents thresholds of significance for vibration and increases in off-site traffic noise levels. The CEQA significance thresholds outlined in the EIR that are used in this Noise and Vibration Analysis are presented in Section 4.

#### 3.4 CITY OF BEAUMONT MUNICIPAL CODE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the Beaumont Pointe Project, stationary-source (operational) noise levels such as the expected loading dock activity, delivery van activity, truck movements, roof-top air conditioning units, parking lot vehicle movements and trash enclosure activity, and noise from construction activities are typically evaluated against standards established under the City's Municipal Code included in Appendix 3.1.

#### 3.4.1 STATIONARY OPERATIONAL NOISE STANDARDS

For noise-sensitive residential properties, the City of Beaumont Municipal Code, Section 9.02.050, identifies base ambient noise level (BANL) stationary-source noise level limits for the daytime (7:00 a.m. to 10:00 p.m.) hours of 55 dBA L<sub>eq</sub> and 45 dBA L<sub>eq</sub> during the nighttime (10:00 p.m. to 7:00 a.m.) hours. For industrial and commercial land uses, the BANL established by the City's Municipal Code is 75 dBA L<sub>eq</sub> for the daytime hours and of 50 dBA L<sub>eq</sub> during the nighttime hours. Section 9.40.050 states that actual decibel measurements exceeding the levels set forth hereinabove at the times and within the zones corresponding thereto shall be employed as the "base ambient noise level". In effect, when the ambient noise levels exceed the base exterior noise level limits, the noise level standard shall be adjusted as appropriate to encompass or reflect the ambient noise level. The noise level limit adjustments for the City of Beaumont noise standards are shown on Table 3-1.



TABLE 3-1: CITY OF BEAUMONT STATIONARY OPERATIONAL NOISE STANDARDS

	Time Period	Base Ambient Noise Level (dBA L <sub>eq</sub> ) <sup>1</sup>	Exterior Noise Standards (dBA) <sup>2</sup>			
Receiving Land Use			L <sub>25</sub> (15 mins)	L <sub>8</sub> (5 mins)	L <sub>2</sub> (1 min)	L <sub>max</sub> (0 min)
Desidential	Daytime	55	60	65	70	75
Residential	Nighttime	45	50	55	60	65
Industrial and	Daytime	75	_3	_3	_3	_3
Commercial	Nighttime	50	_3	_3	_3	_3

<sup>&</sup>lt;sup>1</sup> Section 9.02.050 base ambient noise level of the City of Beaumont Municipal Code.

The City of Beaumont percentile noise descriptors are provided to ensure that the duration of the noise source is fully considered. However, due to the relatively constant intensity of the Project stationary operational activities, the (base exterior noise level limit) or the average  $L_{eq}$  noise level metric best describes the loading dock activity, delivery van activity, truck movements, roof-top air conditioning units, parking lot vehicle movements and trash enclosure activity. The equivalent  $L_{eq}$  noise level metric accounts for noise fluctuations over time by averaging the louder and quieter events and giving more weight to the louder events. In addition, a review of the existing ambient noise level measurements shows that the  $L_{eq}$  is generally greater than the  $L_{25}$ . Therefore, this noise study conservatively relies on the average  $L_{eq}$  sound level limits to describe the Project stationary operational noise levels.

In addition, the City of Beaumont Municipal Code, Section 9.02.110.G states that it shall be unlawful for any person to operate, cause to operate or permit the operation of any machinery, equipment, device, pump, fan, compressor, air conditioning apparatus or similar mechanical device, including but not limited to the use of any steam shovel, pneumatic hammer, derrick, steam or electric hoist, blower or power fan, or any internal combustion engine, the operation of which causes noise due to the explosion of operating gases or fluids, or other appliance, in any manner so as to create any noise which would cause the noise level at the property line of the property upon which the equipment or machinery is operated to exceed the base ambient noise level by five dB(A).

#### 3.4.2 CONSTRUCTION NOISE STANDARDS

The City of Beaumont has set restrictions to control noise impacts associated with the construction of the proposed Project. These restrictions are generally limited to the nearby noise sensitive receiver locations that may be impacted by the short-term construction noise activities. The City's Municipal Code identifies the following construction noise provisions in Section 9.02.110.F.1: It shall be unlawful for any person to engage in or permit the generation of noise related to landscape maintenance, construction including erection, excavation, demolition, alteration or repair of any structure or improvement, at such sound levels, as measured at the



<sup>&</sup>lt;sup>2</sup> Noise levels shall not exceed for the duration periods specified in Section 9.02.070 City of Beaumont Municipal Code.

<sup>&</sup>lt;sup>3</sup> No exterior noise level shall exceed the base ambient noise levels for nonresidential land uses Section 9.02.090 City of Beaumont Municipal Code.

The percent noise level is the level exceeded "n" percent of the time during the measurement period.  $L_{25}$  is the noise level exceeded 25% of the time. "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

property line of the nearest adjacent occupied property, as to be in excess of the sound levels permitted under this Chapter, at other times than between the hours of 7:00 a.m. and 6:00 p.m. The person engaged in such activity is hereby permitted to exceed sound levels otherwise set forth in this Chapter for the duration of the activity during the above-described hours for purposes of construction. However, nothing contained herein shall permit any person to cause sound levels to at any time exceed 55 dB(A) for intervals of more than 15 minutes per hour as measured in the interior of the nearest occupied residence or school.

Section 9.02.110.F.3 of the Municipal Code indicates that Construction related noise...may take place outside the time period set forth therein and above the relative sound levels in case of urgent necessity in the interest of public health and safety, and then only with the prior permission of the building inspector. Such permit may be granted for a period not to exceed three days or until the emergency ends, whichever is less. The permit may be renewed for periods of three days while the emergency continues.

Project construction noise level standards are typically described as exterior noise level limits to assess the potential impacts. Therefore, to describe the Project construction noise levels at off-site sensitive receiver locations, an exterior construction-related noise level threshold of 75 dBA  $L_{eq}$  is used. This exterior construction noise level standard represents the combination of the City of Beaumont 55 dBA  $L_{eq}$  interior noise level limit and the Noise Reduction (NR) of approximately 20 dBA for typical buildings with "windows closed" (5 p. 31)). Therefore, an unmitigated exterior noise level standard of 75 dBA  $L_{eq}$  when measured at the building façade is used to assess the construction noise levels for the nearest noise sensitive residential uses.

# 3.5 CONSTRUCTION VIBRATION STANDARDS

Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected structures and soil type. (8) Construction vibration is generally associated with pile driving and rock blasting. Other construction equipment such as air compressors, light trucks, hydraulic loaders, etc., generates little or no ground vibration. Occasionally large bulldozers and loaded trucks can cause perceptible vibration levels at close proximity.

To analyze vibration impacts originating from the construction of the Beaumont Pointe, vibration-generating activities are appropriately evaluated against standards established under a City's Municipal Code, if such standards exist. However, the City of Beaumont does not identify specific vibration level limits and instead relies on the Federal Transit Administration (FTA) methodology. (8) The FTA *Transit Noise and Vibration Impact Assessment* methodology provides guidelines for the maximum-acceptable vibration criteria for different types of land uses. Consistent with the thresholds of significance outlined in the City of Beaumont General Plan EIR (13), these guidelines allow 90 VdB for industrial (workshop) use, 84 VdB for office use and 78 VdB for daytime residential uses and 72 VdB for nighttime uses in buildings where people normally sleep. (8 p. 131)



# 3.6 BLASTING

The blasting contractor is required to obtain blasting permit(s) from the State, and to notify Riverside County Sheriff's Department within 24 hours prior to the planned blasting events. Air overpressure regulations are identified by the USBM and the International Society of Explosives Engineer's (ISEE) Blasters' Handbook. (9) To analyze blasting impacts originating from the construction of the Beaumont Pointe Project, vibration-generating rock blasting activities are appropriately evaluated against standards established under a City's Municipal Code, if such standards exist. However, the City of Beaumont does not identify specific blasting noise or vibration level limits. Therefore, this analysis relies on the following criteria to assess potential temporary construction-related impacts at adjacent receiver locations.

#### **3.6.1** BLASTING NOISE LIMITS

Based on Table 26.17 *Typical Air Overpressure Damage Criteria* of the Blasters' Handbook, an air overpressure of 133 dB is identified as a perception-based criteria level for blasting. As such, the Project blasting-related vibration and airblast levels are based on the 133 dB criteria for airblasts identified by the ISEE and USBM.

#### 3.6.2 BLASTING VIBRATION LIMITS

The Caltrans *Transportation and Construction Vibration Guidance Manual*, (10 p. 38) Table 19, vibration criteria are used in this noise study to assess potential temporary construction-related impacts at adjacent receiver locations. Since most of the buildings near the Project site can best be described as "older residential buildings", Caltrans guidance identifies a maximum acceptable transient peak-particle-velocity (PPV) vibration threshold of 0.5 inches per second (in/sec). Therefore, the 0.5 PPV (in/sec) vibration threshold is used to evaluate the potential blasting-related vibration levels experienced at the nearby residential homes.



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# 4 SIGNIFICANCE CRITERIA

The following significance criteria are based on currently adopted guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) For the purposes of this report, impacts would be potentially significant if the Project results in or causes:

- (Threshold A) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- (Threshold B) Generation of excessive ground-borne vibration or ground-borne noise levels.
- (Threshold C) For a project located within the vicinity of a private airstrip or an airport land
  use plan or, where such a plan has not been adopted, within two miles of a public airport or
  public use airport, would the project expose people residing or working in the project area to
  excessive noise levels.

# 4.1 Noise Level Increases (Threshold A)

Off-site traffic noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the closest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes that there is no single noise increase that renders the noise impact significant. (14) Table 5.12-G of in the City of Beaumont General Plan Noise Element EIR outlines the allowable noise exposure increases that are derived from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual. To describe the amount to which a given noise level increase is considered acceptable, the FTA criteria is used to evaluate the incremental noise level increase and establishes a method for comparing future project noise with existing ambient conditions under CEQA Significance Threshold A. In effect, the amount to which a given noise level increase is considered acceptable is reduced based on existing ambient noise conditions. Consistent with the City of Beaumont Municipal Code, Section 9.02.110[G], the stationary operational Project noise source activities shall not create any noise which would cause the noise level at the property line to exceed the base ambient noise level by 5 dBA.

# 4.2 VIBRATION (THRESHOLD B)

The vibration impacts originating from the construction of the Beaumont Pointe are appropriately evaluated using the thresholds of significance outlined in the City of Beaumont General Plan EIR. (13) These guidelines allow 90 VdB for industrial (workshop) use, 84 VdB for office use and 78 VdB for daytime residential uses and 72 VdB for nighttime uses in buildings where people normally sleep. (8)



# 4.3 CEQA Guidelines Not Further Analyzed (Threshold C)

CEQA Noise Threshold C applies when there are nearby public and private airports and/or air strips and focuses on land use compatibility of the Project to nearby airports and airstrips. The Project site is not located within two miles of an airport or airstrip. The closest major airport is the March Air Reserve Base located roughly 12 miles west of the Project site. As such, the Project site would not be exposed to excessive noise levels from airport operations, and therefore, impacts are considered *less than significant*, and no further noise analysis is conducted in relation to Appendix G to the CEQA Guidelines, Noise Threshold C.

# 4.4 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-1 shows the significance criteria summary matrix.

**TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY** 

Aughoria	Condition (a)	Significance Criteria			
Analysis	Condition(s)	Daytime	Nighttime		
	If ambient is < 50 dBA CNEL	≥ 7 dBA CNEL Project increase			
	If ambient is 50 - 55 dBA CNEL	≥ 5 dBA CNEL Project increase			
Off-Site	If ambient is 55 - 60 dBA CNEL	≥ 3 dBA CNEL Project increase			
Traffic <sup>1</sup>	If ambient is 60 - 65 dBA CNEL	≥ 2 dBA CNEL Project increase			
	If ambient is 65 - 75 dBA CNEL	≥ 1 dBA CNEL Project increase			
	If ambient is > 75 dBA CNEL	0 dBA CNEL Project increase			
Stationary	Base Exterior Noise Level <sup>2</sup>	55 dBA L <sub>eq</sub>	45 dBA L <sub>eq</sub>		
Operational	Base Ambient Noise Level <sup>3</sup>	≥ 5 dBA L <sub>eq</sub> Project increase			
	Permitted between	en 7:00 a.m. to 6:00 p.m. <sup>4</sup>			
Construction	Noise Level Threshold <sup>5</sup>	75 dBA L <sub>eq</sub>	n/a		
	Vibration Level Threshold <sup>6</sup>	78 VdB	n/a		
Plasting	Airblast Threshold <sup>7</sup>	133 dBA L <sub>eq</sub>	n/a		
Blasting	Vibration Level Threshold <sup>8</sup>	0.5 PPV (in/sec)	n/a		

 $<sup>^1</sup>$ Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, consistent with the City of Beaumont General Plan DEIR.



<sup>&</sup>lt;sup>2</sup> City of Beaumont General Plan Municipal Code, Section 9.02.050

<sup>&</sup>lt;sup>3</sup> City of Beaumont General Plan Municipal Code, Section 9.02.110[G]

<sup>&</sup>lt;sup>4</sup> City of Beaumont General Plan Municipal Code, Section 9.02.110[F]

 $<sup>^5</sup>$  Acceptable exterior construction noise level threshold based on the City of Beaumont 55 dBA  $L_{eq}$  interior noise level limit and the 20 dBA noise reduction associated with typical building construction.

<sup>&</sup>lt;sup>6</sup> Federal Transit Administration, Transit Noise and Vibration Impact Assessment.

<sup>&</sup>quot;Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

<sup>&</sup>lt;sup>7</sup> ISEE's Blasters' Handbook, Table 26.17 Typical Air Overpressure Damage Criteria, and U.S. Bureau of Mines standards.

<sup>&</sup>lt;sup>8</sup> Caltrans Transportation and Construction Vibration Manual, April 2020 Table 19.

# 5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at five noise sensitive receiver locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Wednesday, April 22, 2020. Appendix 5.1 includes study area photos.

# 5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (15)

# **5.2** Noise Measurement Locations

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources. (3) Further, FTA guidance states, that it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community. (8)

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. (8) In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby



sensitive receiver locations allows for a comparison of the before and after Project noise levels and is necessary to assess potential noise impacts due to the Project's contribution to the ambient noise levels.

# 5.3 Noise Measurement Results

The noise measurements presented below focus on the equivalent or the hourly energy average sound levels ( $L_{eq}$ ). The equivalent sound level ( $L_{eq}$ ) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location.

**TABLE 5-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS** 

Location <sup>1</sup>	Description	Energy Average Noise Level (dBA L <sub>eq</sub> ) <sup>2</sup>		CNEL
		Daytime	Nighttime	
L1	Located north of the Project site on Roberts Place near existing single-family residential home at 34945 Roberts Place.	45.0	45.2	51.8
L2	Located north of the Project site on Mickelson Drive near existing single-family residential homes.	62.7	51.4	62.3
L3	Located northeast of the Project site by Oak Valley Parkway near the Tukwet Canyon Golf Course.	64.3	60.8	68.8
L4	Located northeast of the Project site on Olivewood near the Olivewood housing community	52.9	46.9	55.1
L5	Located in the southeast portion of the Project site on Jack Rabbit Trail just outside the Hoy Ranch Property.	44.9	39.4	48.1

 $<sup>^{\</sup>rm 1}\,\mbox{See}$  Exhibit 5-A for the noise level measurement locations.

Table 5-1 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each of the daytime and nighttime hours.



<sup>&</sup>lt;sup>2</sup> Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2.

<sup>&</sup>quot;Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

GIAMPIONS DR CAT CALLET PROOF Site ATOWAGE AD Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeraGRID, IGN, and the GIS User Community LEGEND: Measurement Locations

**EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS** 



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# 6 METHODS AND PROCEDURES

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

# 6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

The expected roadway noise level increases from vehicular traffic were calculated by Urban Crossroads, Inc. using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (16) This methodology is commonly used to describe the off-site traffic noise levels throughout southern California and is consistent with the County of Riverside Office of Industrial Hygiene *Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures*, which specifically requires the FHWA RD-77-108 model to be used in analysis within the County's jurisdiction. (17)

The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. (18) Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period. Research conducted by Caltrans has shown that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model used in this analysis. (19)

# 6.2 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 6-1 presents the roadway parameters used to assess the Project's off-site dBA CNEL transportation noise impacts. Table 6-1 identifies the six study area roadway segments shown on Exhibit 6-A, the distance from the centerline to adjacent land use based on the functional roadway classifications per the City of Beaumont General Plan Circulation Element, and the posted vehicle speeds.



10 Oak Valley Pkwys Site All Street Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community **LEGEND:**  Study Area Roadway Segment Ŋ

**EXHIBIT 6-A: OFF-SITE STUDY AREA ROADWAY SEGMENTS** 



Consistent with *Beaumont Pointe Traffic Analysis* prepared by Urban Crossroads, Inc., the analysis below provides off-site roadway segment analysis for the following traffic scenarios.

- Existing (2020) Conditions
- Existing plus Project (E+P) Conditions Phase 1
- Existing plus Project (E+P) Conditions Phase 1 + Phase 2
- Existing plus Project (E+P) Conditions Project Buildout
- Opening Year Cumulative (2023) Without Project Conditions
- Opening Year Cumulative (2023) With Project (Phase1) Conditions
- Opening Year Cumulative (2025) Without Project Conditions
- Opening Year Cumulative (2025) With Project (Phase 1 + Phase 2) Conditions
- Opening Year Cumulative (2027) Without Project Conditions
- Opening Year Cumulative (2027) With Project (Project Buildout) Conditions
- Horizon Year (2045) Without Project Conditions
- Horizon Year (2045) With Project (Project Buildout) Conditions

The ADT volumes used in this study area presented on Table 6-2 are based on the *Beaumont Pointe Specific Plan Traffic Analysis*, prepared by Urban Crossroads, Inc. The ADT volumes vary for each roadway segment based on the existing traffic volumes and the combination of project traffic distributions. In addition, the off-site traffic noise analysis maintains a peak hour to average daily traffic (peak-to-daily) relationship of approximately 8.33%. (2) To quantify the off-site noise levels, the Project related truck trips were added to the heavy truck category in the FHWA noise prediction model. The addition of the Project related truck trips increases the percentage of heavy trucks in the vehicle mix. This approach recognizes that the FHWA noise prediction model is significantly influenced by the number of heavy trucks in the vehicle mix.

**TABLE 6-1: OFF-SITE ROADWAY PARAMETERS** 

ID	Roadway	Segment	Classification <sup>1</sup>	Distance from Centerline to Receiving Land Use (Feet) <sup>2</sup>	Vehicle Speed (mph) <sup>3</sup>
1	Potrero Bl.	s/o Oak Valley Pkwy.	Urban Arterial	67'	40
2	California Av.	n/o 6th St.	Collector	33'	40
3	Oak Valley Pkwy.	e/o Potrero Bl.	Urban Arterial Frontage Road	60'	50
4	4th St.	e/o Potrero Bl.	Major	59'	40
5	4th St.	e/o Veile Av.	Secondary	44'	40
6	4th St.	w/o Potrero Bl.	Secondary	33'	40

<sup>&</sup>lt;sup>1</sup> County of Riverside General Plan Circulation Element.



<sup>&</sup>lt;sup>2</sup> Distance to receiving land use is based upon the right-of-way distances.

<sup>&</sup>lt;sup>3</sup> Beaumont Pointe Traffic Analysis, Urban Crossroads, Inc.

**TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES** 

	Roadway	Segment		Average Daily Traffic Volumes <sup>1</sup>										
ID			Existing 2020		OYC 2023		OYC 2025		OYC 2027		Horizon Year (HY) 2045			
			Without Project	With Ph. 1	With Ph. 1+2	With Project	Without Project	With Ph. 1	Without Project	With Ph. 1+2	Without Project	With Project	Without Project	With Project
1	Potrero Bl.	s/o Oak Valley Pkwy.	2,232	2,836	4,689	5,739	3,314	3,917	3,814	6,271	5,264	8,770	23,682	27,188
2	California Av.	n/o 6th St.	1,908	2,029	2,399	2,609	2,258	2,379	2,440	2,931	2,858	3,559	1,737	2,439
3	Oak Valley Pkwy.	e/o Potrero Bl.	4,788	5,392	7,245	8,295	7,389	7,992	8,583	11,040	12,094	15,600	19,233	22,739
4	4th St.	e/o Potrero Bl.	3,744	4,972	8,794	10,474	6,154	7,382	7,249	8,723	10,532	17,262	10,969	17,700
5	4th St.	e/o Veile Av.	1,746	3,100	12,228	16,428	3,767	6,233	4,663	16,706	7,476	25,374	6,094	27,890
6	4th St.	w/o Potrero Bl.	162	3,922	15,577	19,777	3,295	7,055	4,640	20,054	9,108	29,898	11,624	32,414

<sup>&</sup>lt;sup>1</sup> Beaumont Pointe Traffic Analysis, Urban Crossroads, Inc.



Table 6-3 provides the time of day (daytime, evening, and nighttime) vehicle splits. The daily Project truck trip-ends were assigned to the individual off-site study area roadway segments based on the Project truck trip distribution percentages documented in the *Traffic Analysis*. Using the Project truck trips in combination with the Project trip distribution, Urban Crossroads, Inc. calculated the number of additional Project truck trips and vehicle mix percentages for each of the study area roadway segments. Table 6-4 shows the traffic flow by vehicle type (vehicle mix) used for all without Project traffic scenarios, and Tables 6-5 to 6-11 show the vehicle mixes used for the with Project traffic scenarios.

**TABLE 6-3: TIME OF DAY VEHICLE SPLITS** 

Vahiala Tura		Time of Day Splits <sup>1</sup>			
Vehicle Type	Daytime	Evening	Nighttime	Day Splits	
Autos	77.50%	12.90%	9.60%	100.00%	
Medium Trucks	84.80%	4.90%	10.30%	100.00%	
Heavy Trucks	86.50%	2.70%	10.80%	100.00%	

<sup>&</sup>lt;sup>1</sup> County of Riverside Office of Industrial Hygiene. Values rounded to the nearest one-hundredth.

**TABLE 6-4: WITHOUT PROJECT VEHICLE MIX** 

Classification		Total		
Classification	Autos	Medium Trucks	Heavy Trucks	Total
All Segments	91.81%	2.52%	5.67%	100.00%

Based on an existing vehicle count taken at Veile Avenue and 4th Street (Beaumont Pointe Specific Plan Traffic Analysis, Urban Crossroads, Inc.). Vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-5: EXISTING 2020 WITH PROJECT PHASE 1 VEHICLE MIX

			With Project <sup>1</sup>					
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total <sup>2</sup>		
1	Potrero Bl.	s/o Oak Valley Pkwy.	93.55%	1.98%	4.46%	100.00%		
2	California Av.	n/o 6th St.	92.30%	2.37%	5.33%	100.00%		
3	Oak Valley Pkwy.	e/o Potrero Bl.	92.73%	2.24%	5.03%	100.00%		
4	4th St.	e/o Potrero Bl.	88.56%	4.15%	7.29%	100.00%		
5	4th St.	e/o Veile Av.	90.36%	3.52%	6.12%	100.00%		
6	4th St.	w/o Potrero Bl.	82.67%	7.36%	9.97%	100.00%		

<sup>&</sup>lt;sup>1</sup> Beaumont Pointe Traffic Analysis, Urban Crossroads, Inc.

<sup>&</sup>quot;Daytime" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

<sup>&</sup>lt;sup>2</sup> Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-6: EXISTING WITH PROJECT PHASE 1 + PHASE 2 VEHICLE MIX

			With Project <sup>1</sup>					
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total <sup>2</sup>		
1	Potrero Bl.	s/o Oak Valley Pkwy.	96.10%	1.20%	2.70%	100.00%		
2	California Av.	n/o 6th St.	93.49%	2.00%	4.51%	100.00%		
3	Oak Valley Pkwy.	e/o Potrero Bl.	94.59%	1.67%	3.75%	100.00%		
4	4th St.	e/o Potrero Bl.	83.78%	6.91%	9.32%	100.00%		
5	4th St.	e/o Veile Av.	88.71%	4.83%	6.46%	100.00%		
6	4th St.	w/o Potrero Bl.	81.57%	8.42%	10.00%	100.00%		

<sup>&</sup>lt;sup>1</sup> Beaumont Pointe Traffic Analysis, Urban Crossroads, Inc.

TABLE 6-7: EXISTING WITH PROJECT BUILDOUT VEHICLE MIX

			With Project <sup>1</sup>						
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total <sup>2</sup>			
1	Potrero Bl.	s/o Oak Valley Pkwy.	96.81%	0.98%	2.21%	100.00%			
2	California Av.	n/o 6th St.	94.01%	1.84%	4.15%	100.00%			
3	Oak Valley Pkwy.	e/o Potrero Bl.	95.27%	1.45%	3.27%	100.00%			
4	4th St.	e/o Potrero Bl.	86.38%	5.80%	7.82%	100.00%			
5	4th St.	e/o Veile Av.	91.11%	3.80%	5.09%	100.00%			
6	4th St.	w/o Potrero Bl.	86.28%	6.27%	7.45%	100.00%			

<sup>&</sup>lt;sup>1</sup> Beaumont Pointe Traffic Analysis, Urban Crossroads, Inc.

TABLE 6-8: OYC 2023 WITH PROJECT PHASE 1 VEHICLE MIX

			With Project <sup>1</sup>					
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total <sup>2</sup>		
1	Potrero Bl.	s/o Oak Valley Pkwy.	93.07%	2.13%	4.80%	100.00%		
2	California Av.	n/o 6th St.	92.23%	2.39%	5.38%	100.00%		
3	Oak Valley Pkwy.	e/o Potrero Bl.	92.43%	2.33%	5.24%	100.00%		
4	4th St.	e/o Potrero Bl.	89.62%	3.62%	6.76%	100.00%		
5	4th St.	e/o Veile Av.	90.96%	3.10%	5.93%	100.00%		
6	4th St.	w/o Potrero Bl.	87.26%	4.93%	7.81%	100.00%		

<sup>&</sup>lt;sup>1</sup> Beaumont Pointe Traffic Analysis, Urban Crossroads, Inc.

<sup>&</sup>lt;sup>2</sup> Total of vehicle mix percentage values rounded to the nearest one-hundredth.

 $<sup>^{\</sup>rm 2}$  Total of vehicle mix percentage values rounded to the nearest one-hundredth.

 $<sup>^{\</sup>rm 2}$  Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-9: OYC 2025 WITH PROJECT PHASE 1 + PHASE 2 VEHICLE MIX

			With Project <sup>1</sup>					
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total <sup>2</sup>		
1	Potrero Bl.	s/o Oak Valley Pkwy.	95.02%	1.53%	3.45%	100.00%		
2	California Av.	n/o 6th St.	93.18%	2.10%	4.72%	100.00%		
3	Oak Valley Pkwy.	e/o Potrero Bl.	93.63%	1.96%	4.41%	100.00%		
4	4th St.	e/o Potrero Bl.	93.19%	2.09%	4.71%	100.00%		
5	4th St.	e/o Veile Av.	93.78%	1.91%	4.31%	100.00%		
6	4th St.	w/o Potrero Bl.	84.32%	6.84%	8.84%	100.00%		

<sup>&</sup>lt;sup>1</sup> Beaumont Pointe Traffic Analysis, Urban Crossroads, Inc.

TABLE 6-10: OYC 2027 WITH PROJECT BUILDOUT VEHICLE MIX

			With Project <sup>1</sup>						
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total <sup>2</sup>			
1	Potrero Bl.	s/o Oak Valley Pkwy.	95.09%	1.51%	3.40%	100.00%			
2	California Av.	n/o 6th St.	93.42%	2.02%	4.55%	100.00%			
3	Oak Valley Pkwy.	e/o Potrero Bl.	93.65%	1.95%	4.40%	100.00%			
4	4th St.	e/o Potrero Bl.	88.52%	4.51%	6.98%	100.00%			
5	4th St.	e/o Veile Av.	91.40%	3.26%	5.33%	100.00%			
6	4th St.	w/o Potrero Bl.	88.23%	4.95%	6.82%	100.00%			

<sup>&</sup>lt;sup>1</sup> Beaumont Pointe Traffic Analysis, Urban Crossroads, Inc.

TABLE 6-11: HY 2040 WITH PROJECT BUILDOUT VEHICLE MIX

			With Project <sup>1</sup>					
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total <sup>2</sup>		
1	Potrero Bl.	s/o Oak Valley Pkwy.	92.87%	2.19%	4.94%	100.00%		
2	California Av.	n/o 6th St.	94.17%	1.80%	4.04%	100.00%		
3	Oak Valley Pkwy.	e/o Potrero Bl.	93.07%	2.13%	4.80%	100.00%		
4	4th St.	e/o Potrero Bl.	88.60%	4.46%	6.94%	100.00%		
5	4th St.	e/o Veile Av.	91.36%	3.35%	5.30%	100.00%		
6	4th St.	w/o Potrero Bl.	88.56%	4.73%	6.72%	100.00%		

<sup>&</sup>lt;sup>1</sup> Beaumont Pointe Traffic Analysis, Urban Crossroads, Inc.

<sup>&</sup>lt;sup>2</sup> Total of vehicle mix percentage values rounded to the nearest one-hundredth.

 $<sup>^{\</sup>rm 2}$  Total of vehicle mix percentage values rounded to the nearest one-hundredth.

 $<sup>^{\</sup>rm 2}\,\text{Total}$  of vehicle mix percentage values rounded to the nearest one-hundredth.

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# 7 OFF-SITE TRAFFIC NOISE IMPACTS

As described in Section 4.1, the off-site traffic noise impacts are evaluated based on noise level increases resulting from the Project. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. To describe the amount to which a given noise level increase is considered substantial (Threshold A), the City of Beaumont General Plan EIR (13) outlines criteria to evaluate the incremental noise level increase and establishes a method for comparing future project noise with existing ambient conditions under CEQA Significance Noise Threshold A. Based on off-site traffic noise level increase criteria, the City of Beaumont General Plan EIR (13) indicates that with implementation of proposed Project policies and implementation actions, increases in roadway noise at existing noise sensitive receptors would be reduced to the degree feasible. However, the EIR determined that future noise levels could still exceed thresholds and the impacts from permanent noise are considered significant and unavoidable.

According to the *Beaumont Pointe Specific Plan Traffic Analysis* prepared by Urban Crossroads, Inc. (2), at Project Buildout the Project is expected to generate a total of approximately 16,266 trip-ends per day (actual vehicles) and includes 2,240 truck trip-ends per day. To describe the off-site Project-related traffic noise levels, this noise study relies on the actual Project automobile and truck trips established in the *Traffic Analysis* (as opposed to the passenger car equivalents) to accurately account for the effect of individual car and truck trips on the study area roadway network.

#### 7.1 TRAFFIC NOISE CONTOURS

To assess the off-site transportation CNEL noise level impacts associated with the proposed Project, noise contours were developed based on the Beaumont Pointe *Traffic Analysis*. (2) Noise contours were used to assess the Project's incremental 24-hour dBA CNEL traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA CNEL noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area. Appendix 7.1 includes a summary of the dBA CNEL traffic noise level contours for each of the traffic scenarios. Tables 7-1 through 7-12 present a summary of the exterior dBA CNEL traffic noise levels without barrier attenuation. Roadway segments are analyzed in each of the following timeframes:

- Existing (2020) Conditions
- Existing plus Project (E+P) Conditions Phase 1
- Existing plus Project (E+P) Conditions Phase 1 + Phase 2
- Existing plus Project (E+P) Conditions Project Buildout
- Opening Year Cumulative (OYC) (2023) Without Project Conditions

- Opening Year Cumulative (OYC) (2023) With Project (Phase1) Conditions
- Opening Year Cumulative (OYC) (2025) Without Project Conditions
- Opening Year Cumulative (OYC) (2025) With Project (Phase 1 + Phase 2) Conditions
- Opening Year Cumulative (OYC) (2027) Without Project Conditions
- Opening Year Cumulative (OYC) (2027) With Project (Project Buildout) Conditions
- Horizon Year (HY) (2045) Without Project Conditions
- Horizon Year (2045) With Project (Project Buildout) Conditions

**TABLE 7-1: EXISTING 2020 WITHOUT PROJECT NOISE CONTOURS** 

			CNEL at Receiving	Distance to Contour from Centerline (Feet)		
ID	Road	Segment	Land Use (dBA) <sup>1</sup>	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	61.9	RW	RW	90
2	California Av.	n/o 6th St.	64.6	RW	RW	66
3	Oak Valley Pkwy.	e/o Potrero Bl.	68.4	RW	100	216
4	4th St.	e/o Potrero Bl.	64.2	RW	RW	113
5	4th St.	e/o Veile Av.	62.8	RW	RW	68
6	4th St.	w/o Potrero Bl.	53.9	RW	RW	RW

<sup>&</sup>lt;sup>1</sup> The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-2: EXISTING 2020 WITH PROJECT PHASE 1 NOISE CONTOURS

			CNEL at	Distance to Contour from Centerline (Feet)		
ID	Road	Segment	Land Use (dBA) <sup>1</sup>	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	62.2	RW	RW	94
2	California Av.	n/o 6th St.	64.6	RW	RW	67
3	Oak Valley Pkwy.	e/o Potrero Bl.	68.5	RW	103	222
4	4th St.	e/o Potrero Bl.	66.4	RW	73	157
5	4th St.	e/o Veile Av.	65.3	RW	46	99
6	4th St.	w/o Potrero Bl.	68.8	RW	59	128

 $<sup>^{\</sup>rm 1}$  The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

<sup>&</sup>quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

<sup>&</sup>quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-3: EXISTING 2020 WITH PROJECT PHASE 1 + PHASE 2 NOISE CONTOURS

	Dood Corwant	CNEL at	Distance to Contour from Centerline (Feet)			
ID	Road	Segment	Land Use (dBA) <sup>1</sup>	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	63.0	RW	RW	107
2	California Av.	n/o 6th St.	64.9	RW	RW	70
3	Oak Valley Pkwy.	e/o Potrero Bl.	69.0	RW	112	240
4	4th St.	e/o Potrero Bl.	69.8	RW	124	267
5	4th St.	e/o Veile Av.	69.0	RW	81	175
6	4th St.	w/o Potrero Bl.	74.9	70	151	325

<sup>&</sup>lt;sup>1</sup> The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-4: EXISTING 2020 WITH PROJECT BUILDOUT NOISE CONTOURS

			CNEL at Receiving Land Use (dBA) <sup>1</sup>	Distance to Contour from Centerline (Feet)		
ID	Road	Segment		70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	63.5	RW	RW	114
2	California Av.	n/o 6th St.	65.0	RW	33	71
3	Oak Valley Pkwy.	e/o Potrero Bl.	69.3	RW	116	250
4	4th St.	e/o Potrero Bl.	70.0	59	127	273
5	4th St.	e/o Veile Av.	69.3	RW	85	182
6	4th St.	w/o Potrero Bl.	75.1	72	156	336

 $<sup>^{1}\,\</sup>mathrm{The}\,\mathrm{CNEL}$  is calculated at the boundary of the right-of-way of the receiving adjacent land use.

<sup>&</sup>quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

<sup>&</sup>quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

**TABLE 7-5: OYC 2023 WITHOUT PROJECT NOISE CONTOURS** 

	Dood Comment	CNEL at	Distance to Contour from Centerline (Feet)			
ID	Road	Segment	Land Use (dBA) <sup>1</sup>	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	63.6	RW	RW	117
2	California Av.	n/o 6th St.	65.3	RW	35	74
3	Oak Valley Pkwy.	e/o Potrero Bl.	70.2	62	134	289
4	4th St.	e/o Potrero Bl.	66.4	RW	73	157
5	4th St.	e/o Veile Av.	66.1	RW	52	113
6	4th St.	w/o Potrero Bl.	66.9	RW	44	96

 $<sup>^{1}</sup>$  The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-6: OYC 2023 WITH PROJECT PHASE 1 NOISE CONTOURS

			CNEL at Receiving Land Use (dBA) <sup>1</sup>	Distance to Contour from Centerline (Feet)		
ID	Road	Segment		70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	63.8	RW	RW	120
2	California Av.	n/o 6th St.	65.4	RW	35	75
3	Oak Valley Pkwy.	e/o Potrero Bl.	70.4	63	136	294
4	4th St.	e/o Potrero Bl.	67.8	RW	91	195
5	4th St.	e/o Veile Av.	67.5	RW	64	138
6	4th St.	w/o Potrero Bl.	70.9	38	82	176

<sup>&</sup>lt;sup>1</sup> The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

<sup>&</sup>quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

<sup>&</sup>quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

**TABLE 7-7: OYC 2025 WITHOUT PROJECT NOISE CONTOURS** 

	Dood Sogmont	CNEL at	Distance to Contour from Centerline (Feet)			
ID	Road	Segment	Land Use (dBA) <sup>1</sup>	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	64.2	RW	RW	128
2	California Av.	n/o 6th St.	65.6	RW	36	78
3	Oak Valley Pkwy.	e/o Potrero Bl.	70.9	69	148	319
4	4th St.	e/o Potrero Bl.	67.1	RW	81	175
5	4th St.	e/o Veile Av.	67.1	RW	60	130
6	4th St.	w/o Potrero Bl.	68.4	RW	56	120

 $<sup>^{1}</sup>$  The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-8: OYC 2025 WITH PROJECT PHASE 1 + PHASE 2 NOISE CONTOURS

	Dood Comment	CNEL at	Distance to Contour from Centerline (Feet)			
ID	Road	Segment	Land Use (dBA) <sup>1</sup>	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	64.9	RW	RW	143
2	California Av.	n/o 6th St.	65.9	RW	38	81
3	Oak Valley Pkwy.	e/o Potrero Bl.	71.3	73	157	339
4	4th St.	e/o Potrero Bl.	67.3	RW	84	181
5	4th St.	e/o Veile Av.	67.4	RW	64	138
6	4th St.	w/o Potrero Bl.	75.7	80	172	370

<sup>&</sup>lt;sup>1</sup>The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

<sup>&</sup>quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

<sup>&</sup>quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-9: OYC 2027 WITHOUT PROJECT NOISE CONTOURS

		CNEL at	Distance to Contour from Centerline (Feet)			
ID	Road	Segment	Land Use (dBA) <sup>1</sup>	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	65.6	RW	74	159
2	California Av.	n/o 6th St.	66.3	RW	40	87
3	Oak Valley Pkwy.	e/o Potrero Bl.	72.4	86	186	401
4	4th St.	e/o Potrero Bl.	68.7	RW	104	224
5	4th St.	e/o Veile Av.	69.1	RW	83	178
6	4th St.	w/o Potrero Bl.	71.4	41	87	189

 $<sup>^{1}</sup>$  The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-10: OYC 2027 WITH PROJECT BUILDOUT NOISE CONTOURS

			CNEL at Receiving Land Use (dBA) <sup>1</sup>	Distance to Contour from Centerline (Feet)		
ID	Road	Segment		70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	66.4	RW	82	178
2	California Av.	n/o 6th St.	66.6	RW	42	91
3	Oak Valley Pkwy.	e/o Potrero Bl.	72.8	92	198	427
4	4th St.	e/o Potrero Bl.	71.7	76	165	355
5	4th St.	e/o Veile Av.	71.7	57	123	264
6	4th St.	w/o Potrero Bl.	76.6	91	197	423

 $<sup>^{\</sup>rm 1}$  The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

<sup>&</sup>quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

<sup>&</sup>quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

**TABLE 7-11: HY 2045 WITHOUT PROJECT NOISE CONTOURS** 

	Dood Cormont	CNEL at	Distance to Contour from Centerline (Feet)			
ID	Road	Segment	Land Use (dBA) <sup>1</sup>	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	72.2	93	201	433
2	California Av.	n/o 6th St.	64.2	RW	RW	62
3	Oak Valley Pkwy.	e/o Potrero Bl.	74.4	118	254	546
4	4th St.	e/o Potrero Bl.	68.9	RW	107	231
5	4th St.	e/o Veile Av.	68.2	RW	72	156
6	4th St.	w/o Potrero Bl.	72.4	48	103	222

<sup>&</sup>lt;sup>1</sup> The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-12: HY 2045 WITH PROJECT BUILDOUT NOISE CONTOURS

	David Carmant	CNEL at	Distance to Contour from Centerline (Feet)			
ID	Road	Segment	Land Use (dBA) <sup>1</sup>	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	72.3	96	206	444
2	California Av.	n/o 6th St.	64.6	RW	RW	67
3	Oak Valley Pkwy.	e/o Potrero Bl.	74.6	122	264	568
4	4th St.	e/o Potrero Bl.	71.8	77	167	360
5	4th St.	e/o Veile Av.	71.2	53	114	246
6	4th St.	w/o Potrero Bl.	77.0	96	207	446

<sup>&</sup>lt;sup>1</sup> The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

# 7.2 EXISTING WITH PROJECT PHASE 1 TRAFFIC NOISE LEVEL INCREASES

An analysis of existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report to fully analyze all the existing traffic scenarios identified in the *Beaumont Pointe Traffic Analysis*. This scenario is analyzed to show the potential impacts of the Project using the existing baseline consistent with the Project Traffic Analysis. Table 7-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels are expected to range from 53.9 to 68.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-2 shows the Existing with Project Phase 1 conditions will range from 62.2 to 68.8 dBA CNEL. Table 7-13 shows that the Project off-site traffic noise level impacts will range from 0.0 to 14.9 dBA CNEL.

<sup>&</sup>quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

<sup>&</sup>quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

# 7.3 Existing With Project Phase 1 + Phase 2 Traffic Noise Level Increases

An analysis of existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report to fully analyze all the existing traffic scenarios identified in *Beaumont Pointe Traffic Analysis*. This condition is provided solely for informational purposes and will not occur, since the Project will not be fully developed and occupied under Existing conditions. Table 7-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels are expected to range from 53.9 to 68.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-3 shows the Existing with Project Phase 1 + Phase 2 conditions will range from 63.0 to 74.9 dBA CNEL. Table 7-14 shows that the Project off-site traffic noise level impacts will range from 0.3 to 21.0 dBA CNEL.

# 7.4 EXISTING WITH PROJECT BUILDOUT TRAFFIC NOISE LEVEL INCREASES

An analysis of existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report to fully analyze all the existing traffic scenarios identified in *Beaumont Pointe Traffic Analysis*. This scenario is analyzed to show the potential impacts of the Project using the existing baseline consistent with the Project Traffic Analysis. Table 7-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels are expected to range from 53.9 to 68.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-4 shows the Existing with Project Buildout conditions will range from 63.5 to 75.1 dBA CNEL. Table 7-15 shows that the Project off-site traffic noise level impacts will range from 0.4 to 21.2 dBA CNEL.

# 7.5 OYC (2023) WITH PROJECT PHASE 1 TRAFFIC NOISE LEVEL INCREASES

Table 7-5 presents the Opening Year Cumulative (2023) without Project conditions CNEL noise levels. The Opening Year Cumulative (2023) without Project exterior noise levels are expected to range from 63.6 to 70.2 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-6 shows the Opening Year Cumulative (2023) with Project Phase 1 conditions will range from 63.8 to 70.9 dBA CNEL. Table 7-16 shows that the Project off-site traffic noise level increases will range from 0.1 to 4.0 dBA CNEL.

# 7.6 OYC (2025) WITH PROJECT PHASE 1 + PHASE 2 TRAFFIC NOISE LEVEL INCREASES

Table 7-7 presents the Opening Year Cumulative (2025) without Project conditions CNEL noise levels. The Opening Year Cumulative (2025) without Project exterior noise levels are expected to range from 64.2 to 70.9 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-8 shows the Opening Year Cumulative (2025) with Project Phase 1 + Phase 2 conditions will range from 64.9 to 75.7 dBA CNEL. Table 7-17 shows that the Project off-site traffic noise level increases will range from 0.2 to 7.3 dBA CNEL.

# 7.7 OYC (2027) WITH PROJECT BUILDOUT TRAFFIC NOISE LEVEL INCREASES

Table 7-9 presents the Opening Year Cumulative (2027) without Project conditions CNEL noise levels. The Opening Year Cumulative (2027) without Project exterior noise levels are expected to range from 65.6 to 72.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-10 shows the Opening Year Cumulative (2027) with Project Buildout conditions will range from 66.4 to 76.6 dBA CNEL. Table 7-18 shows that the Project off-site traffic noise level increases will range from 0.3 to 5.2 dBA CNEL.

# 7.8 HY (2045) WITH PROJECT BUILDOUT TRAFFIC NOISE LEVEL INCREASES

To evaluate the long-range Horizon Year 2045 w and without Project traffic noise levels, this section describes the off-site traffic noise levels consistent with the Project Traffic Analysis. Table 7-11 presents the Horizon Year (2045) without Project conditions CNEL noise levels. The Horizon Year (2045) without Project exterior noise levels are expected to range from 64.2 to 74.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-12 shows the Horizon Year (2045) with Project Buildout conditions will range from 64.6 to 77.0 dBA CNEL. Table 7-19 shows that the Project off-site traffic noise level increases will range from 0.1 to 4.6 dBA CNEL.

TABLE 7-13: EXISTING WITH PROJECT PHASE 1 TRAFFIC NOISE LEVEL INCREASES

2	ID Road	Road Segment		Receiving	CNEL at Receiving Land Use (dBA) <sup>1</sup>			
טו	NOdu	Segment	Land Use <sup>1</sup>	No Project	With Project	Project Addition		
1	Potrero Bl.	s/o Oak Valley Pkwy.	Non-Sensitive	61.9	62.2	0.3		
2	California Av.	n/o 6th St.	Sensitive	64.6	64.6	0.0		
3	Oak Valley Pkwy.	e/o Potrero Bl.	Sensitive	68.4	68.5	0.1		
4	4th St.	e/o Potrero Bl.	Non-Sensitive	64.2	66.4	2.2		
5	4th St.	e/o Veile Av.	Non-Sensitive	62.8	65.3	2.5		
6	4th St.	w/o Potrero Bl.	Non-Sensitive	53.9	68.8	14.9		

<sup>&</sup>lt;sup>1</sup>The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

TABLE 7-14: EXISTING WITH PROJECT PHASE 1 + PHASE 2 TRAFFIC NOISE LEVEL INCREASES

ē	Road	Commont	Receiving	CNEL at Receiving Land Use (dBA) <sup>1</sup>			
ID	Koad	Segment	Land Use <sup>1</sup>	No Project	With Project	Project Addition	
1	Potrero Bl.	s/o Oak Valley Pkwy.	Non-Sensitive	61.9	63.0	1.1	
2	California Av.	n/o 6th St.	Sensitive	64.6	64.9	0.3	
3	Oak Valley Pkwy.	e/o Potrero Bl.	Sensitive	68.4	69.0	0.6	
4	4th St.	e/o Potrero Bl.	Non-Sensitive	64.2	69.8	5.6	
5	4th St.	e/o Veile Av.	Non-Sensitive	62.8	69.0	6.2	
6	4th St.	w/o Potrero Bl.	Non-Sensitive	53.9	74.9	21.0	

<sup>&</sup>lt;sup>1</sup>The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

TABLE 7-15: EXISTING WITH PROJECT BUILDOUT TRAFFIC NOISE LEVEL INCREASES

-	Read	Commont	Receiving	CNEL at Receiving Land Use (dBA) <sup>1</sup>			
ID	Road	Segment	Land Use <sup>1</sup>	No Project	With Project	Project Addition	
1	Potrero Bl.	s/o Oak Valley Pkwy.	Non-Sensitive	61.9	63.5	1.6	
2	California Av.	n/o 6th St.	Sensitive	64.6	65.0	0.4	
3	Oak Valley Pkwy.	e/o Potrero Bl.	Sensitive	68.4	69.3	0.9	
4	4th St.	e/o Potrero Bl.	Non-Sensitive	64.2	70.0	5.8	
5	4th St.	e/o Veile Av.	Non-Sensitive	62.8	69.3	6.5	
6	4th St.	w/o Potrero Bl.	Non-Sensitive	53.9	75.1	21.2	

<sup>&</sup>lt;sup>1</sup>The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

TABLE 7-16: OYC (2023) WITH PROJECT PHASE 1 TRAFFIC NOISE INCREASES

ID	Road	Commont	Receiving	CNEL at Receiving Land Use (dBA) <sup>1</sup>			
טו	Road	Segment	Land Use <sup>1</sup>	No Project	With Project	Project Addition	
1	Potrero Bl.	s/o Oak Valley Pkwy.	Non-Sensitive	63.6	63.8	0.2	
2	California Av.	n/o 6th St.	Sensitive	65.3	65.4	0.1	
3	Oak Valley Pkwy.	e/o Potrero Bl.	Sensitive	70.2	70.4	0.2	
4	4th St.	e/o Potrero Bl.	Non-Sensitive	66.4	67.8	1.4	
5	4th St.	e/o Veile Av.	Non-Sensitive	66.1	67.5	1.4	
6	4th St.	w/o Potrero Bl.	Non-Sensitive	66.9	70.9	4.0	

<sup>&</sup>lt;sup>1</sup>The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

TABLE 7-17: OYC (2025) WITH PROJECT PHASE 1 + PHASE 2 TRAFFIC NOISE INCREASES

-	Road	Commont	Receiving	CNEL at Receiving Land Use (dBA) <sup>1</sup>			
ID	Road	Segment	Land Use <sup>1</sup>	No Project	With Project	Project Addition	
1	Potrero Bl.	s/o Oak Valley Pkwy.	Non-Sensitive	64.2	64.9	0.7	
2	California Av.	n/o 6th St.	Sensitive	65.6	65.9	0.3	
3	Oak Valley Pkwy.	e/o Potrero Bl.	Sensitive	70.9	71.3	0.4	
4	4th St.	e/o Potrero Bl.	Non-Sensitive	67.1	67.3	0.2	
5	4th St.	th St. e/o Veile Av.		67.1	67.4	0.3	
6	4th St.	w/o Potrero Bl.	Non-Sensitive	68.4	75.7	7.3	

<sup>&</sup>lt;sup>1</sup>The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

TABLE 7-18: OYC (2027) WITH PROJECT BUILDOUT TRAFFIC NOISE INCREASES

ın	Road	So man out	Receiving	CNEL at Receiving Land Use (dBA) <sup>1</sup>			
ID	Koad	Segment	Land Use <sup>1</sup>	No Project	With Project	Project Addition	
1	Potrero Bl.	s/o Oak Valley Pkwy.	Non-Sensitive	65.6	66.4	0.8	
2	California Av.	n/o 6th St.	Sensitive	66.3	66.6	0.3	
3	Oak Valley Pkwy.	e/o Potrero Bl.	Sensitive	72.4	72.8	0.4	
4	4th St.	e/o Potrero Bl.	Non-Sensitive	68.7	71.7	3.0	
5	4th St. e/o Veile Av.		Non-Sensitive	69.1	71.7	2.6	
6	4th St.	w/o Potrero Bl.	Non-Sensitive	71.4	76.6	5.2	

<sup>&</sup>lt;sup>1</sup>The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

TABLE 7-19: HY (2045) WITH PROJECT BUILDOUT TRAFFIC NOISE INCREASES

ID	Road	Commont	Receiving	CNEL at Receiving Land Use (dBA) <sup>1</sup>			
טו	Road	Segment	Land Use <sup>1</sup>	No Project	With Project	Project Addition	
1	Potrero Bl.	s/o Oak Valley Pkwy.	Non-Sensitive	72.2	72.3	0.1	
2	California Av.	n/o 6th St.	Sensitive	64.2	64.6	0.4	
3	Oak Valley Pkwy.	e/o Potrero Bl.	Sensitive	74.4	74.6	0.2	
4	4th St.	e/o Potrero Bl.	Non-Sensitive	68.9	71.8	2.9	
5	4th St.	e/o Veile Av.	Non-Sensitive	68.2	71.2	3.0	
6	4th St.	w/o Potrero Bl.	Non-Sensitive	72.4 77.0		4.6	

<sup>&</sup>lt;sup>1</sup>The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

# 7.9 OFF-SITE TRAFFIC NOISE IMPACTS

Table 7-20 presents a summary of the cumulative and project incremental noise level increases for each of the six-study area roadway segments. The cumulative traffic noise level increase increment describes the difference between the future Horizon Year 2045 With Project conditions and the Existing (baseline) conditions. The Project increment represents the difference between the Existing (baseline) conditions and the Existing plus Project Buildout conditions. Based on the significance criteria for off-site traffic noise presented in Table 4-1, Table 7-20 shows that four of the study area roadway segments are shown to experience potentially significant off-site traffic noise level increases due to the added Project traffic. The segments are described below.

- Potrero Boulevard south of Oak Valley Parkway (Segment #1).
- 4<sup>th</sup> Street east of Potrero Boulevard. (Segment #4).
- 4<sup>th</sup> Street east of Veile Avenue (Segment #5).
- 4<sup>th</sup> Street west of Potrero Boulevard. (Segment #6).

Segments #1, #4, #5, and #6 are in industrial areas and are not located immediately adjacent to any noise sensitive land uses. This is consistent with the City's General Plan EIR that determined that buildout of the City's General Plan could result in new vehicular traffic which could exceed the FHWA thresholds and could substantially increase the ambient noise levels in the city and its sphere of influence. The City's General Plan recognizes that an increase in noise levels will occur in industrial areas due to truck traffic.

The City's General Plan goals and policies, therefore, are focused on protecting noise sensitive receivers from road noise, while encouraging timely and efficient goods movement that does not significantly contribute to noise in the City. The Project is located adjacent to the SR-60, which is identified as a Truck Priority roadway in General Plan Figure 4.9, and truck trips would be routed through an industrial area to Potrero Boulevard, also identified as a City Truck Priority roadway.

The City incorporated a number of General Plan policies and implementation programs to reduce traffic-related noise impacts, including the following polices: 10.1.2 (enforce noise standards), 10.1.3 (protect noise sensitive uses), 10.1.4 (require noise mitigation in the design of new development), 10.1.5 (require to new development to implement measures to normally compatible range), 10.1.8 (promote effective enforcement of federal, State, and City noise standards), 10.2.1 (work with Caltrans and FHA), 10.2.2 (enforce speed limits to reduce noise and enforce truck and bus routes), 10.2.3 (prohibit truck routes through neighborhoods with sensitive receptors), 10.2.4 (reduce roadway noise), 10.2.5 (traffic calming measures), 10.2.6 (encourage noise-reducing paving materials), and 10.2.7 (reduce noise generated from City-owned vehicles). Applicable implementation actions include: N2 (requirement for acoustical studies) and N5 (traffic noise assessments). Compliance would the City's General Plan policies and implementation actions would reduce impacts to the furthest extent feasible, but the potential off-site Project related traffic noise level increases on three study area roadway segments would remain significant and unavoidable.

Section 7.10 describes the off-site traffic noise mitigation measures considered in this analysis. The noise sensitive receiving land uses adjacent to roadway segment #2 and #3 and other roadway segments would not experience noise level increases under Existing with Project conditions that would exceed the established thresholds of significance.

## 7.10 OFF-SITE TRAFFIC NOISE MITIGATION

The off-site Traffic Noise Analysis shows that Project traffic noise level increases on four study area roadway segments will exceed the incremental noise level increase thresholds identified in the City of Beaumont General Plan DEIR and shown on Table 4-1. To reduce the *potentially significant* Project traffic noise level increases on the four study area roadway segments potential noise mitigation measures were considered in this analysis. Potential mitigation measures discussed below include rubberized asphalt hot mix pavement and off-site noise barriers for the existing noise sensitive residential land uses adjacent to impacted roadway segments.

#### 7.10.1 RUBBERIZED ASPHALT

Due to the potential noise attenuation benefits, rubberized asphalt is considered as a mitigation measure for the off-site Project-related traffic noise level increases. To reduce traffic noise levels at the noise source, Caltrans research has shown that rubberized asphalt can provide noise attenuation of approximately 4 dBA for automobile traffic noise levels. (21) Changing the pavement type of a roadway has been shown to reduce the amount of tire/pavement noise produced at the source under both near-term and long-term conditions. Traffic noise is generated primarily by the interaction of the tires and pavement, the engine, and exhaust systems. For automobiles noise, as much as 75 to 90-percent of traffic noise is generated by the interaction of the tires and pavement, especially when traveling at higher and constant speeds. (3) According to research conducted by Caltrans (21) and(18) the Canadian Ministry of Transportation and Highways (22) a 4 dBA reduction in tire/pavement noise is attainable using rubberized asphalt under typical operating conditions.

The effectiveness of reducing traffic noise levels is higher on roadways with low percentages of heavy trucks, since the heavy truck engine and exhaust noise is not affected by rubberized alternative pavement due to the truck engine and exhaust stack height above the pavement itself. (21) Per Caltrans guidance a truck stack height is modeled using a height of 11.5 feet above the road. (5) (23) With the primary off-site traffic noise source consisting of heavy trucks with a stack height of 11.5 feet off the ground, the tire/pavement noise reduction benefits associated rubberized asphalt will be primarily limited to autos.

While the off-site Project-related traffic noise level increases would theoretically be reduced with the 4 dBA reduction provided by rubberized asphalt, the reduction would not provide reliable benefits for the noise levels generated by heavy truck traffic. This is, as previously stated, due to the noise source height difference between automobiles and trucks. While rubberized asphalt will provide some noise reduction, this noise study recognizes that this is only effective for tire-on-pavement noise at higher speeds and would not reduce truck-related off-site traffic noise levels associated with truck engine and exhaust stacks to less than significant levels. Since the use of rubberized asphalt would not lower the off-site traffic noise levels below a level of

significance, rubberized asphalt is not proposed as mitigation for the Project and the off-site Project-related traffic noise level increases at adjacent land uses under Existing Conditions would remain *significant*.

#### 7.10.2 OFF-SITE NOISE BARRIERS

Since existing and future noise-sensitive receiving land uses are located adjacent to the impacted roadway segments in the Project study area, off-site noise barriers were considered in this analysis as a potential traffic noise mitigation measure to reduce the impacts. Off-site noise barriers are estimated to provide a *readily perceptible* 5 dBA reduction which, according to the FHWA, is *simple* to attain when blocking the line-of-sight from the noise source to the receiver. (5) As previously discussed, Caltrans guidance in the Highway Design Manual, Section 1102.3(3), indicates that for design purposes, *the noise barrier should intercept the line of sight from the exhaust stack of a truck to the receptor*, and an 11.5-foot-high truck stack height is assumed to represent the truck engine and exhaust noise source. (23) Therefore, any exterior noise barriers at receiving noise sensitive land uses experiencing Project-related traffic noise level increases would need to be high enough and long enough to block the line-of-sight from the noise source (at 11.5 feet high per Caltrans) to the receiver (at 5 feet high per FHWA guidance) in order to provide a 5 dBA reduction per FHWA guidance. (23)

As such, off-site noise barriers would not be feasible and would not lower the off-site traffic noise levels below a level of significance, and therefore, noise barriers are not proposed as mitigation for the Project.

#### 7.10.3 SIGNIFICANT OFF-SITE TRAFFIC NOISE IMPACTS

Both rubberized asphalt and off-site noise barriers are considered as potential noise mitigation measures to reduce the *potentially significant* off-site traffic noise level increases shown on Table 7-20. However, due the reasons outlined about neither form of mitigation is recommended for implementation since they would not eliminate the off-site traffic noise level increases at the adjacent land uses to the impacted roadway segments. Therefore, the Project-related off-site traffic noise level increases at adjacent noise-sensitive land uses are considered a *significant and unavoidable* impact.

TABLE 7-20: OFF-SITE TRAFFIC INCREMENTAL NOISE LEVEL INCREASE SUMMARY

			Receiving	CNEL at Receiving Land Use (dBA) <sup>2</sup>						
ID	Road	Segment	Land Use <sup>1</sup>	Existing No Project	Future With Project	Cumulative Increment	Project Increment	Cumulative Limit	Cumulative Impact?	
1	Potrero Bl.	s/o Oak Valley Pkwy.	Non-Sensitive	61.9	72.3	10.4	1.6	1	Yes	
2	California Av.	n/o 6th St.	Sensitive	64.6	64.6	0.0	0.4	2	No	
3	Oak Valley Pkwy.	e/o Potrero Bl.	Sensitive	68.4	74.6	6.2	0.9	1	No	
4	4th St.	e/o Potrero Bl.	Non-Sensitive	64.2	71.8	7.6	5.8	1	Yes	
5	4th St.	e/o Veile Av.	Non-Sensitive	62.8	71.2	8.4	6.5	1	Yes	
6	4th St.	w/o Potrero Bl.	Non-Sensitive	53.9	77.0	23.1	21.2	0	Yes	

<sup>&</sup>lt;sup>1</sup> The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.



<sup>&</sup>lt;sup>2</sup> Does the Project create an incremental noise level increase exceeding the significance criteria in Section 4.1?

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# 8 RECEIVER LOCATIONS

To assess the potential for long-term stationary operational and short-term construction noise impacts, the following sensitive receiver locations, as shown on Exhibit 8-A, were identified as representative locations for analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas.

Moderately noise-sensitive land uses typically include multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals. The selection of receiver locations is based on FHWA guidelines and is consistent with additional guidance provided by Caltrans and the FTA, as previously described in Section 5.2.

Other sensitive land uses in the Project study area that are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures. Distance is measured in a straight line from the project boundary to each receiver location.

To describe the potential off-site Project noise levels, five receiver locations in the vicinity of the Project site were identified. In addition, receiver locations BIO-1, BIO-2 and BIO-3 represent the existing open space areas and potential sensitive receiver locations for further consideration in the biology report for the Project. The nearest noise sensitive residential receiver is located approximately 417 feet south of the Project site near the Hoy Ranch property. All distances are measured from the Project site boundary to the outdoor living areas (e.g., private backyards) or at the building façade, whichever is closer to the Project site.

- R1: Location R1 represents the existing noise sensitive residence at 34945 Roberts Place, approximately 4,402 feet north of the Project site. R1 is placed at the backyard property line facing the Project site. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.
- R2: Location R2 represents the existing noise sensitive residence at 35339 Stewart Street, approximately 4,347 feet north of the Project site. R2 is placed at the backyard yard property line facing the Project site. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.
- R3: Location R3 represents the existing Tukwet Canyon Golf Course, approximately 3,123 feet north of the Project site. Since there are no private outdoor living areas facing the Project site, receiver R3 is placed at the building façade. A 24-hour noise measurement near this location, L3, is used to describe the existing ambient noise environment.
- R4: Location R4 represents the existing noise sensitive residence at 14157 Bosana Lane, approximately 1,159 feet north of the Project site. R4 is placed at the backyard property



- line facing the Project site. A 24-hour noise measurement was taken near this location, L4, to describe the existing ambient noise environment.
- R5: Location R5 represents the existing noise sensitive residence at 13270 Jack Rabbit Trail (Hoy Ranch), approximately 92 feet south of the Project site. R2 is placed at the private outdoor living areas (backyards) facing the Project site. A 24-hour noise measurement was taken near this location, L5, to describe the existing ambient noise environment.
- BIO-1: Location BIO-1 represents the existing open space area near the wildlife underpass of the State Route 60, approximately 175 feet north of the Project site.
- BIO-2: Location BIO-2 represents the existing open space area near the State Route 60, approximately 184 feet northeast of the Project site.
- BIO-3: Location BIO-3 represents the existing open space area approximately 164 feet southwest of the Project site opposite the planned loading dock area of Building 4..



Pm. CHAMPIONS DR ⊕R2 BIO-1 (E **₹** B10-2 ⊕R3 BIO-8 (%) Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, **LEGEND:** Site Boundary Receiver Locations

**EXHIBIT 8-A: RECEIVER LOCATIONS** 



Distance from receiver to Project site boundary (in feet)

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# 9 STATIONARY OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source (i.e., on-site) operational noise impacts at the nearest receiver locations, identified in Section 8, resulting from the stationary operation of the proposed Beaumont Pointe Project. Exhibit 9-A identifies the noise source locations used to assess the hourly average  $L_{eq}$  stationary operational noise levels consistent with the City of Beaumont General Plan Noise Element Policy N 4.1.

## 9.1 STATIONARY OPERATIONAL NOISE SOURCES

This stationary operational noise analysis is intended to describe noise level impacts associated with the expected typical of daytime and nighttime activities at the Project site. To present the potential worst-case noise conditions, this analysis assumes the Project would be operational 24 hours per day, seven days per week. Consistent with similar warehouse uses, the Project business operations would primarily be conducted within the enclosed buildings, except for traffic movements, parking lot activities, as well as loading and unloading of trucks and vans at designated loading bays. The on-site Project-related noise sources are expected to include: loading dock activity, delivery van activity, truck movements, roof-top air conditioning units, parking lot vehicle movements and trash enclosure activity.

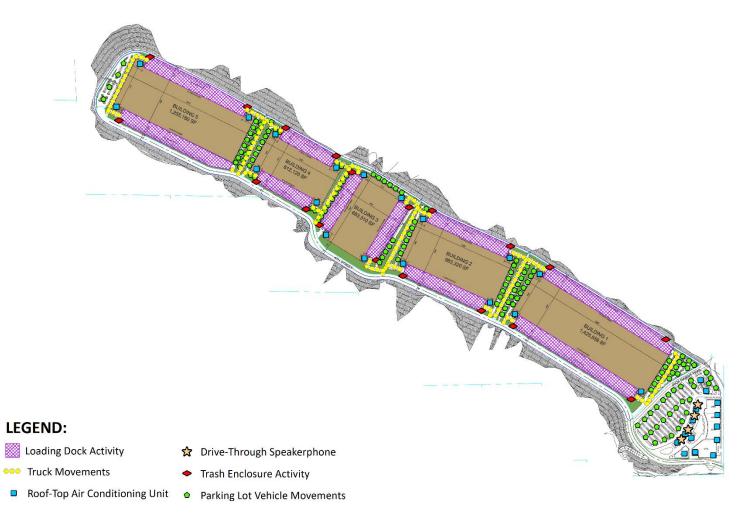
## 9.2 REFERENCE NOISE LEVELS

To estimate the Project stationary operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the development of the proposed Project. This section provides a description of the reference noise level measurements shown on Table 9-1 used to estimate the Project stationary operational noise impacts. It is important to note that the following projected noise levels assume the worst-case noise environment with the loading dock activity, delivery van activity, truck movements, roof-top air conditioning units, parking lot vehicle movements and trash enclosure activity all operating continuously, 24 hours per day, seven days per week. These sources of noise activity will likely vary throughout the day.

#### 9.2.1 MEASUREMENT PROCEDURES

The reference noise level measurements presented in this section were collected using a Larson Davis LxT Type 1 precision sound level meter (serial number 01146). The LxT sound level meter was calibrated using a Larson-Davis calibrator, Model CAL 200, was programmed in "slow" mode to record noise levels in "A" weighted form and was located at approximately five feet above the ground elevation for each measurement. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (15)





**EXHIBIT 9-A: STATIONARY OPERATIONAL NOISE SOURCE LOCATIONS** 



**TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS** 

	Noise	Min./	Hour <sup>2</sup>	Reference	Sound
Noise Source <sup>1</sup>	Source Height (Feet)	Day	Night	Level (dBA L <sub>eq</sub> ) @ 50 feet	Power Level (dBA)³
Loading Dock Activity	8'	60	60	76.2	111.5
Truck Movements	8'	60	60	59.8	93.2
Roof-Top Air Conditioning	5'	39	28	57.2	88.9
Parking Lot Vehicle Movements	5'	60	60	56.1	87.8
Drive-Through Speakerphone Activity	3'	60	60	50.0	84.0
Trash Enclosure Activity	5'	10	10	57.3	89.0

<sup>&</sup>lt;sup>1</sup> As measured by Urban Crossroads, Inc.

#### 9.2.2 LOADING DOCK ACTIVITY

The reference loading dock activities are intended to describe the typical stationary operational noise source levels associated with the Project. This includes truck idling, deliveries, backup alarms, unloading/loading, docking including a combination of tractor trailer semi-trucks, two-axle delivery trucks, and background forklift operations. At a uniform reference distance of 50 feet, Urban Crossroads collected a reference noise level of 65.7 dBA Leq.

The loading dock activity noise level measurement was taken over a fifteen-minute period and represents multiple noise sources taken from the center of activity. The reference noise level measurement includes employees unloading a docked truck container included the squeaking of the truck's shocks when weight was removed from the truck, employees playing music over a radio, as well as a forklift horn and backup alarm. In addition, during the noise level measurement a truck entered the loading dock area and proceeded to reverse and dock in a nearby loading bay, adding truck engine, idling, air brakes noise, in addition to on-going idling of an already docked truck.

### 9.2.3 TRUCK MOVEMENTS

The truck movements reference noise level measurement was collected over a period of 1 hour and 28 minutes and represents multiple heavy trucks entering and exiting the outdoor loading dock area producing a reference noise level of 59.8 dBA L<sub>eq</sub> at 50 feet. The noise sources included at this measurement location account for trucks entering and existing the Project driveways and maneuvering in and out of the outdoor loading dock activity area. Consistent with the *Beaumont Pointe Traffic Analysis*, the Project is expected to generate a total of approximately 16,266 trips per day (actual vehicles) and includes 2,240 truck trips per day. (2) This noise study relies on the actual Project trips (as opposed to the passenger car equivalents) to accurately account for the effect of individual truck trips on the study area roadway network.

<sup>&</sup>lt;sup>2</sup> Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site.

<sup>&</sup>quot;Day" = 7:00 a.m. to 10:00 p.m.; "Night" = 10:00 p.m. to 7:00 a.m.

<sup>&</sup>lt;sup>3</sup> Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calculated using the CadnaA noise model at the reference distance to the noise source. Numbers may vary due to size differences between point and area noise sources.

<sup>&</sup>lt;sup>4</sup>Truck Movements are calculated based on the number of events by time of day (See Table 9-2).

#### 9.2.4 ROOF-TOP AIR CONDITIONING UNITS

The noise level measurements describe a single mechanical roof-top air conditioning unit. The reference noise level represents a Lennox SCA120 series 10-ton model packaged air conditioning unit. At the uniform reference distance of 50 feet, the reference noise levels are 57.2 dBA Leq. Based on the typical operating conditions observed over a four-day measurement period, the roof-top air conditioning units are estimated to operate for and average 39 minutes per hour during the daytime hours, and 28 minutes per hour during the nighttime hours. These operating conditions reflect peak summer cooling requirements with measured temperatures approaching 96 degrees Fahrenheit (°F) with average daytime temperatures of 82°F. For this noise analysis, the air conditioning units are expected to be located on the roof of the Project buildings.

#### 9.2.5 PARKING LOT VEHICLE MOVEMENTS

To describe the on-site parking lot activity a reference noise level of  $56.1 \text{ dBA } L_{eq}$  at 50 feet is used. Parking activities are expected to take place during the full hour (60 minutes) throughout the daytime and evening hours. The parking lot noise levels are mainly due cars pulling in and out of parking spaces in combination doors opening and closing and alarm or car horn locking announcements.

#### 9.2.6 Drive-Through Speakerphone Activity

To describe the potential noise level impacts associated with the planned drive-thru speakerphones, this analysis relies on the drive-through intercom system manufactured by HME. This type of system is commonly used by the quick service restaurant (QSR) industry for drive-thru communications. The HME SPP2 speaker post intercom system produces a maximum noise level of 84 dBA at one foot from the speaker post. The system may also be equipped with an automatic volume control that can automatically reduce the sound levels as the ambient noise level decreases. The reference speakerphone noise level describes continuous drive-through operations and does not include any periods of inactivity.

# 9.2.7 TRASH ENCLOSURE ACTIVITY

To describe the noise levels associated with a trash enclosure activity, Urban Crossroads collected a reference noise level measurement at an existing trash enclosure containing two dumpster bins. The trash enclosure noise levels describe metal gates opening and closing, metal scraping against concrete floor sounds, dumpster movement on metal wheels, and trash dropping into the metal dumpster. The reference noise levels describe trash enclosure noise activities when trash is dropped into an empty metal dumpster, as would occur at the Project Site. The measured reference noise level at the uniform 50-foot reference distance is 57.3 dBA L<sub>eq</sub> for the trash enclosure activity. The reference noise level describes the expected noise source activities associated with the trash enclosures for the Project's proposed building. Typical trash enclosure activities are estimated to occur for 10 minutes per hour.

## 9.3 CADNAA NOISE PREDICTION MODEL

To fully describe the exterior stationary operational noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nearmap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels.

Using the ISO 9613-2 protocol, CadnaA will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of noise level at each receiver and the partial noise level contributions by noise source. Consistent with the ISO 9613-2 protocol, the CadnaA noise prediction model relies on the reference sound power level ( $L_w$ ) to describe individual noise sources. While sound pressure levels (e.g.,  $L_{eq}$ ) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels ( $L_w$ ) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish because of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment.

The stationary operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. A default ground attenuation factor of 0.5 was used in the noise analysis to account for mixed ground representing a combination of hard and soft surfaces. The ground attenuation factor accounts for the ground absorption characteristics on the intervening topography and vegetation between the Project site and the nearest noise sensitive receiver locations. Appendix 9.1 includes the detailed noise model inputs used to estimate the Project stationary operational noise levels presented in this section.

# 9.4 Project Stationary Operational Noise Levels

Using the reference noise levels to represent the proposed Project operations that include loading dock activity, delivery van activity, truck movements, roof-top air conditioning units, parking lot vehicle movements and trash enclosure activity, Urban Crossroads, Inc. calculated the stationary source operational noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Table 9-2 shows the Project stationary operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 32.1 to 43.0 dBA Leq.

TABLE 9-2: DAYTIME PROJECT STATIONARY OPERATIONAL NOISE LEVELS

Naiss Coursel	Operational Noise Levels by Receiver Location (dBA Leq)								
Noise Source <sup>1</sup>	R1	R2	R3	R4	R5	BIO-1	BIO-2	BIO-3	
Loading Dock Activity	30.6	32.7	34.1	37.5	37.5	40.9	44.6	49.1	
Truck Movements	22.3	25.0	25.8	29.1	33.2	33.6	37.0	41.0	
Roof-Top Air Conditioning	18.5	20.6	24.1	29.5	34.2	27.2	29.9	31.4	
Parking Lot Vehicle Movements	23.6	25.9	28.5	35.1	39.7	31.5	37.9	39.3	
Drive-Through Speakerphone Activity	0.0	0.0	6.3	8.2	11.0	0.0	0.0	0.0	
Trash Enclosure Activity	10.7	12.8	14.2	17.4	18.7	23.1	26.1	29.0	
Total (All Noise Sources)	32.1	34.3	36.0	40.3	43.0	42.2	46.2	50.2	

<sup>&</sup>lt;sup>1</sup> See Exhibit 9-A for the noise source locations. CadnaA noise model calculations are included in Appendix 9.1.

Tables 9-3 shows the Project operational noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from  $32.0 \text{ to } 42.7 \text{ dBA L}_{eq}$ . The differences between the daytime and nighttime noise levels are largely related to the duration of noise activity (Table 9-1). Appendix 9.1 includes the detailed noise model inputs.

TABLE 9-3: NIGHTTIME PROJECT STATIONARY OPERATIONAL NOISE LEVELS

Noise Source <sup>1</sup>	Operational Noise Levels by Receiver Location (dBA Leq)								
Noise Source-	R1	R2	R3	R4	R5	BIO-1	BIO-2	BIO-3	
Loading Dock Activity	30.6	32.7	34.1	37.5	37.5	40.9	44.6	49.1	
Truck Movements	22.3	25.0	25.8	29.1	33.2	33.6	37.0	41.0	
Roof-Top Air Conditioning	16.1	18.2	21.7	27.1	31.8	24.8	27.5	29.0	
Parking Lot Vehicle Movements	23.6	25.9	28.5	35.1	39.7	31.5	37.9	39.3	
Drive-Through Speakerphone Activity	0.0	0.0	6.3	8.2	11.0	0.0	0.0	0.0	
Trash Enclosure Activity	9.7	11.9	13.3	16.4	17.7	22.1	25.2	28.0	
Total (All Noise Sources)	32.0	34.2	35.8	40.1	42.7	42.2	46.1	50.2	

<sup>&</sup>lt;sup>1</sup> See Exhibit 9-A for the noise source locations. CadnaA noise model calculations are included in Appendix 9.1.

### 9.5 Project Stationary Operational Noise Level Compliance

To demonstrate compliance with local noise regulations, the Project-only stationary operational noise levels are evaluated against exterior noise level thresholds based on the City of Beaumont exterior noise level standards at the nearest noise-sensitive receiver locations. Based on the CadnaA noise prediction model results that account for the noise attenuation due to distance from the noise source activities, Table 9-5 shows the stationary operational noise levels associated with the Beaumont Pointe Project will satisfy the City of Beaumont 55 dBA Leq daytime and 45 dBA Leq nighttime exterior noise level standards at the nearest receiver locations. Therefore, the stationary operational noise impacts are considered *less than significant* at the nearest noise-sensitive receiver locations. Potential stationary operational noise level impacts at

associated receiver locations BIO-1, BIO-2 and BIO-3 are analyzed in the biology report for the Project.

**TABLE 9-4: STATIONARY OPERATIONAL NOISE LEVEL COMPLIANCE** 

Receiver Location <sup>1</sup>		perational ls (dBA L <sub>eq</sub> ) <sup>2</sup>	110100 =010	l Standards L <sub>eq</sub> ) <sup>3</sup>	Noise Level Standards Exceeded? <sup>4</sup>		
LOCATION	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime	
R1	32.1	32.0	55	45	No	No	
R2	34.3	34.2	55	45	No	No	
R3	36.0	35.8	55	45	No	No	
R4	40.3	40.1	55	45	No	No	
R5	43.0	42.7	55	45	No	No	
BIO-1	42.2	42.2	_5	_5	_5	_5	
BIO-2	46.2	46.1	_5	_5	_5	_5	
BIO-3	50.2	50.2	_5	_5	_5	_5	

<sup>&</sup>lt;sup>1</sup> See Exhibit 8-A for the receiver locations.

## 9.6 Project Stationary Operational Noise Level Increases

To describe the Project stationary operational noise level increases, the Project stationary operational noise levels are combined with the existing ambient noise levels measurements for the nearest receiver locations potentially impacted by Project operational noise sources. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-operational and existing ambient noise levels cannot be combined using standard arithmetic equations. (3) Instead, they must be logarithmically added using the following base equation:

$$SPL_{Total} = 10log_{10}[10^{SPL1/10} + 10^{SPL2/10} + ... 10^{SPLn/10}]$$

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project stationary operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describes the Project noise level increases to the existing ambient noise environment. Noise levels that would be experienced at receiver locations when Project-source noise is added to the daytime and nighttime ambient conditions are presented on Tables 9-5 and 9-6, respectively. As indicated on Tables 9-5, the Project will generate a daytime stationary operational noise level increases ranging from 0.0 to 3.6 dBA Leq at the nearest receiver locations. Table 9-6 shows that the Project will generate a nighttime stationary operational noise level increases ranging from 0.0 to 4.2 dBA Leq at the nearest receiver locations.

 $<sup>^{\</sup>rm 2}$  Proposed Project operational noise levels as shown on Tables 9-2 and 9-3.

<sup>&</sup>lt;sup>3</sup> Exterior noise level standards for residential land use, as shown on Table 4-2.

<sup>&</sup>lt;sup>4</sup> Do the estimated Project stationary operational noise source activities exceed the noise level standards?

<sup>&</sup>lt;sup>5</sup> Receiver location and Project operational noise levels provided for informational purposes. Potential impacts analyzed in the Bio report for the Project.

<sup>&</sup>quot;Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Based on the significance criteria presented in Table 4-1, the Project-related stationary operational noise level increases will satisfy the operational noise level increase criteria at the nearest sensitive receiver locations and the impact will be *less than significant*.

TABLE 9-5: DAYTIME PROJECT STATIONARY OPERATIONAL NOISE LEVEL INCREASES

Receiver Location <sup>1</sup>	Total Project Operational Noise Level <sup>2</sup>	Measurement Location <sup>3</sup>	Reference Ambient Noise Levels <sup>4</sup>	Combined Project and Ambient <sup>5</sup>	Project Increase <sup>6</sup>	Increase Criteria <sup>7</sup>	Increase Criteria Exceeded?
R1	32.1	L1	45.0	45.2	0.2	5	No
R2	34.3	L2	62.7	62.7	0.0	5	No
R3	36.0	L3	64.3	64.3	0.0	5	No
R4	40.3	L4	52.9	53.1	0.2	5	No
R5	43.0	L5	44.9	47.0	2.1	5	No

<sup>&</sup>lt;sup>1</sup> See Exhibit 8-A for the receiver locations.



<sup>&</sup>lt;sup>2</sup> Total Project daytime operational noise levels as shown on Table 9-2.

<sup>&</sup>lt;sup>3</sup> Reference noise level measurement locations as shown on Exhibit 5-A.

<sup>&</sup>lt;sup>4</sup> Observed daytime ambient noise levels as shown on Table 5-1.

<sup>&</sup>lt;sup>5</sup> Represents the combined ambient conditions plus the Project activities.

<sup>&</sup>lt;sup>6</sup> The noise level increase expected with the addition of the proposed Project activities.

<sup>&</sup>lt;sup>7</sup> Significance increase criteria as shown on Table 4-2.

TABLE 9-6: NIGHTTIME STAITONARY OPERATIONAL NOISE LEVEL INCREASES

Receiver Location <sup>1</sup>	Total Project Operational Noise Level <sup>2</sup>	Measurement Location <sup>3</sup>	Reference Ambient Noise Levels <sup>4</sup>	Combined Project and Ambient <sup>5</sup>	Project Increase <sup>6</sup>	Increase Criteria <sup>7</sup>	Increase Criteria Exceeded?
R1	32.0	L1	45.2	45.4	0.2	5	No
R2	34.2	L2	51.4	51.5	0.1	5	No
R3	35.8	L3	60.8	60.8	0.0	5	No
R4	40.1	L4	46.9	47.7	0.8	5	No
R5	42.7	L5	39.4	44.4	5.0	5	No

<sup>&</sup>lt;sup>1</sup> See Exhibit 8-A for the receiver locations.

<sup>&</sup>lt;sup>2</sup> Total Project nighttime operational noise levels as shown on Table 9-3.

<sup>&</sup>lt;sup>3</sup> Reference noise level measurement locations as shown on Exhibit 5-A.

<sup>&</sup>lt;sup>4</sup> Observed nighttime ambient noise levels as shown on Table 5-1.

<sup>&</sup>lt;sup>5</sup> Represents the combined ambient conditions plus the Project activities.

<sup>&</sup>lt;sup>6</sup> The noise level increase expected with the addition of the proposed Project activities.

 $<sup>^{\</sup>rm 7}$  Significance increase criteria as shown on Table 4-2.

# 10 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 10-A shows the construction noise source locations in relation to the nearest sensitive receiver locations previously described in Section 8. To prevent high levels of construction noise from impacting noise-sensitive land uses, Section 9.02.110(F) of the City of Beaumont Municipal Code limits construction activities to the hours of 7:00 a.m. and 6:00 p.m.

Construction trips would occur throughout the construction period and would be associated with the delivery of building materials, supplies, and concrete to the Project Site. The construction trips will consist mostly of individual worker vehicles. However, it is expected that the individual worker vehicle construction noise source activities will be overshadowed by the construction noise source activities outlined below.

# **10.1** Construction Activities

Noise generated by the Project construction equipment will include a combination of crawler tractors, excavators, graders, dozers, scrapers, forklifts, generator sets, welders, paving equipment and air compressors that when combined can reach high levels. The number and mix of construction equipment are expected to occur in the following stages:

- Grading
- Building Construction
- Paving
- Architectural Coating

In addition, rock blasting may be required to support Project construction, therefore, this analysis considers the potential blasting noise and vibration levels at the nearest noise sensitive receiver locations. Construction is expected to commence in May 2022 and will last through January 2027.

### **10.2** Construction Reference Noise Levels

To describe peak construction noise activities, this construction noise analysis was prepared using reference noise level measurements published in the *Update of Noise Database for Prediction of Noise on Construction and Open Sites* by the Department for Environment, Food and Rural Affairs (DEFRA). (21). The DEFRA database provides the most recent and comprehensive source of reference construction noise levels. Table 10-1 provides a summary of the DEFRA construction reference noise level measurements expressed in hourly average dBA L<sub>eq</sub> using the estimated FHWA Roadway Construction Noise Model (RCNM) usage factors (22) to describe the construction activities for each stage of Project construction.



Pm. CHAMPIONS DR ⊕R2 BIO-1 (E **ॐ**B10-2 ⊕R3 **€** 010≠3 FRONTAGERD Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, **LEGEND:** Construction Activity • Receiver Locations Distance from receiver to construction activity (in feet)

**EXHIBIT 10-A: CONSTRUCTION NOISE SOURCE LOCATIONS** 



**TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS** 

Construction Stage	Reference Construction Activity <sup>1</sup>	Reference Noise Level @ 50 Feet (dBA L <sub>eq</sub> )	Highest Reference Noise Level (dBA L <sub>eq</sub> )
	Graders	79	
Grading	Excavators	64	79
	Compactors	67	
5 11 11	Cranes	67	
Building Construction	Tractors	72	72
Construction	Welders	65	
	Pavers	70	
Paving	Paving Equipment	69	70
	Rollers	69	
Architectural	Cranes	67	
	Air Compressors	67	67
Coating	Generator Sets	67	

<sup>&</sup>lt;sup>1</sup> Update of Noise Database for Prediction of Noise on Construction and Open Sites by the Department for Environment, Food and Rural Affairs (DEFRA) expressed in hourly average L<sub>eq</sub> based on estimated usage factors from the FHWA Roadway Construction Noise Model (RCNM).

# 10.3 CONSTRUCTION NOISE ANALYSIS

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearest sensitive receiver locations were completed. To assess the construction equipment noise levels, the Project construction noise analysis relies on the highest noise level impacts when the equipment with the highest reference noise level is operating at the closest point from the edge of primary construction activity (Project site boundary) to each receiver location. As shown on Table 10-2, the highest construction noise levels are expected to range from 61.2 to 77.7 dBA L<sub>eq</sub> at the nearest receiver locations. Appendix 10.1 includes the detailed CadnaA construction noise model inputs.

# 10.4 CONSTRUCTION NOISE THRESHOLDS OF SIGNIFICANCE

To evaluate whether the Project will generate potentially significant short-term noise levels at nearby receiver locations, a construction-related noise level threshold of 75 dBA  $L_{eq}$  is used as acceptable thresholds to assess construction noise level impacts. This exterior construction noise level standard represents the combination of the City of Beaumont 55 dBA  $L_{eq}$  interior noise level limit and the Noise Reduction (NR) of approximately 20 dBA for typical buildings with "windows closed" (5 p. 31)). The construction noise analysis shows that the impacts on nearby residential receiver locations will fall below the 75 dBA  $L_{eq}$  significance threshold during Project construction activities as shown on Table 10-3.



**TABLE 10-2: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY** 

	Construction Noise Levels (dBA L <sub>eq</sub> )						
Receiver Location <sup>1</sup>	Grading	Building Construction	Paving	Architectural Coating	Highest Levels <sup>2</sup>		
R1	61.2	54.2	52.2	49.2	61.2		
R2	62.3	55.3	53.3	50.3	62.3		
R3	64.7	57.7	55.7	52.7	64.7		
R4	68.7	61.7	59.7	56.7	68.7		
R5	73.4	66.4	64.4	61.4	73.4		
BIO-1	74.4	67.4	65.4	62.4	74.4		
BIO-2	75.2	68.2	66.2	63.2	75.2		
BIO-3	77.7	70.7	68.7	65.7	77.7		

<sup>&</sup>lt;sup>1</sup> Construction noise source and receiver locations are shown on Exhibit 10-A.

**TABLE 10-3: CONSTRUCTION NOISE LEVEL COMPLIANCE** 

	Construction Noise Levels (dBA L <sub>eq</sub> )				
Receiver Location <sup>1</sup>	Highest Construction Noise Levels <sup>2</sup> Threshold <sup>3</sup>		Threshold Exceeded? <sup>4</sup>		
R1	61.2	75	No		
R2	62.3	75	No		
R3	64.7	75	No		
R4	68.7	75	No		
R5	73.4	75	No		
BIO-1	74.4	_5	_5		
BIO-2	75.2	_5	_5		
BIO-3	77.7	_5	_5		

 $<sup>^{\</sup>rm 1}\,{\rm Noise}$  receiver locations are shown on Exhibit 10-A.

Therefore, the noise impacts due to Project construction noise are considered *less than significant* at all receiver locations. Potential construction noise level impacts associated receiver locations BIO-1, BIO-2 and BIO-3 are analyzed in the biology report for the Project.



<sup>&</sup>lt;sup>2</sup> Construction noise level calculations based on distance from the project site boundaries (construction activity area) to nearby receiver locations. CadnaA construction noise model inputs are included in Appendix 10.1.

<sup>&</sup>lt;sup>2</sup> Highest construction noise level operating at the Project site boundary to nearby receiver locations (Table 10-2).

<sup>&</sup>lt;sup>3</sup> Acceptable exterior construction noise level thresholds based on the City of Beaumont 55 dBA Leq interior noise level limit and the 20 dBA noise reduction associated with typical building construction.

<sup>&</sup>lt;sup>4</sup> Do the estimated Project construction noise levels exceed the construction noise level threshold?

<sup>&</sup>lt;sup>5</sup> Receiver location and Project operational noise levels provided for informational purposes. Potential impacts analyzed in the biology report.

# 10.5 NIGHTTIME CONCRETE POUR NOISE ANALYSIS

It is our understanding that nighttime concrete pouring activities will occur as a part of Project building construction activities. Nighttime concrete pouring activities are often used to support reduced concrete mixer truck transit times and lower air temperatures than during the daytime hours and are generally limited to the actual building area as shown on Exhibit 10-B. Since the nighttime concrete pours will take place outside the permitted City of Beaumont Municipal Code 9.02.110.F.1 hours of 7:00 a.m. to 6:00 p.m., the Project Applicant will be required to obtain authorization for nighttime work from the City of Beaumont. Any nighttime construction noise activities are evaluated against the City of Beaumont exterior construction noise level threshold of 75 dBA Leq.

# 10.5.1 NIGHTTIME CONCRETE POUR REFERENCE NOISE LEVEL MEASUREMENTS

To estimate the noise levels due to nighttime concrete pour activities, sample reference noise level measurements were taken during a nighttime concrete pour at a construction site. Urban Crossroads, Inc. collected short-term nighttime concrete pour reference noise level measurements during the noise-sensitive nighttime hours between 1:00 a.m. to 2:00 a.m. at 27334 San Bernardino Avenue in the City of Redlands. The reference noise levels describe the expected concrete pour noise sources that may include concrete mixer truck movements and pouring activities, concrete paving equipment, rear mounted concrete mixer truck backup alarms, engine idling, air brakes, generators, and workers communicating/whistling.

To describe the nighttime concrete pour noise levels associated with the construction of the Beaumont Pointe, this analysis relies on reference sound pressure level of 67.7 dBA  $L_{eq}$  at 50 feet representing a sound power level of 100.3 dBA  $L_w$ . While the Project noise levels will depend on the actual duration of activities and specific equipment fleet in use at the time of construction, the reference sound power level of 100.3 dBA  $L_w$  is used to describe the expected Project nighttime concrete pour noise activities.

### 10.5.2 NIGHTTIME CONCRETE POUR NOISE LEVEL COMPLIANCE

As shown on Table 10-4, the noise levels associated with the nighttime concrete pour activities are estimated to range from 26.8 to 45.4 dBA  $L_{\rm eq.}$  The analysis shows that the unmitigated nighttime concrete pour activities will not exceed the construction noise level threshold at all the nearest noise sensitive receiver locations. Therefore, the noise impacts due to Project construction nighttime concrete pour noise activity are considered *less than significant* at all receiver locations with prior authorization for nighttime work from the City of Beaumont. Appendix 10.2 includes the CadnaA nighttime concrete pour noise model inputs.



CHAMPIONS DR OAK VALUET PRAINT **⊕**BI0-2 ⊕ R3 BIO-3 FRONTAGE RD Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, **LEGEND:** Nighttime Concrete Pour Activity Receiver Locations Distance from receiver to construction activity (in feet)

**EXHIBIT 10-B: NIGHTTIME CONCRETE POUR NOISE SOURCE AND RECEIVER LOCATIONS** 



TABLE 10-4: NIGHTTIME CONCRETE POUR NOISE LEVEL COMPLIANCE

D i	Construction Noise Levels (dBA L <sub>eq</sub> )				
Receiver Location <sup>1</sup>	Concrete Pour Noise Levels <sup>2</sup> Threshold <sup>3</sup>		Threshold Exceeded? <sup>4</sup>		
R1	26.8	75	No		
R2	28.5	75	No		
R3	33.9	75	No		
R4	40.9	75	No		
R5	45.4	75	No		
BIO-1	36.3	_5	_5		
BIO-2	39.8	_5	_5		
BIO-3	42.9	_5	_5		

<sup>&</sup>lt;sup>1</sup>Concrete pour noise source and receiver locations are shown on Exhibit 10-B.

### 10.6 CONSTRUCTION VIBRATION LEVELS

Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected receivers and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. The human response (annoyance) to ground-borne vibration levels resulting from construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration (FTA) (8).

Ground vibration levels associated with various types of construction equipment are summarized on Table 10-5. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential Project construction vibration levels using the following vibration assessment methods defined by the FTA. To describe the human response (annoyance) associated with vibration impacts the FTA provides the following equation:  $L_{VdB}(D) = L_{VdB}(25 \text{ ft}) - 30\log(D/25)$ 

TABLE 10-5: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Vibration Decibels (VdB) at 25 feet
Small bulldozer	58
Jackhammer	79
Loaded Trucks	86
Large bulldozer	87

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual



<sup>&</sup>lt;sup>2</sup> Highest concrete pour noise level operating at the Project site boundary to nearby receiver locations.

<sup>&</sup>lt;sup>3</sup> Acceptable exterior construction noise level thresholds based on the City of Beaumont 55 dBA Leq interior noise level limit and the 20 dBA noise reduction associated with typical building construction.

<sup>&</sup>lt;sup>4</sup> Do the estimated Project construction noise levels exceed the construction noise level threshold?

<sup>&</sup>lt;sup>5</sup> Receiver location and Project operational noise levels provided for informational purposes. Potential impacts analyzed in the biology report.

Table 10-6 presents the expected construction equipment vibration levels at the nearest receiver locations. At distances ranging from 92 feet to 4,402 feet from Project construction activities (at the Project site boundary), construction vibration levels are estimated to range from 19.6 to 70.0 VdB and will remain below the FTA Transit Noise and Vibration Impact Assessment Manual maximum acceptable vibration criteria of 78 VdB for daytime residential uses at all receiver locations. Therefore, the Project-related vibration impacts are considered *less than significant* during construction activities at the Project site. Moreover, the vibration levels reported at the sensitive receiver locations are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter.

**TABLE 10-6: CONSTRUCTION EQUIPMENT VIBRATION LEVELS** 

	Distance to	Receiver Vibration Levels (VdB) <sup>2</sup>						
Receiver Location <sup>1</sup>	Construction Activity (Feet)	Small Bulldozer	Jack- hammer	Loaded Trucks	Large Bulldozer	Highest Vibration Levels	Threshold VdB <sup>3</sup>	Threshold Exceeded? <sup>4</sup>
R1	4,402'	0.0	11.6	18.6	19.6	19.6	78	No
R2	4,347'	0.0	11.8	18.8	19.8	19.8	78	No
R3	3,123'	0.0	16.1	23.1	24.1	24.1	78	No
R4	1,151'	8.1	29.1	36.1	37.1	37.1	78	No
R5	92'	41.0	62.0	69.0	70.0	70.0	78	No

<sup>&</sup>lt;sup>1</sup> Noise receiver locations are shown on Exhibit 10-A.

# **10.7** BLASTING IMPACTS

If blasting is determined to be required during excavation and grading, the blasting contractor is required to obtain blasting permit(s) from the State, and to notify Riverside County Sheriff's Department within 24 hours of planned blasting events. According to the Project team, blasting at the site is unlikely. However, if blasting is needed it is expected to be limited to the east ridgeline cut area as shown on Exhibit 10-C. Recognizing that it is unfeasible to foresee all the variables that may be encountered on various project sites, a site-specific blasting plan shall be developed for the project. Blasting shall only be conducted by a licensed blaster. Further, the licensed blaster is required to design all blasts such that they remain below the significance thresholds identified by the USBM in addition to the permitting requirements of the State of California and Riverside County Sheriff's Department.

As outlined in Section 3.6, air overpressure regulations are identified by the U.S. Bureau of Mines (USBM) and the ISEE's Blasters' Handbook. (9) To analyze blasting impacts originating from the construction of the Beaumont Pointe Project, vibration-generating rock blasting activities are appropriately evaluated against standards established under a City's Municipal Code, if such standards exist. However, the City of Beaumont does not identify specific blasting noise or



<sup>&</sup>lt;sup>2</sup> Based on the Vibration Source Levels of Construction Equipment included on Table 10-4.

<sup>&</sup>lt;sup>3</sup> FTA Transit Noise and Vibration Impact Assessment maximum acceptable vibration criteria as shown in Section 3.5.

<sup>&</sup>lt;sup>4</sup> Does the vibration level exceed the maximum acceptable vibration threshold?

vibration level limits. Therefore, this analysis relies on the following criteria to assess potential temporary construction-related impacts at adjacent receiver locations.

⊕ Ra GHAMPIONS DR ⊕R2 B10-1 CAR VALLEY PLANT **₽**BI0-2 ⊕R3 BIO-3 Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community **LEGEND:** Site Boundary Receiver Locations

**EXHIBIT 10-C: BLASTING NOISE SOURCE LOCATIONS** 



Blasting Activity

Distance from receiver to blasting activity (in feet)

#### 10.7.1 AIRBLAST NOISE LEVELS

Due to the short-term instantaneous nature of blasting, the Project blasting-related airblast levels are based on the 133 dB criteria identified by the USBM and ISEE. The blasting airblast impacts described below represent the worst-case (closest) blast locations describing the potential impacts when measured from the edge of the nearest blast area to the nearest receiver location. When measured at greater distances, the blasts will result in lower airblast noise levels. The blasting calculations are included in Appendix 10.3.

The airblast levels from Project blasts are based on the ISEE's Blasters' Handbook equation for partially and substantially confined construction blasts, determined based on the anticipated depth of hard rock in each location. This analysis describes partially confined airblast levels since they are calculated using the Blasters' Handbook equation for general construction blasting activities. Table 10-7 shows that the calculated airblast levels from the worst-case (closest) Project blasting activities are expected to range from 88 to 111 dB. The Project airblast levels are shown to satisfy the 133 dB airblast threshold at the nearest noise sensitive residential receiver locations. Therefore, the Project-related airblast noise level impacts are considered *less than significant* during construction activities at the Project site.

TABLE 10-7: PROJECT BLASTING AND COMPLIANCE SUMMARY

	Distance to Blast		Blasting Levels <sup>2</sup> Threshold <sup>3</sup>		Threshold Exceeded? <sup>4</sup>		
Receiver Location <sup>1</sup>	Construction Activity (Feet)	Airblast (dB)	Vibration (PPV)	Airblast (dB)	Vibration (PPV)	Airblast (dB)	Vibration (PPV)
R1	9,384'	88	0.00	133	0.5	No	No
R2	7,310'	90	0.00	133	0.5	No	No
R3	4,422'	95	0.00	133	0.5	No	No
R4	2,254'	101	0.01	133	0.5	No	No
R5	796'	111	0.05	133	0.5	No	No

<sup>&</sup>lt;sup>1</sup> Blasting noise source and receiver locations are shown on Exhibit 10-C.

#### 10.7.2 BLASTING VIBRATION

The vibration criteria used in this noise study to assess potential temporary construction-related building damage impacts at adjacent receiver locations are based on the Caltrans *Transportation and Construction Vibration Guidance Manual*, (10 p. 38) Table 19. The blasting vibration impacts described below represent the worst-case (closest) blast locations describing the potential impacts when measured from the edge of the nearest blast area to the nearest receiver location. When measured at greater distances, the blasts will result in lower vibration levels. The blasting calculations are included in Appendix 10.2. Since most of the buildings near the Project site can best be described as "older residential buildings", Caltrans guidance identifies a maximum acceptable transient peak-particle-velocity (PPV) vibration threshold of 0.5 inches per second



<sup>&</sup>lt;sup>2</sup> Based on input data provided by California Drilling & Blasting. Calculations are provided in Appendix A for each blast location.

<sup>&</sup>lt;sup>3</sup> Sources: Vibration threshold obtained from the Caltrans Transportation and Construction Vibration Manual, April 2020 Table 19. Airblast threshold is based on ISEE's Blasters' Handbook, Table 26.17 Typical Air Overpressure Damage Criteria, and U.S. Bureau of Mines standards.

<sup>&</sup>lt;sup>4</sup> Do the blast-related airblast and vibration levels exceed the thresholds?

(in/sec). Therefore, the 0.5 PPV (in/sec) vibration threshold is used to evaluate the potential blasting-related vibration levels experienced at the nearby residential homes.

Table 10-7 shows the calculated vibration levels for the worst-case (closest) blast locations near the adjacent residential homes north and west of the Project site. The vibration levels of Project blasts are expected to range from 0.00 to 0.05 in/sec PPV. Table 10-7 shows that the Project blasting vibration levels will remain below the maximum acceptable transient peak-particle-velocity (PPV) vibration threshold 0.5 PPV (in/sec) all the nearby noise sensitive residential receiver locations, and therefore, represent a *less than significant* impact.





# 11 REFERENCES

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- 20. California Department of Transportation Environmental Program. *I-80 Davis OGAC Pavement Noise Study.* September 2001.



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- 22. **California Department of Transportation.** *Highway Design Manual, Chapter 1100 Highway Traffic Noise Abatement*. November 2017.
- 23. **Department of Environment, Food and Rural Affiars (Defra).** *Update of Noise Database for Prediction of Noise on Construction and Open Sites.* 2004.
- 24. **FHWA.** Roadway Construction Noise Model. January 2006.



# 12 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Beaumont Pointe Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 584-3148.

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# **EDUCATION**

Master of Science in Civil and Environmental Engineering
California Polytechnic State University, San Luis Obispo • December, 1993

Bachelor of Science in City and Regional Planning California Polytechnic State University, San Luis Obispo • June, 1992

# **PROFESSIONAL REGISTRATIONS**

PE – Registered Professional Traffic Engineer – TR 2537 • January, 2009

AICP – American Institute of Certified Planners – 013011 • June, 1997–January 1, 2012

PTP – Professional Transportation Planner • May, 2007 – May, 2013

INCE – Institute of Noise Control Engineering • March, 2004

#### **PROFESSIONAL AFFILIATIONS**

ASA – Acoustical Society of America ITE – Institute of Transportation Engineers

#### **PROFESSIONAL CERTIFICATIONS**

Certified Acoustical Consultant – County of San Diego • March, 2018 Certified Acoustical Consultant – County of Orange • February, 2011 FHWA-NHI-142051 Highway Traffic Noise Certificate of Training • February, 2013





# APPENDIX 3.1:

**CITY OF BEAUMONT MUNICIPAL CODE** 





Chapter 9.02 - NOISE CONTROL

Footnotes:

--- (1) ---

Editor's note— Ord. No. 1067, § 1(Exh. A), adopted Jan. 19, 2016, amended Ch. 9.02 in its entirety to read as herein set out. Former Ch. 9.02, §§ 9.02.010—9.02.110, pertained to similar subject matter, and derived from Ord. No. 914, § 1, adopted July 3, 2007; Ord. 997, adopted May 3, 2011.

9.02.010 - Purpose.

The purpose of this Chapter is to establish criteria and standards for the regulation of noise levels within the City and to implement the noise provisions contained in the City's General Plan.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

9.02.020 - Findings.

It is hereby found and declared that:

- A. The making, creation or maintenance of excessive, unnecessary, unnatural or unusually loud noises which are prolonged, unusual and unnatural in their time, place and use, affect and are a detriment to public health, comfort, convenience, safety, welfare and prosperity of the residents of the City; and
- B. The necessity for the provisions and prohibitions hereinafter contained and enacted is hereby declared as a matter of legislative determination and public policy. It is further declared that the provisions and prohibitions hereinafter contained and enacted are in pursuance of and for the purpose of securing and promoting the public health, comfort, convenience, safety, welfare and prosperity and the peace and quiet of the City.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

9.02.030 - Definitions.

"Ambient noise" shall mean the all-encompassing noise level associated with a given environment, being a composite of sounds from all sources, excluding any intrusive noise.

"Capital improvement" shall mean major construction, acquisition or maintenance/repair projects. Examples of capital improvements include street improvements, park development and construction of public buildings or structures, treatment plants. Structures include lighting, sewer and water pipelines and other related utility structures including treatment plants, gas, electric and other infrastructure, landscaping and drainage facilities and all other public infrastructure. "Acquisitions" include the acquisition of land or interest in land. Major maintenance/repairs may include street resurfacing and modifications to public buildings and structures.

"Commercial purpose" shall mean the use, operation or maintenance of any sound-amplifying equipment for the purpose of advertising any business, goods or services and/or for the purpose of advertising or attracting the attention of the public to or soliciting patronage for any performance, entertainment, exhibition or event, or for the purpose of demonstrating any such sound equipment.

"Cumulative time period" shall mean a period of time composed of individual time segments which may be continuous or interrupted.

"Decibel (dB)" shall mean a measurement unit of sound pressure level which denotes the ratio between two quantities which are proportional to power; the number of decibels corresponding to the ratio of two amounts of power is ten times the logarithm to the base ten of this ratio.

"Governmental agency" shall mean the United States (federal government), the State of California, the County of Riverside, the City of Beaumont, the school district and any special district within Riverside County or any combination of these agencies.

"Impact noise" shall mean the sound produced by the impact or collision of one moving object or mass with a second object or mass that is stationary or moving.

"Intrusive noise" shall mean a sound which intrudes over and above the existing ambient noise level at a given location.

"Motor-driven vehicle" shall include, but not be limited to, any automobile, truck, van, bus, motorcycle, minibike, go-cart or other self-propelled vehicle, on or off road, and aircraft.

"Noise" shall mean any sound that is loud or disturbing or that interferes with one's ability to hear some other sound.

"Noise level" shall mean the "A" weighted sound pressure level in decibels audible to humans obtained by using a sound level meter. The unit of noise level measurement shall be designated as dB(A).

"Person" shall mean a person, firm, association, partnership, joint venture, corporation or any entity, public or private in nature.

"Public property" shall mean property that is owned by any governmental agency as indicated in this section or held by the public, including, but not limited to, parks, streets, sidewalks, and alleys.

"Simple tone noise" shall mean a noise characterized by a predominant frequency or frequencies so that other frequencies cannot be readily distinguished.

"Sound pressure level of a sound, in decibels" shall mean 20 times the logarithm to the base ten of the ratio of the pressure of this sound to the reference pressure, which reference pressure shall be explicitly stated.

As used in <u>Section 9.02.110(H)</u>, "public nuisance" is defined by Civil Code Section 3479.

( Ord. No. 1067, § 1(Exh. A), 1-19-2016 )

# 9.02.040 - Noise level measurement criteria.

- A. Any noise level measurement, made pursuant to the provisions of this Chapter, shall be determined by using a sound level meter that meets the minimum requirements of the American National Standard Institute for sound level meters, or by using an instrument with associated recording and analyzing equipment that will provide equivalent data.
- B. The factors which shall be considered in determining whether a violation of the provisions of this section exists shall include, but not be limited to, the following:

- 1. The sound level of the objectionable noise;
- 2. The sound level of the ambient noise;
- 3. The proximity of the noise to residential sleeping facilities;
- 4. The nature and zoning of the area within which the noise emanates;
- 5. The number of persons affected by the noise source;
- 6. The time of day or night the noise occurs;
- 7. The duration of the noise and its tonal, informational or musical content;
- 8. Whether the noise is produced by a commercial or noncommercial activity.
- C. The above factors shall be considered in addition to the noise levels set forth in this section in determining a violation. However, noises do not necessarily need to exceed those noise level limits to be considered unnecessary or unusual so as to cause discomfort or annoyance to persons in the area.

( Ord. No. 1067, § 1(Exh. A), 1-19-2016 )

# 9.02.050 - Base ambient noise level.

All ambient noise measurements shall commence at the base ambient noise levels in decibels within the respective times and zones as follows:

Decibels	Time	Zone Use
45 dB(A)	10:00 p.m. — 7:00 a.m.	Residential
55 dB(A)	7:00 a.m. — 10:00 p.m.	Residential
50 dB(A)	10:00 p.m. — 7:00 a.m.	Industrial and Commercial
75 dB(A)	7:00 a.m. — 10:00 p:m.	Industrial and Commercial

Actual decibel measurements exceeding the levels set forth hereinabove at the times and within the zones corresponding thereto shall be employed as the "base ambient noise level" referred to in this Chapter. Otherwise, no ambient noise shall be deemed to be less than the above specified levels.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

#### 9.02.060 - Exterior noise level measurement.

Except as otherwise specifically provided herein, all reference to "exterior noise" or "exterior noise levels" as used in this Chapter shall be as measured at any point relative to the closest point of the source of the noise at the property line of the complaining party. Measurements will not be made during extraordinary times, such as during the movement of a nearby train or airplane.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

9.02.070 - Maximum residential noise levels.

No noise level shall exceed the following for the duration periods specified:

Noise Level Exceeded	Maximum Duration Period
5 dB(A) above BANL	15 minutes any hour
10 dB(A) above BANL	5 minutes any hour
15 dB(A) above BANL	1 minute any hour
20 dB(A) above BANL	Not permitted

( Ord. No. 1067, § 1(Exh. A), 1-19-2016 )

9.02.080 - Maximum interior noise levels.

A. No person shall operate or cause to be operated, any source of sound which causes the noise level, when measured inside another dwelling unit, school or hospital, to exceed:

Decibels	Time	Land Use
35 dB(A)	10:00 p.m. — 7:00 a.m.	Residential
45 dB(A)	7:00 a.m. — 10:00 p.m.	Residential
45 dB(A)	7:00 a.m. — 10:00 p.m. (while school is in session)	School
45 dB(A)	Anytime	Hospital

B. No person shall operate or cause to be operated, any source of sound which causes the noise level, when measured inside another dwelling unit, school or hospital, to exceed:

Noise Level Exceeded	Maximum Duration Period	

5 dB(A) above interior BANL	5 minutes any hour
10 dB(A) above interior BANL	1 minutes any hour
Over 10 dB(A) above interior BANL	Not permitted

C. If the measured interior ambient noise level exceeds that permissible within the first two noise limit categories in this section, the allowable noise exposure standard shall be increased in five decibel increments in each category as appropriate to reflect the interior ambient noise level. In the event the interior ambient noise level exceeds the third noise limit category, the maximum allowable interior noise level under said category shall be increased to reflect the maximum interior ambient noise level.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

9.02.090 - Maximum nonresidential noise levels.

Any provision contained herein to the contrary notwithstanding, no exterior noise level shall exceed the base ambient noise levels (BANL) for nonresidential land uses set forth in any development agreement applicable to such development or as otherwise specifically set forth in any development standard which is by its terms enforceable by the City against the noise maker.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

9.02.100 - Exemptions.

Sound emanating from the following sources is exempt from the provisions of this Chapter:

- A. Capital improvement projects of a governmental agency.
- B. Maintenance and repair of public properties by a governmental agency.
- C. Utility and street repairs, street sweepers, garbage services, emergency response warning noises, emergency generators and fire alarm systems are exempt from this Chapter.
- D. Other public/governmental services or operations including, but not limited to trains and railway or airplanes and helicopter machinery, equipment or vehicles.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

# 9.02.110 - Special provisions.

- A. *Sound Performances and Special Events.* Sound performances and special events not exceeding 95 dB measured at a distance of 50 feet from the loudest source are exempt from this Chapter when approval therefore has been obtained from the appropriate governmental entity.
- B. *Vehicle Horns.* Vehicle horns, back-up warning devices, or other devices primarily intended to create a loud noise for warning purposes, shall be used only when the vehicle is in a situation where life, health or

property are endangered or as required by law.

- C. *Alarm System.* An audible alarm system affixed to a motor vehicle shall be equipped with an automatic shutoff, which shuts off the alarm within a maximum of 15 minutes from the time of activation. Such alarm may not emit a sound similar to the sound emitted by sirens in use on emergency vehicles or to those used for civil defense purposes. For purposes of this section, any variable tone, as opposed to one steady pitch, shall be considered similar to the sound emitted by an emergency vehicle siren. The Police Department is authorized to abate the nuisance of an audible alarm system affixed to a motor vehicle, which sounds beyond 15 minutes by using any means necessary to disconnect the vehicle alarm. The expense of disconnecting the alarm shall be a lien against the motor vehicle and shall be the personal obligation of the owner thereof.
- D. *Radios, Televisions, Stereos, Speakers, etc.* It shall be unlawful for any person, without special permit or as may otherwise be provided in this Chapter, to play, use, operate or permit to be played, used or operated, any radio, television, musical instrument, stereo equipment, or other machine or device used for producing, reproducing or amplifying sound at such sound levels as to cause the sound level to exceed 40 dB(A) as measured within the residence of any complaining person.
- E. *Animals, Fowl, etc.* It shall be unlawful to keep or harbor any animal which emits, between the hours of 11:00 p.m. and 7:00 a.m., any unreasonable sound or cry which disturbs or may disturb the peace and comfort or repose of a reasonable person of normal sensitiveness who resides in the neighborhood or area in which such animal is located or kept. For barking dog, see limitations set forth in <u>Section 6.04.080</u>. This provision shall not apply to farm animals within any zone in which such farm animals are permitted under the Municipal Code.

# F. Construction, Landscape, Maintenance or Repair.

- 1. It shall be unlawful for any person to engage in or permit the generation of noise related to landscape maintenance, construction including erection, excavation, demolition, alteration or repair of any structure or improvement, at such sound levels, as measured at the property line of the nearest adjacent occupied property, as to be in excess of the sound levels permitted under this Chapter, at other times than between the hours of 7:00 a.m. and 6:00 p.m. The person engaged in such activity is hereby permitted to exceed sound levels otherwise set forth in this Chapter for the duration of the activity during the above described hours for purposes of construction. However, nothing contained herein shall permit any person to cause sound levels to at any time exceed 55 dB(A) for intervals of more than 15 minutes per hour as measured in the interior of the nearest occupied residence or school.
- 2. Whenever a construction site is within one-quarter of a mile of an occupied residence or residences, no construction activities shall be undertaken between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September and between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May. Exceptions to these standards shall be allowed only with the written consent of the building official.
- 3. Construction related noise as defined in subsection (F)(1) and (2) above may take place outside the time period set forth therein and above the relative sound levels in case of urgent necessity in the interest of public health and safety, and then only with the prior permission of the building inspector.

- Such permit may be granted for a period not to exceed three days or until the emergency ends, whichever is less. The permit may be renewed for periods of three days while the emergency continues.
- 4. Unless exempted by this Chapter, if the building official should determine that the public health and safety will not be impaired by the construction related noise, the building inspector may issue a permit for construction within the hours of 6:00 p.m. and 7:00 a.m., upon application being made at the time the permit for the work is awarded or during the progress of the work. The building official may place such conditions on the issuance of the permit that are appropriate to maintain the public health and safety, as determined by the building official.
- G. *Machinery, Equipment, Fans and Air Conditioning*. It shall be unlawful for any person to operate, cause to operate or permit the operation of any machinery, equipment, device, pump, fan, compressor, air conditioning apparatus or similar mechanical device, including but not limited to the use of any steam shovel, pneumatic hammer, derrick, steam or electric hoist, blower or power fan, or any internal combustion engine, the operation of which causes noise due to the explosion of operating gases or fluids, or other appliance, in any manner so as to create any noise which would cause the noise level at the property line of the property upon which the equipment or machinery is operated to exceed the base ambient noise level by five dB(A).
- H. *Motor Driven Vehicles.* It shall be unlawful for any person to operate any motor driven vehicle within the City that, due to the nature of the operation of the vehicle, or due to the operating condition of the vehicle, or due to any modification made to the vehicle, in such manner as to exceed noise levels set forth in Section 9.02.050 hereof.
  - 1. Exhaust. It shall be unlawful for any person to discharge into the open air the exhaust of any steam engine, stationary internal combustion engine, motorboat or motor driven vehicle except through a muffler or other device which will effectively prevent loud or explosive noises there from.
  - 2. No person shall use or operate a stereo system, radio, electronic music device, television or similar device in a vehicle on a public street which is audible to a person of normal hearing sensitivity, more than 50 feet from said vehicle.
- I. Notwithstanding any other provisions of this Chapter and in addition thereto, it shall be unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary and unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or creates a public nuisance. The standard which may be considered in determining whether a violation of the provisions of this section exists may include, but not be limited to, the following:
  - 1. The level of noise:
  - 2. Whether the nature of the noise is usual or unusual;
  - 3. Whether the origin of the noise is natural or unnatural;
  - 4. The level and intensity of the background noise, if any;
  - 5. The proximity of the noise to residential sleeping facilities;
  - 6. The nature of the zoning of the area within which the noise emanates;
  - 7. The density of the inhabitation of the area within which the noise emanates;

- 8. The time of the day and night the noise occurs;
- 9. Whether the noise is recurrent, intermittent, or constant;
- 10. The duration of the noise; and
- 11. Whether the noise is produced by a commercial or noncommercial activity.

( Ord. No. 1067, § 1(Exh. A), 1-19-2016 )

9.02.120 - Exception permits.

If the applicant can show to the City manager or designee, that a diligent investigation of available noise abatement techniques indicates that immediate compliance with the requirements of this Chapter would be impractical or unreasonable, a permit to allow exception from the provisions contained in this Chapter may be issued, with appropriate conditions to minimize the public detriment caused by such exceptions. Any such permit shall be of as short duration as possible, but in no case for longer than six months. These permits are renewable upon a showing of good cause, and shall be conditioned by a schedule for compliance and details of compliance methods in appropriate cases.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

9.02.130 - Application between zones.

In applying the regulations set forth in this Chapter, each source of noise shall be subject only to such regulation as shall apply to the zone, including any designated truck route, within which it is located. A use lying adjacent to a zone with a more restrictive noise requirement hereunder shall not be required to conform to that more restrictive requirement. For purposes of this subsection, "zone" shall be as utilized in Title 17 of the Beaumont Municipal Code.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

9.02.140 - Penalty for violation.

In the discretion of the Enforcement Officer, any person violating the provisions of this Chapter may be issued an Administrative Citation pursuant to Beaumont Municipal Code <u>Chapter 1.17</u> or shall be guilty of an infraction pursuant to Beaumont Municipal Code <u>Chapter 1.16</u>. In either case, the amount of the fine shall be the appropriate amount set forth in <u>Section 1.16.030</u> of this Code. Each such violation shall be deemed a separate offense as specified in <u>Section 1.16.040</u>.

Notwithstanding the foregoing, a first offense may be charged and prosecuted as a misdemeanor, punishable by a fine of \$1,000.00, or six months in jail, or both

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

9.02.150 - Additional remedy—Injunction.

As an additional remedy, the operation or maintenance of any device, instrument, vehicle or machinery in violation of any provision hereof and which causes discomfort or annoyance to reasonable persons of normal sensitiveness or which endangers the comfort, repose, health or peace of residents in the area shall be deemed,

and is declared to be a public nuisance and may be subject to abatement summarily by a restraining order or injunction issued by a court of competent jurisdiction.

( Ord. No. 1067, § 1(Exh. A), 1-19-2016 )

9.02.160 - No mandatory duty created.

No section of this Chapter shall impose a mandatory duty on the City, or on any officer, official, agent, employee, board, council, or commission of the City. Instead, if any section purports to impose a mandatory duty of enforcement, that section shall be deemed to invest the City, and the appropriate officer, official, agent, employee, board, council, or commission with discretion to enforce the section or not to enforce it. A police officer, for example, shall have the discretion to quiet a nuisance without applying standards detailed herein.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)



**APPENDIX 5.1:** 

**STUDY AREA PHOTOS** 





# JN:12398 Study Area Photos



L1\_E 33, 57' 19.860000", 117, 3' 2.760000"



L1\_N 33, 56' 55.840000", 117, 1' 52.550000"



L1\_S 33, 57' 19.850000", 117, 3' 2.810000"



33, 57' 19.890000", 117, 3' 2.760000"



L2\_E 33, 57' 11.480000", 117, 2' 25.290000"



L2\_N 33, 57' 11.460000", 117, 2' 25.350000"

# JN:12398 Study Area Photos



L2\_S 33, 57' 11.470000", 117, 2' 25.320000"



L2\_W 33, 57' 11.460000", 117, 2' 25.290000"



L3\_E 33, 56' 37.490000", 117, 2' 7.000000"



33, 56' 40.270000", 117, 0' 14.340000"



L3\_S 33, 56' 37.540000", 117, 2' 7.030000"



L3\_W 33, 56' 37.520000", 117, 2' 7.000000"

# JN:12398 Study Area Photos



L4\_E 33, 56' 11.690000", 117, 1' 7.320000"



L4\_N 33, 56' 3.300000", 117, 1' 26.190000"



L4\_S 33, 56' 3.300000", 117, 1' 26.190000"



L4\_W 33, 56' 11.640000", 117, 1' 7.700000"



# APPENDIX 5.2:

**NOISE LEVEL MEASUREMENT WORKSHEETS** 





### **24-Hour Noise Level Measurement Summary**

L1 - Located north of the Project site on Roberts Place near Date: Wednesday, April 22, 2020 Location: Project: Jack Rabbit Trail Development

Meter: Piccolo I existing single-family residential home at 34945 Roberts Pl.

JN: 12398 Analyst: P. Mara

### Hourly L ea dBA Readings (unadjusted) 85.0 80.0 75.0 70.0 65.0 655.0 40.0 35.0 46.1 38.8 38.4 5 6 7 8 9 10 12 23 0 1 3 11 13 14 15 16 17 18 19 20 21 22 **Hour Beginning**

Timeframe	Hour	L eq	L max	L min	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L eq	Adj.	Adj. L <sub>eq</sub>
	0	43.1	57.6	39.3	53.0	51.0	46.0	44.0	41.0	40.0	39.0	39.0	39.0	43.1	10.0	53.1
	1	41.1	50.7	39.3	45.0	44.0	43.0	42.0	41.0	40.0	39.0	39.0	39.0	41.1	10.0	51.1
	2	42.9	54.8	39.4	48.0	48.0	46.0	45.0	43.0	41.0	40.0	40.0	40.0	42.9	10.0	52.9
Night	3	42.2	50.2	40.4	45.0	44.0	44.0	43.0	42.0	41.0	40.0	40.0	40.0	42.2	10.0	52.2
	4	44.8	54.7	41.0	49.0	49.0	47.0	47.0	45.0	44.0	42.0	42.0	41.0	44.8	10.0	54.8
	5	49.1	73.3	41.6	53.0	52.0	51.0	50.0	48.0	46.0	44.0	43.0	42.0	49.1	10.0	59.1
	6	50.1	69.3	43.5	56.0	55.0	54.0	53.0	50.0	48.0	45.0	45.0	44.0	50.1	10.0	60.1
	7	48.2	72.5	37.7	54.0	53.0	50.0	49.0	47.0	44.0	40.0	39.0	39.0	48.2	0.0	48.2
	8	44.8	64.6	37.4	54.0	51.0	49.0	47.0	43.0	41.0	39.0	38.0	37.0	44.8	0.0	44.8
	9	47.7	74.5	34.7	51.0	49.0	46.0	45.0	40.0	38.0	35.0	35.0	35.0	47.7	0.0	47.7
	10	47.1	72.3	34.7	57.0	52.0	48.0	46.0	40.0	37.0	35.0	35.0	35.0	47.1	0.0	47.1
	11	47.0	74.2	34.7	57.0	53.0	48.0	45.0	40.0	37.0	35.0	35.0	35.0	47.0	0.0	47.0
Day	12	43.9	67.1	34.7	53.0	48.0	46.0	44.0	41.0	38.0	35.0	35.0	35.0	43.9	0.0	43.9
Day	13	45.4	68.8	34.7	55.0	53.0	50.0	48.0	43.0	40.0	36.0	35.0	35.0	45.4	0.0	45.4
	14	44.6	64.3	34.7	54.0	52.0	50.0	48.0	43.0	39.0	35.0	35.0	35.0	44.6	0.0	44.6
	15	46.1	73.3	34.7	54.0	52.0	50.0	48.0	42.0	39.0	35.0	35.0	35.0	46.1	0.0	46.1
	16	38.8	53.2	34.7	47.0	45.0	43.0	42.0	38.0	35.0	35.0	35.0	35.0	38.8	0.0	38.8
	17	38.4	56.2	34.7	48.0	46.0	42.0	41.0	37.0	35.0	35.0	35.0	35.0	38.4	0.0	38.4
	18	36.5	48.2	34.7	42.0	41.0	39.0	38.0	37.0	35.0	35.0	35.0	35.0	36.5	0.0	36.5
	19	41.0	55.7	35.6	48.0	46.0	44.0	43.0	41.0	39.0	37.0	37.0	37.0	41.0	5.0	46.0
Evening	20	43.4	59.6	37.5	52.0	49.0	46.0	45.0	43.0	41.0	39.0	37.0	37.0	43.4	5.0	48.4
	21	44.9	60.7	36.4	54.0	51.0	49.0	48.0	43.0	41.0	38.0	37.0	37.0	44.9	5.0	49.9
Night	22	39.1	57.0	34.7	48.0	45.0	43.0	41.0	38.0	37.0	35.0	35.0	35.0	39.1	10.0	49.1
Might	23	38.4	55.0	34.7	45.0	43.0	40.0	39.0	37.0	37.0	35.0	35.0	35.0	38.4	10.0	48.4
Timeframe	Hour	L <sub>eq</sub>	L max	L min	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%		L <sub>eq</sub> (dBA)	
Day	Min	36.5	48.2	34.7	42.0	41.0	39.0	38.0	37.0	35.0	35.0	35.0	35.0	24-Hour	Daytime	Nighttime
,	Max	48.2	74.5	37.7	57.0	53.0	50.0	49.0	47.0	44.0	40.0	39.0	39.0	24-11001	Daytiiic	raigittiiiic
Energy /		45.3		rage:	52.2	49.6	46.8	45.1	40.9	38.2	35.8	35.6	35.5	45.1	45.0	45.2
Evening	Min	41.0	55.7	35.6	48.0	46.0	44.0	43.0	41.0	39.0	37.0	37.0	37.0			
ŭ	Max	44.9	60.7	37.5	54.0	51.0	49.0	48.0	43.0	41.0	39.0	37.0	37.0	24-	Hour CNEL (d	IBA)
Energy /		43.4		rage:	51.3	48.7	46.3	45.3	42.3	40.3	38.0	37.0	37.0	l		
Night	Min	38.4	50.2	34.7	45.0	43.0	40.0	39.0	37.0	37.0	35.0	35.0	35.0		51.8	
	Max	50.1	73.3	43.5	56.0	55.0	54.0	53.0	50.0	48.0	45.0	45.0	44.0	I	21.0	
Energy /	Average	45.2	Ave	rage:	49.1	47.9	46.0	44.9	42.8	41.6	39.9	39.8	39.4			



### 24-Hour Noise Level Measurement Summary L2 - Located north of the Project site on Mickelson Drive near Date: Wednesday, April 22, 2020 Location: JN: 12398 Meter: Piccolo II existing single-family residential homes. Project: Jack Rabbit Trail Development Analyst: P. Mara Hourly L eq dBA Readings (unadjusted) 80.0 80.0 75.0 70.0 65.0 65.0 60.0 6 o 66. Hourly 155.0 50.0 45.0 40.0 65 ∞ 58 9 6 6 6 8 38 40.0 35.0 0 1 2 3 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 **Hour Beginning** L2% Adj. L eq **Timeframe** Hour L eq L max L<sub>min</sub> L1% L5% L8% L25% L50% L90% L95% L99% Adj. $L_{eq}$ 38.0 43.8 34.3 43.4 43.1 42.1 41.4 38.5 36.6 34.8 34.6 34.4 38.0 10.0 48.0 0 1 45.9 56.1 37.8 55.8 55.5 53.8 51.5 42.7 40.3 38.6 38.3 38.0 45.9 10.0 55.9 2 42.6 47.1 46.3 51.7 37.4 50.8 49.3 42.4 39.8 37.9 37.7 37.5 42.6 10.0 52.6 Night 3 45.4 54.5 41.1 54.0 53.0 50.3 48.3 45.5 43.8 41.8 41.6 41.3 45.4 10.0 55.4 4 42.1 49.4 38.2 49.0 48.5 46.7 44.9 42.3 40.6 38.8 38.6 38.3 42.1 10.0 52.1 5 49.3 60.0 40.0 59.6 59.0 56.7 54.4 47.8 40.6 40.4 40.1 49.3 10.0 42.6 59.3 6 60.0 68.1 54.0 67.7 67.1 65.7 64.3 60.3 57.6 55.0 54.7 54.2 60.0 10.0 70.0 66.9 70.9 62.6 70.7 70.4 69.9 69.4 67.8 66.3 63.8 63.3 62.8 66.9 0.0 66.9 8 66.7 71.6 62.2 71.3 71.0 70.1 69.4 67.6 66.0 63.5 63.0 62.5 66.7 0.0 66.7 9 65.7 71.2 61.4 70.9 70.5 69.2 68.2 66.3 64.9 62.6 62.1 61.6 65.7 0.0 65.7 10 69.6 59.8 69.3 68.9 67.8 67.2 65.4 63.5 61.1 60.7 60.1 64.4 0.0 64.4 64.4 11 68.4 60.8 65.0 65.0 70.4 60.6 70.1 69.7 67.6 65.8 64.1 61.9 61.4 0.0 65.0 12 62.5 58.1 67.6 67.3 65.7 59.1 58.7 58.3 62.5 0.0 67.8 66.5 63.3 61.4 62.5 Day 13 65.2 69.5 61.3 69.2 68.9 68.2 67.6 66.1 64.7 62.4 62.0 61.5 65.2 0.0 65.2 69.2 58.9 68.9 68.6 66.9 60.2 59.7 59.1 14 64.0 67.6 65.0 63.0 64.0 0.0 64.0 15 52.8 64.9 62.8 53.0 58.8 58.8 67.2 66.9 66.3 58.8 56.6 54.0 53.5 0.0 58.8 16 54.6 67.3 40.2 66.6 65.7 63.0 59.5 50.0 45.9 40.8 40.3 54.6 0.0 41.4 54.6 17 47.9 58.2 36.0 57.7 56.9 54.6 53.1 47.5 43.1 37.6 36.9 36.2 47.9 0.0 47.9 18 46.9 57.3 34.5 56.7 56.1 54.5 52.7 45.9 40.9 35.6 35.2 34.6 46.9 0.0 46.9 19 47.9 57.3 37.7 56.8 56.3 54.8 53.3 47.6 43.6 39.1 38.6 37.9 47.9 5.0 52.9 Evening 20 48.2 57.4 37.4 57.1 56.8 55.5 54.2 47.4 43.3 38.6 38.0 37.6 48.2 5.0 53.2 46.8 53.7 53.3 52.8 50.6 47.7 45.0 42.4 42.0 41.5 5.0 21 41.4 51.7 46.8 51.8 22 44.4 52.3 39.9 52.0 51.5 49.9 48.2 44.1 42.4 40.6 40.4 40.0 44.4 10.0 54.4 Night 50.5 41.9 36.2 50.0 49.5 47.8 46.4 39.1 36.8 36.6 36.3 10.0 51.9 L1% L2% L5% L8% L25% L50% L90% L95% Lea (dBA) L99% Timeframe Hour $L_{eq}$ L max L min Min 46.9 57.3 34.5 56.7 56.1 54.5 52.7 45.9 40.9 35.6 35.2 34.6 24-Hour Day Daytime Nighttime Max 66.9 71.6 62.6 71.3 71.0 70.1 69.4 67.8 66.3 63.8 63.3 62.8 **Energy Average** 63.7 Average: 67.1 66.7 65.4 64.2 60.8 58.4 55.3 54.8 54.2 60.9 51.4 **62.7** 37.6 46.8 53.7 53.3 52.8 51.7 50.6 47.4 43.3 38.6 38.0 Min 37.4 Evening 24-Hour CNEL (dBA) 48.2 57.4 41.4 57.1 56.8 55.5 54.2 47.7 45.0 42.4 42.0 41.5 Max **Energy Average** 47.7 Average: 55.7 55.3 54.0 52.7 47.6 44.0 40.0 39.5 39.0 Min 38.0 43.8 34.3 43.4 43.1 42.1 41.4 38.5 36.6 34.8 34.6 34.4 62.3 Night 60.0 68.1 60.3 55.0 54.2 54.0 67.7 67.1 65.7 64.3 57.6 54.7



49.5

45.1

42.5

40.6

40.3

40.0

Average:

53.6

53.0

51.1

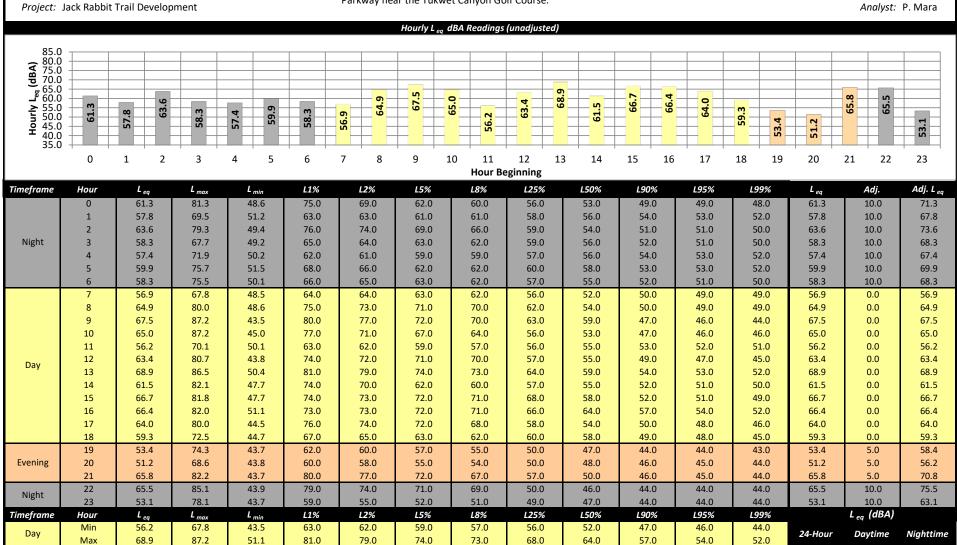
51.4

**Energy Average** 

### 24-Hour Noise Level Measurement Summary

L3 - Located north east of the Project site by Oak Valley Location:

Date: Wednesday, April 22, 2020 Meter: Piccolo I JN: 12398 Parkway near the Tukwet Canyon Golf Course.





64.3

24-Hour CNEL (dBA)

68.2

60.8

49.5

44.0

45.0

44.7

44.0

53.0

49.9

48.2

43.0

44.0

43.7

44.0

52.0

49.1

63.3

66.5

54.0

67.0

58.7

51.0

69.0

61.3

60.3

50.0

57.0

52.3

49.0

60.0

56.1

56.3

47.0

50.0

48.3

46.0

58.0

53.4

50.8

44.0

46.0

45.3

44.0

54.0

50.3

64.8

51.2

65.8

61.4

53.1

65.5

60.8

Average:

Average:

Average:

43.7

43.8

43.7

51.5

68.6

82.2

67.7

85.1

**Energy Average** 

**Energy Average** 

**Energy Average** 

Evening

Night

Min

Max

Min

Max

73.2

60.0

80.0

67.3

59.0

79.0

68.1

71.1

58.0

77.0

65.0

55.0

74.0

65.7

68.2

55.0

72.0

61.3

52.0

71.0

62.4

### 24-Hour Noise Level Measurement Summary L4 - located north east of the Project site on Olivewood near Date: Wednesday, April 22, 2020 Location: JN: 12398 Meter: Piccolo II the Olivewood housing community. Project: Jack Rabbit Trail Development Analyst: P. Mara Hourly L eq dBA Readings (unadjusted) 85.0 80.0 80.0 75.0 70.0 65.0 60.0 Hourly 155.0 50.0 45.0 40.0 0 ∞ 49.4 9 55 55 40, 33 8 84 40.0 35.0 0 1 2 3 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 **Hour Beginning Timeframe** Hour L eq L<sub>min</sub> L1% L2% L5% L8% L25% L50% L90% L95% L99% Adj. Adj. L eq L max $L_{eq}$ 40.7 46.4 38.3 46.1 45.6 44.0 42.8 38.7 38.5 38.3 40.7 10.0 50.7 0 40.9 39.8 1 45.0 49.6 42.3 49.3 48.9 47.8 47.0 45.7 44.4 42.9 42.7 42.5 45.0 10.0 55.0 2 41.2 48.5 38.1 48.1 47.8 45.9 44.4 40.7 39.5 38.5 38.3 38.1 41.2 10.0 51.2 Night 3 46.6 52.1 42.9 51.8 51.5 50.2 49.1 47.1 45.9 43.6 43.3 43.0 46.6 10.0 56.6 4 48.0 59.5 40.6 59.3 59.0 55.8 52.8 43.7 42.1 41.0 40.8 40.7 48.0 10.0 58.0 5 56.5 43.3 56.1 55.6 52.2 49.6 46.1 43.4 47.0 10.0 47.0 45.0 43.9 43.6 57.0 6 50.7 61.0 45.0 60.8 60.2 57.4 55.1 49.0 47.0 45.5 45.3 45.0 50.7 10.0 60.7 54.6 66.4 44.2 66.0 65.5 63.4 60.1 49.8 46.6 44.8 44.6 44.3 54.6 0.0 54.6 8 55.4 65.9 43.4 65.7 65.3 63.4 61.4 52.9 47.6 44.1 43.8 43.5 55.4 0.0 55.4 9 53.0 63.2 45.9 62.8 62.1 59.8 57.9 51.5 48.6 46.6 46.3 46.0 53.0 0.0 53.0 10 51.8 63.5 40.1 63.1 62.3 59.8 57.1 48.4 43.9 40.9 40.7 40.3 51.8 0.0 51.8 11 39.4 59.2 40.0 39.6 0.0 53.2 63.7 63.5 63.2 61.4 50.8 45.1 40.4 53.2 53.2 12 39.3 63.8 62.2 60.4 40.1 39.4 54.2 0.0 54.2 64.4 64.1 52.4 46.4 41.1 54.2 Day 13 54.8 65.6 42.1 65.3 64.9 62.7 60.6 52.8 47.4 43.1 42.7 42.3 54.8 0.0 54.8 14 53.5 64.5 63.7 58.2 47.9 44.7 65.0 44.6 61.0 50.7 45.5 45.2 53.5 0.0 53.5 15 41.4 67.7 66.9 63.1 59.5 49.5 42.3 41.5 55.1 0.0 55.1 68.1 45.3 41.9 55.1 16 40.6 53.2 65.0 40.4 64.6 64.0 62.0 59.0 48.1 44.5 41.5 41.0 53.2 0.0 53.2 17 52.8 63.8 38.6 63.4 62.8 60.7 58.8 49.9 44.0 39.8 39.3 38.8 52.8 0.0 52.8 18 48.0 59.7 38.2 59.2 58.4 55.4 52.7 45.7 41.9 39.1 38.7 38.3 48.0 0.0 48.0 19 46.2 54.5 41.0 54.1 53.7 52.1 50.6 45.6 43.7 41.8 41.5 41.1 46.2 5.0 51.2 Evening 20 48.9 60.4 41.8 59.6 58.7 56.2 53.1 46.7 44.8 42.6 42.3 41.9 48.9 5.0 53.9 46.6 42.7 53.3 52.6 50.7 49.2 46.9 45.4 43.5 43.2 42.8 46.6 5.0 21 53.7 51.6 22 49.4 54.7 46.4 54.5 54.0 52.4 51.4 49.7 48.8 47.1 46.9 46.6 49.4 10.0 59.4 Night 50.5 23 43.6 39.4 50.2 49.7 48.0 46.7 43.8 42.3 40.1 39.9 39.5 10.0 53.6 L1% L2% L5% L8% L25% L50% L90% L95% L99% Lea (dBA) Hour Timeframe $L_{eq}$ L max L min Min 48.0 59.7 38.2 59.2 58.4 55.4 52.7 45.7 41.9 39.1 38.7 38.3 24-Hour Day Daytime Nighttime Max 55.4 68.1 45.9 67.7 66.9 63.4 61.4 52.9 48.6 46.6 46.3 46.0 42.4 **Energy Average** 53.6 Average: 64.1 63.6 61.2 58.7 50.2 45.8 42.0 41.6 51.5 **52.9** 46.9 41.1 46.2 53.7 53.3 52.6 50.7 49.2 45.6 43.7 41.8 41.5 Min 41.0 Evening 24-Hour CNEL (dBA) 48.9 60.4 42.7 59.6 58.7 56.2 53.1 46.9 45.4 43.5 43.2 42.8 Max **Energy Average** 47.4 Average: 55.7 55.0 53.0 51.0 46.4 44.6 42.6 42.3 42.0 Min 40.7 46.4 38.1 46.1 45.6 44.0 42.8 40.7 39.5 38.5 38.3 38.1 55.1 Night 61.0 60.2 49.7 47.1 46.6 50.7 46.4 60.8 57.4 55.1 48.8 46.9



48.8

45.2

43.9

42.4

42.1

41.9

Average:

52.9

52.5

50.4

46.9

**Energy Average** 

# 24-Hour Noise Level Measurement Summary

L5 - Located in the southeast portion of the Project site on Location: Jack Rabbit Trail by the Hoy Ranch to the south.

### Date: Tuesday, November 24, 2020 Meter: Piccolo II JN: 12398 Project: Jack Rabbit Trail Development Analyst: P. Mara Hourly Lea dBA Readings (unadjusted) (dBA) Hourly Leq 0 43. 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 **Hour Beginning** Timeframe Hour L ea L max L min L1% L2% L5% L8% L25% L50% L90% L95% L99% L<sub>ea</sub> Adj. Adj. L ea 29.2 28.9 29.7 29.6 29.5 29.4 29.2 29.0 28.9 28.9 29.2 39.2 0 29.8 29.3 10.0 1 32.9 30.5 29.5 33.8 28.9 33.5 31.3 29.3 29.1 28.9 28.9 28.9 29.5 10.0 39.5 2 30.4 30.2 30.1 29.4 28.8 30.0 29.9 29.7 29.3 28.9 28.9 28.9 29.4 10.0 39.4 3 29.1 29.3 28.9 29.3 29.3 29.2 29.2 29.1 39.1 Night 29.0 29.0 28.9 28.9 29.1 10.0 4 29.2 29.9 29.0 29.8 29.8 29.6 29.5 29.3 29.2 29.1 29.0 29.0 29.2 10.0 39.2 5 29.8 32.1 29.3 31.6 31.2 30.7 30.4 30.0 29.6 29.4 29.4 29.3 29.8 10.0 39.8 6 30.5 32.8 29.7 32.4 32.1 31.7 31.3 30.7 30.3 29.9 29.9 29.8 30.5 10.0 40.5 32.5 38.9 30.2 38.1 37.2 35.7 34.9 32.7 31.4 30.5 30.4 30.3 32.5 0.0 32.5 8 29.5 30.4 35.7 34.6 33.5 31.8 31.3 30.5 30.0 29.6 29.6 29.5 30.4 0.0 30.4 9 30.1 33.9 29.0 33.3 32.8 32.0 31.6 30.4 29.7 29.2 29.1 29.1 30.1 0.0 30.1 10 42.3 50.9 34.4 50.6 50.4 49.6 48.7 40.9 37.6 35.3 35.0 42.3 42.3 34.6 0.0 11 44.3 55.1 34.4 55.0 54.4 51.2 48.5 43.1 39.8 35.6 35.0 34.5 44.3 0.0 44.3 46.0 12 55.1 35.0 54.6 54.1 52.5 51.1 46.4 41.9 36.2 35.6 35.1 46.0 0.0 46.0 Day 13 43.0 48.3 39.0 48.0 47.6 46.4 45.7 43.9 42.0 39.8 39.5 39.1 43.0 0.0 43.0 14 43.7 52.2 39.4 51.2 48.8 46.7 51.6 43.3 42.0 40.3 39.9 39.5 43.7 0.0 43.7 15 44.2 50.9 40.5 49.9 49.0 47.6 46.7 44.9 43.3 41.4 41.0 40.6 44.2 0.0 44.2 16 46.1 71.2 42.6 70.8 69.6 66.4 62.0 48.5 45.4 43.5 43.1 42.8 46.1 0.0 46.1 17 47.5 52.1 44.6 51.9 51.5 50.6 50.0 48.1 46.8 45.3 45.1 47.5 47.5 44.8 0.0 18 47.8 52.5 44.0 52.2 51.8 50.9 50.4 48.6 47.2 45.0 44.6 44.2 47.8 0.0 47.8 19 48.0 44.9 51.7 52.2 51.9 50.8 50.1 48.6 47.4 45.7 45.4 45.0 48.0 5.0 53.0 20 47.0 50.9 50.5 49.7 47.7 **Evening** 51.2 44.0 49.2 46.5 44.8 44.5 44.1 47.0 5.0 52.0 21 49.8 49.6 49.3 48.3 47.6 46.0 44.7 42.7 42.2 5.0 50.3 45.3 41.6 41.8 45.3 22 49.4 45.0 41.7 49.1 48.7 47.9 47.4 45.7 44.5 42.6 42.2 41.8 45.0 10.0 55.0 Night 23 46.0 52.6 41.0 52.3 52.0 50.9 50.0 44.5 42.1 10.0 56.0 46.0 41.7 41.1 46.0 L<sub>eq</sub> (dBA) **Timeframe** Hour $L_{eq}$ L max $L_{min}$ L1% L2% L5% L8% L25% L50% L90% L95% L99% Min 30.1 33.9 29.0 33.3 32.8 31.8 31.3 30.4 29.7 29.2 29.1 29.1 24-Hour Daytime Day Nighttime 47.8 71.2 44.6 70.8 69.6 66.4 62.0 48.6 47.2 45.3 45.1 44.8 Max 44.2 49.2 48.6 47.0 45.6 41.8 39.8 37.6 37.3 37.0 **Energy Average** Average: 43.5 39.4 44.9 45.3 49.6 49.3 46.0 41.8 49.8 48.3 47.6 44.7 42.7 42.2 Min 41.6 Evening 24-Hour CNEL (dBA) Max 48.0 52.2 44.9 51.9 51.7 50.8 50.1 48.6 47.4 45.7 45.4 45.0 46.9 50.8 50.5 49.6 49.0 47.5 46.2 44.4 44.0 43.6 **Energy Average** Average 29.1 28.9 Min 29.3 28.8 29.3 29.3 29.2 29.2 29.1 29.0 28.9 28.9 48.1 Night



41.8

31.8

50.0

34.2

46.0

33.2

44.5

32.7

42.6

32.1

42.2

32.0

52.6

Average:

41.7

52.3

35.3

52.0

35.1

50.9

34.5

46.0

39.4

Max

**Energy Average** 

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## **APPENDIX 7.1:**

**OFF-SITE TRAFFIC NOISE CONTOURS** 



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	FHV	VA-RD-77-108	HIGH	1 YAWH	NOISE P	REDICT	ION MO	DDEL				
Road Na	ario: Existing Wit me: Potrero Bl. ent: s/o Oak Val	-					t Name: lumber:		abbit Trail	Develop	1	
	SPECIFIC IN	PUT DATA							L INPUT	s		
Highway Data					Site Cor	nditions	(Hard :	= 10, So	ft = 15)			
Average Dail	y Traffic (Adt):	2,232 vehicle	es					Autos:	15			
Peak Hou	ır Percentage:	8.33%			Me	edium Tr	rucks (2	Axles):	15			
Peak	Hour Volume:	186 vehicles	S		He	eavy Tru	icks (3+	Axles):	15			
\	/ehicle Speed:	40 mph		F	Vehicle	Mix						
Near/Far L	.ane Distance:	78 feet				icleType	9	Dav	Evening	Niaht	Dailv	
Site Data							Autos:	77.5%	-	9.6%	91.81%	
В	arrier Height:	0.0 feet			М	ledium T	rucks:	84.8%	4.9%	10.3%	2.52%	
Barrier Type (0-		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	5.67%	
Centerline L	Dist. to Barrier:	67.0 feet		H	Noise S	ource F	levatio	ns (in fe	et)			
Centerline Dis	t. to Observer:	67.0 feet		i i		Auto		0.000				
Barrier Distance	e to Observer:	0.0 feet			Mediu	ım Truck		2.297				
Observer Heigh	t (Above Pad):	5.0 feet				vy Truck		3.004	Grade Ad	iustment	. 0.0	
	Pad Elevation:	0.0 feet			1100	vy mach	C		0/440/14	Juotimom	. 0.0	
R	oad Elevation:	0.0 feet			Lane Eq	uivalen	t Distar	nce (in t	n feet)			
	Road Grade:	0.0%				Auto	s: 54	1.708				
	Left View:	-90.0 degree	es		Medium Trucks: 54.546							
	Right View:	90.0 degree	es		Hea	vy Truck	rs: 54	1.562				
FHWA Noise Mo	del Calculations	3										
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	inel	Barrier Att	en Ber	m Atten	
Autos	66.51	-9.00		-0.6	9	9 -1.20		-4.71	0.0	000	0.000	
Medium Trucks	s: 77.72	-24.62		-0.6	7	-1.20		-4.88	0.0	000	0.000	
Heavy Trucks	82.99	-21.10		-0.6	7	-1.20		-5.29	0.0	000	0.000	
Unmitigated Noi	, ,											
VehicleType	Leq Peak Hou		_	Leq E	vening		Night		Ldn	_	NEL	
Autos		-	54.5		52.7		46		55.3	-	55.9	
Medium Trucks		_	50.5		44.2			42.6 51.1		51.3		
Heavy Trucks			59.4		50.4					60.0 6		
Vehicle Noise: 61.8 61.0 55.1						53	.2	61.6	5	61.9		
Centerline Dista	nce to Noise Co	ntour (in feet)	)	70	dBA	e e	dBA	-	0 dBA	FE	dBA	
			Ldn:	70	ава 19	05	aba 4		<i>U abA</i> 86		186	
			VEL:					-			186	
		Ci	¥4.L.		19 42 90				193			

	o: Existing Wi e: California A nt: n/o 6th St.							Jack R 12398	tabbit Trail	Develop	
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data				S	ite Cor	ditions	(Hard				
Average Daily 1	Traffic (Adt):	1,908 vehic	les					Autos:			
Peak Hour F		8.33%				edium Tr		,			
Peak Ho	our Volume:	159 vehicle	es		He	eavy Tru	cks (3+	Axles):	15		
	nicle Speed:	40 mph		ν	'ehicle	Mix					
Near/Far Lan	ne Distance:	12 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	91.81%
Barr	rier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	2.52%
Barrier Type (0-Wa		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	5.67%
Centerline Dis		33.0 feet			laina C	ource E	lovetio	na (in f	204)		
Centerline Dist. t	to Observer:	33.0 feet		^	ioise si	Auto		•	ei)		
Barrier Distance t	o Observer:	0.0 feet			A 4 17:-	m Truck		0.000 2.297			
Observer Height (A	Above Pad):	5.0 feet						3.004	Grade Ad	iustmant	. 0 0
Pa	Pad Elevation: 0.0 feet					vy Truck	s. c	5.004	Orace Au	Justinent	. 0.0
Roa	Road Elevation: 0.0 feet					uivalen	t Distar	nce (in :	feet)		
R	Road Grade:	0.0%				Auto	s: 32	2.833			
	Left View:	-90.0 degre	ees		Mediu	m Truck	s: 32	2.562			
	Right View:	90.0 degre	ees		Hea	vy Truck	s: 32	2.589			
FHWA Noise Mode	l Calculation:			'							
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		m Atten
Autos:	66.51	-9.68	-	2.64		-1.20		-4.52		000	0.00
Medium Trucks:	77.72	-25.30		2.69		-1.20		-4.86		000	0.00
Heavy Trucks:	82.99	-21.78		2.69		-1.20		-5.69	0.0	000	0.00
Unmitigated Noise								_		1	
	Leq Peak Hou		,	Leq Ev			Night		Ldn		NEL
Autos:	58		57.2 53.2		55.4		49		58.0		58.
					46.8		45		53.		54.
Heavy Trucks: 62.7 62.1					53.0		54 55		62.6	-	62. 64.
Vehicle Noise: 64.4 63.7					57.7		55	.9	64.	3	64.
Centerline Distance	e to Noise Co	ntour (in fee	t)	70 d	'BA	65	dBA	-	SO dBA	55	dBA
			Ldn:	,,,	14	1 00		0	64		138
	Ldn: CNEL:					14 30 64			143		

	o: Existing W e: Oak Valley at: e/o Potrero	Pkwy.						Jack R 12398	abbit Trail	Develop	
	SPECIFIC IN	IPUT DATA			Site Cor				L INPUT	S	
Highway Data					Site Cor	aitions	(Hara				
Average Daily	. ,	4,788 vehicle	es					Autos:	15		
Peak Hour I	-	8.33%				edium Tr			15		
	our Volume:	399 vehicle	S		He	avy Tru	cks (3+	Axles):	15		
	nicle Speed:	50 mph		1	Vehicle	Mix					
Near/Far Lar	ne Distance:	80 feet			Veh	icleType	,	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	91.819
Ran	rier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	2.529
Barrier Type (0-Wa	-	0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	5.679
Centerline Dis	t. to Barrier:	60.0 feet		-	Noise S	ouroe E	lovetio	na (in fe	net)		
Centerline Dist. t	to Observer:	60.0 feet			worse 3	Auto		0.000	el)		
Barrier Distance t	o Observer:	0.0 feet			A de elle	Auto m Truck		2.297			
Observer Height ()	Above Pad):	5.0 feet						3.004	Grade Ad	iuatmant	0.0
Pa	d Elevation:	0.0 feet			неа	y Truck	S: 6	3.004	Grade Adj	iusimeni.	0.0
Roa	0.0 feet		1	Lane Eq	uivalen	t Distai	nce (in i	eet)			
F	Road Elevation: 0.0 fee Road Grade: 0.0%					Auto	s: 45	5.000			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 44	1.803			
	Right View:	90.0 degre	es		Hea	y Truck	s: 44	1.822			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	snel	Barrier Att	en Ber	m Atten
Autos:	70.20	-6.66		0.5	8	-1.20		-4.69	0.0	000	0.00
Medium Trucks:	81.00	-22.27		0.6	1	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	85.38	-18.75		0.6	1	-1.20		-5.34	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barri	er atten	uation)						
VehicleType	Leq Peak Ho	ur Leq Day	/	Leg E	vening	Leq	Night		Ldn	CI	VEL
Autos:	62	2.9	61.8		60.1		54		62.6	3	63.
Medium Trucks:		3.1	57.4		51.1		49	.0	58.0	-	58.
			65.4		56.4		57		66.0		66.
Vehicle Noise: 68.2 67.4					62.0 59.6 68.1			1	68.		
Centerline Distanc	e to Noise C	ontour (in feet	)	70			<b></b>				
				70 0		65	dBA		i0 dBA		dBA
		_	Ldn:		45 47		9 10	-	207		44
	CNEL								216 46		

Thursday, September 2, 2021

	FHWA	A-RD-77-108 H	IIGHWA	Y NOISE P	REDICTI	ON MODEL		
Scenario:   Road Name: 4 Road Segment: 6		•				Name: Jack umber: 1239	Rabbit Trail I 8	Develop
SITE SPI	ECIFIC INP	UT DATA			N	OISE MOD	EL INPUTS	3
Highway Data				Site Cor	nditions	(Hard = 10, S	Soft = 15)	
Average Daily Tra Peak Hour Pei Peak Hour	centage:	3,744 vehicles 8.33% 312 vehicles 40 mph		He	eavy Truc	Auto icks (2 Axles ks (3+ Axles	s): 15	
Near/Far Lane I		48 feet		Vehicle				
	Jistarice.	40 1661		Veh	nicleType			Night Daily
Site Data						lutos: 77.5		9.6% 91.81%
Barrie	r Height:	0.0 feet			ledium Ti			10.3% 2.52%
Barrier Type (0-Wall,	1-Berm):	0.0			Heavy Ti	ucks: 86.5	% 2.7%	10.8% 5.67%
Centerline Dist. to	o Barrier:	59.0 feet		Noise S	ource Fl	evations (in	feet)	
Centerline Dist. to C	Observer:	59.0 feet		110,000	Auto:	-	7000)	
Barrier Distance to C	Observer:	0.0 feet		Modiu	ım Truck:	0.000		
Observer Height (Abo	ove Pad):	5.0 feet			vy Truck		Grade Adi	ustment: 0.0
Pad E	levation:	0.0 feet		7700	vy mack	s. 0.00 <del>-1</del>		
Road E	levation:	0.0 feet		Lane Eq	uivalent	Distance (ii	n feet)	
Roa	d Grade:	0.0%			Auto	54.129		
L	.eft View:	-90.0 degrees			ım Truck			
Ri	ght View:	90.0 degrees		Hea	vy Truck	53.982		
FHWA Noise Model C	alculations							
VehicleType I	REMEL 7	raffic Flow	Distanc	e Finite	Road	Fresnel	Barrier Atte	en Berm Atten
Autos:	66.51	-6.76	-1	0.62	-1.20	-4.6	9 0.0	0.000
Medium Trucks:	77.72	-22.37	-1	0.60	-1.20	-4.8	8 0.0	0.000
Heavy Trucks:	82.99	-18.85	-	0.60	-1.20	-5.3	5 0.0	0.000
Unmitigated Noise Le	vels (withou	t Topo and b	arrier at	tenuation)				
VehicleType Led	g Peak Hour	Leq Day	Lec	Evening	Leq	Night	Ldn	CNEL
Autos:	57.9	56	6.8	55.1		49.0	57.6	58.2
Medium Trucks:	53.5	52	2.8	46.5	i	44.9	53.4	53.6
Heavy Trucks:	62.3	6	1.7	52.7	,	53.9	62.3	62.4
Vehicle Noise:	64.1	63	3.3	57.4		55.5	64.0	64.2
Centerline Distance to	o Noise Con	tour (in feet)					00 (04	55 (0.4
				70 dBA	65	dBA	60 dBA	55 dBA
		_	dn:	23		50	108	233
		CNE	=L:	24		52	113	243

	FHV	VA-RD-77-108	HIGI	1 YAWH	IOISE P	REDICT	TION MO	ODEL			
Road Nam	io: Existing Wine: 4th St. nt: e/o Veile Av	•					t Name: Number:		Rabbit Trail	Develop	•
	SPECIFIC IN	PUT DATA			a:. a				L INPUT	S	
Highway Data					Site Cor	naitions	(Hara				
Average Daily	. ,	1,746 vehicle	es					Autos:			
	Percentage:	8.33%				edium Ti		,			
	lour Volume:	145 vehicle	S		He	eavy Tru	icks (3+	Axles):	15		
	hicle Speed:	40 mph		1	Vehicle	Mix					
Near/Far La	ne Distance:	36 feet			Veh	icleTyp	е	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	91.81%
Bai	rrier Heiaht:	0.0 feet			M	ledium 1	rucks:	84.8%	4.9%	10.3%	2.52%
Barrier Type (0-W		0.0				Heavy 1	rucks:	86.5%	2.7%	10.8%	5.67%
Centerline Dis		44.0 feet			Noise S	ource E	levatio	ns (in f	eet)		
Centerline Dist.		44.0 feet				Auto		0.000	,		
Barrier Distance		0.0 feet			Mediu	m Truck		2.297			
Observer Height (	,	5.0 feet 0.0 feet			Hea	vy Truck	ks: 8	3.004	Grade Ad	justment	0.0
	Pad Elevation: 0.0 feet Road Elevation: 0.0 feet				Lane Eq	uivalen	t Distar	nce (in	feet)		
	Road Grade:	0.0%				Auto		1.460	,		
	Left View:	-90.0 degree	es		Mediu	m Truck		).241			
	Right View:	90.0 degree			Hea	vy Truck	ks: 40	0.262			
FHWA Noise Mode	el Calculations	s									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	inel	Barrier Att	en Bei	m Atten
Autos:	66.51	-10.07		1.2	8	-1.20		-4.61	0.0	000	0.000
Medium Trucks:	77.72	-25.69		1.3	1	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	82.99	-22.16		1.3	1	-1.20		-5.50	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barri	er atten	uation)						
VehicleType	Leq Peak Hou	r Leq Day	/	Leq E	vening	Leg	Night		Ldn	C	NEL
Autos:	56		55.4		53.6		47		56.	_	56.8
	Medium Trucks: 52.1 51.				45.1		43		52.	-	52.2
Heavy Trucks: 60.9 60.3					51.3 52.5 60.9			-	61.0		
Vehicle Noise:	Vehicle Noise: 62.7 61.9				56.0	)	54	.1	62.	6	62.8
Centerline Distance	ce to Noise Co	ntour (in feet	)	70 -	70 dBA 65 dBA 60 dBA 55 d			dBA			
			Ldn:	700	лом 14	00	<i>и</i> БА 3		65 65		140
					15						140
	CNEL:				15 31 68			140			

Thursday,	September	2,	2021

	FHW	/A-RD-77-108	HIG	HWAY N	OISE P	REDICT	ION M	ODEL			
Road Nan	rio: Existing Wit ne: 4th St. nt: w/o Potrero	,						Jack F 12398	Rabbit Trail	Develop	)
	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data				S	ite Cor	ditions	(Hard	= 10, S	oft = 15)		
Peak F Ve	Percentage: Hour Volume: Phicle Speed:	162 vehicle 8.33% 13 vehicle 40 mph	-	ν		dium Tr avy Tru <b>Mix</b>		,	15		
Near/Far La	ne Distance:	12 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	91.81%
Ra	rrier Heiaht:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	2.52%
Barrier Type (0-V		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	5.67%
Centerline Di	ist. to Barrier:	33.0 feet		۸	loise S	ource E	levatio	ns (in f	eet)		
Centerline Dist.		33.0 feet				Auto		0.000	,		
Barrier Distance		0.0 feet			Mediu	m Truck	s: 2	2.297			
Observer Height	,	5.0 feet			Hear	y Truck	s: 8	3.004	Grade Ad	justmen	t: 0.0
	ad Elevation:	0.0 feet		-							
	ad Elevation:	0.0 feet		L	Lane Equivalent Distance (in feet)  Autos: 32.833						
	Road Grade:	0.0%			4.4	Auto m Truck					
	Left View:	-90.0 degree					0.	2.562			
	Right View:	90.0 degree	es		неа	y Truck	S: 32	2.589			
FHWA Noise Mod								,			
VehicleType	REMEL	Traffic Flow	Di	stance		Road	Fres		Barrier Att		rm Atten
Autos:		-20.40		2.64		-1.20		-4.52		000	0.000
Medium Trucks:		-36.01		2.69		-1.20 -1.20		-4.86		000	0.000
Heavy Trucks:		-32.49		2.69		-1.20		-5.69	0.0	000	0.000
Unmitigated Nois			-		_						
VehicleType	Leq Peak Hour			Leq Ev			Night		Ldn		NEL
Autos: 47.6 46.4					44.7		38		47.2	_	47.9
Medium Trucks: 43.2 42.5					36.1 34.6 43.0			-	43.3		
Heavy Trucks: Vehicle Noise:			51.4 53.0		42.3 43.6 51.9 47.0 45.2 53.6			52.1 53.9			
Centerline Distan	ce to Noise Co	ntour (in feet	)								
		,,		70 d	BA	65	dBA	-	60 dBA	55	dBA

Scenario: Existing Road Name: Potrero	BI.	•				Project N Job Nui			abbit Trail	Develop	1
Road Segment: s/o Oal		, ,									
SITE SPECIFION Highway Data	CINI	PUT DATA			Site Con	ditions (F			L INPUT ft = 15)	5	
Average Daily Traffic (Ad	t):	2.836 vehicles	3			•		lutos:	15		
Peak Hour Percentag	,	8.33%			Med	dium Truc	ks (2 A	xles):	15		
Peak Hour Volum		236 vehicles				avy Truck		,	15		
Vehicle Spee	d:	40 mph			/ehicle N	· ·					
Near/Far Lane Distant	e:	78 feet		,		cleType		Dav	Evening	Night	Daily
Site Data					VOIII			77.5%		9.6%	,
		0.0 feet			Me	edium Tru		34.8%		10.3%	
Barrier Heigl Barrier Type (0-Wall, 1-Bern		0.0 reet 0.0				leavy Tru		36.5%		10.8%	
Centerline Dist. to Barri	,	67.0 feet		L		,					
Centerline Dist. to Observe		67.0 feet		1	Voise So	urce Ele		•	eet)		
Barrier Distance to Observe		0.0 feet				Autos:					
Observer Height (Above Pa		5.0 feet				n Trucks:					
Pad Elevation	,	0.0 feet			Heav	y Trucks:	8.0	04	Grade Ad	ustment	. 0.0
Road Elevation	0.0 feet		L	ane Equ	ıivalent E	istanc	e (in f	eet)			
Road Grad	0.0%				Autos:	54.7	'08				
Left Vie	w:	-90.0 degrees	3		Mediur	n Trucks:	54.5	46			
Right Vie	W.	90.0 degrees	3		Heav	y Trucks:	54.5	62			
FHWA Noise Model Calcula	tions										
VehicleType REMEL		Traffic Flow	Dist	ance	Finite	Road	Fresne	el .	Barrier Att	en Bei	rm Atter
	5.51	-7.88		-0.69		-1.20		4.71		000	0.0
	7.72	-24.62		-0.67		-1.20		4.88		000	0.0
Heavy Trucks: 82	2.99	-21.10		-0.67	7	-1.20		5.29	0.0	000	0.0
Unmitigated Noise Levels (			_								
VehicleType Leq Peak				Leg Ev	_	Leq N			Ldn		NEL
Autos:	56.		5.6		53.9		47.8		56.4		57
Medium Trucks:	51.		0.5		44.2		42.6		51.		51
Vehicle Noise: 60.0			9.4		50.4		51.6		60.0		62
Vehicle Noise:			1.3		55.8		53.5		61.9	9	62
Centerline Distance to Nois	e Coi	ntour (in feet)		70 c	IRA	65 dF	84	6	i0 dBA	55	dBA
				, , ,		30 UL	,, ,		0 00/1	- 00	
		1	dn:		19		42		90		19

	FHV	VA-RD-77-108	HIGH	WAY N	OISE PI	REDICTI	ON M	DDEL			
Road Na	ario: Existing + F me: California A ent: n/o 6th St.							Jack F 12398	Rabbit Trail	Develop	1
SITE Highway Data	SPECIFIC IN	PUT DATA			Site Con	N ditions (			L INPUT	s	
Average Dail Peak Hou Peak V	y Traffic (Adt): ir Percentage: Hour Volume: 'ehicle Speed:	2,029 vehicle: 8.33% 169 vehicles 40 mph			Ме	edium Tru eavy Truc	cks (2	Autos Axles)	: 15 : 15		
Near/Far L	ane Distance:	12 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data  B Barrier Type (0-	arrier Height: Wall, 1-Berm):	0.0 feet 0.0				A edium Tr Heavy Tr		77.59 84.89 86.59	6 4.9%		2.37%
Centerline L	Dist. to Barrier:	33.0 feet		,	Inica Si	ource Ele	vatio	ne (in f	oot)		
Centerline Dis Barrier Distance Observer Height	e to Observer:	33.0 feet 0.0 feet 5.0 feet 0.0 feet			Mediu	Autos m Trucks /y Trucks	: 0 : 2	0.000 2.297 3.004	Grade Ad	ljustment	: 0.0
R	Road Elevation:			L	ane Eq	uivalent	Distai	nce (in	feet)		
	Road Grade: ( Left View:		s s			Autos m Trucks yy Trucks	: 32	2.833 2.562 2.589			
FHWA Noise Mo	del Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	ad Fresnel		Barrier Att	ten Bei	m Atten
Autos	: 66.51	-9.40		2.64	1	-1.20	-4.52		0.	000	0.000
Medium Trucks	: 77.72	-25.30		2.69	9	-1.20		-4.86	0.	000	0.000
Heavy Trucks	82.99	-21.78		2.69	9	-1.20		-5.69	0.	000	0.000
Unmitigated Noi:	se Levels (with	out Topo and b	arrie	r atten	uation)						
VehicleType	Leq Peak Hou			Leq Ev		Leq I			Ldn		NEL
Autos			7.4		55.7		49		58.	-	58.9
Medium Trucks			3.2		46.8		45		53.		54.0
Heavy Trucks Vehicle Noise			32.1		53.0 57.9		54 56		62.	-	62.8
	Venicie Noise: 64.5 63.8  Centerline Distance to Noise Contour (in feet)				37.3				04.		04.0
Centeriine Distai	ice to Noise Co	ntour (in feet)	Т	70 c	IBA	65 c	iBA	T	60 dBA	55	dBA
		L	.dn:		14		3		65	5	139
	Ld CNE				14 31 67			145			

nursday, September 2, 2021

Autos: 77.5% 12.9% 9.6% 92.7		FHW	A-RD-77-108	HIGH	HWAY N	OISE P	REDICT	ION MO	DDEL			
Average Daily Traffic (Adt): 5,392 vehicles	Road Nan	ne: Oak Valley F	kwy.							abbit Trail	Develop	1
Average Daily Traffic (Adt): 5,392 vehicles   Peak Hour Percentage: 8,33%   Medium Trucks (2 Axles): 15   Heavy Trucks (2 Axles): 15		SPECIFIC INI	OUT DATA			N:4- O					S	
Peak Hour Percentage: 8.33%   Medium Trucks (2 Axles): 15   Heavy Trucks (3 + Axles): 15	• •				2	site Cor	aitions	(Hara :				
Peak Hour Volume: Vehicle Speed: 50 mph   Solution   Vehicle Mix   Vehicle Mix   Vehicle Mix   Vehicle Type   Day   Evening   Night   Day   Site Data   Autos: 77.5%   12.9%   9.6%   92.7   Medium Trucks: 84.8%   4.9%   10.3%   2.2   Medium Trucks: 84.8%   4.9%   10.3%   2.2   Medium Trucks: 86.5%   2.7%   10.8%   5.0   Medium Trucks: 86.5%   2.7%   10.8%   5.0   Medium Trucks: 8.00   Medium		. ,	-,	s								
Vehicle Speed: Near/Far Lane Distance: 80 feet   Vehicle Mix   Vehicle Type   Day   Evening   Night   Day   Day									,			
Near/Far Lane Distance:   80 feet     VehicleType   Day   Evening   Night   Dai						He	avy Tru	cks (3+	Axles):	15		
Site Data	Ve	ehicle Speed:	50 mph		١	/ehicle	Mix					
Barrier Height:   0.0 feet   Barrier Type (0-Wall, 1-Berm):   0.0   Heavy Trucks: 86.5%   2.7%   10.8%   5.0	Near/Far La	ane Distance:	80 feet		F	Veh	icleType		Day	Evening	Night	Daily
Barrier Teger (C-Wall, 1-Berm): 0.0   Heavy Trucks: 86.5% 2.7% 10.8% 5.0	Site Data							Autos:	77.5%	12.9%	9.6%	92.73%
Barrier Type (0-Wall, 1-Berm): 0.0   Centerline Dist. to Barrier: 60.0 feet   Centerline Dist. to Observer: 60.0 feet   Barrier Distance to Observer: 0.0 feet   Autos: 0.000   Medium Trucks: 2.297   Heavy Trucks: 8.004   Grade Adjustment: 0.0 feet   Autos: 45.000   Centerline Distance of Observer: 0.0 f	Ra	rrier Heiaht	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	2.24%
Noise Source Elevations (in feet)	Barrier Type (0-V	Vall, 1-Berm):	0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	5.03%
Barrier Distance to Observer: 0.0 feet   Comparison of C						loise S	ource E	levatio	ns (in fe	eet)		
Diserver Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0 feet Road Grade: 0.0 feet Pad Left View: -90.0 degrees Right View: 90.0 degrees Pad View: -90.0 degrees Pad View: 44.803 Heavy Trucks: 44.803 Heavy Trucks: 44.822   Phi Noise Model Calculations	Centerline Dist.	to Observer:	60.0 feet				Auto	s: 0	.000	,		
Distance   Female   Trucks   Source   Heavy Trucks   Source   Source   Heavy Trucks   Source   Source   Source   Heavy Trucks   Source	Barrier Distance	to Observer:				Mediu	m Truck	s: 2	297			
Pad Elevation: 0.0 feet   Lane Equivalent Distance (in feet)	Observer Height	(Above Pad):	5.0 feet							Grade Ad	liustment	0.0
Road Grade: 0.0%	P						•				,	
Left View: -90.0 degrees   Medium Trucks: 44.803	Ro	ad Elevation:						feet)				
Right View: 90,0 degrees   Heavy Trucks: 44.822		Road Grade:	0.0%				Auto	s: 45	.000			
FHWA Noise Model Calculations		Left View:	-90.0 degree	:S								
VehicleType         REMEL         Traffic Flow         Distance         Finite Road         Fresnel         Barrier Atten         Berm Att           Autos:         70.20         -6.10         0.58         -1.20         -4.69         0.000         0.		Right View:	90.0 degree	!S		Heavy Trucks: 44.822						
Autos: 70.20 -6.10 0.58 -1.20 -4.69 0.000 0.	FHWA Noise Mod	el Calculations										
	• • • • • • • • • • • • • • • • • • • •			Dis		e Finite Road Fresnel Barrier Atten						
Medium Trucks: 81.00 -22.27 0.61 -1.20 -4.88 0.000 0.												0.000
	Medium Trucks:		-22.27				-1.20		-4.88			0.000
							-1.20		-5.34	0.0	000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)									1			
VehicleType         Leq Peak Hour         Leq Day         Leq Evening         Leq Night         Ldn         CNEL           Autos:         63.5         62.4         60.6         54.6         63.2         6					Leq Ev				_			NEL 63.8
			-						-		_	58.2
									-		-	58.2 66.1
		Vehicle Noise: 68.4 67.6						59	.0	68.2	۷	68.5
Centerline Distance to Noise Contour (in feet)           70 dBA         65 dBA         60 dBA         55 dBA	Centerline Distan	ce to Noise Cor	ntour (in feet)		70.0	IRA	65	dBA	-	O dBA	55	dBA
77 727   77 727   77 727				Ldn:	,,,,							458
10 00 210												479

	FH	WA-RD-77-108	HIGH	IWAY N	OISE P	REDICT	TION MODE	L		
Scenari Road Name Road Segmen	e: 4th St.	Project Phase	1				t Name: Jac Number: 123	k Rabbit Trail 98	Develop	
SITE S	SPECIFIC II	IPUT DATA					NOISE MO	DEL INPUT	s	
Highway Data				5	Site Cor	ditions	(Hard = 10,	Soft = 15)		
	Traffic (Adt): Percentage: our Volume:	4,972 vehicl 8.33% 414 vehicle					Auto rucks (2 Axle icks (3+ Axle	s): 15		
Vel	hicle Speed:	40 mph		1	/ehicle	Mix				
Near/Far Lar	ne Distance:	48 feet		F		icleType	e Da	y Evening	Night	Daily
Site Data								5% 12.9%	9.6%	
Par	rier Height:	0.0 feet			M	edium 7	rucks: 84.	8% 4.9%	10.3%	4.15%
Barrier Type (0-W		0.0				Heavy 7	rucks: 86.	5% 2.7%	10.8%	7.29%
Centerline Dis	t. to Barrier:	59.0 feet			loise S	ource F	levations (ii	n feet)		
Centerline Dist. t	to Observer:	59.0 feet		Ė	.0.00	Auto				
Barrier Distance t	to Observer:	0.0 feet			Modiu	m Truck	0.000			
Observer Height (	Above Pad):	5.0 feet				vy Truck			iuetmant	. 0 0
Pa	d Elevation:	0.0 feet			пеа	vy IIucr	15. 0.004	Orace Au	asancin	. 0.0
Roa	Road Elevation: 0.0 feet						t Distance (	in feet)		
F	Road Grade:	0.0%				Auto	os: 54.129			
	Left View:	-90.0 degre	es		Mediu	m Truck	ks: 53.966			
	Right View:	90.0 degre	es		Hea	vy Truck	ks: 53.982			
FHWA Noise Mode	l Calculation	s								
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresnel	Barrier Atte	en Ber	m Atten
Autos:	66.51	-5.68		-0.62	2	-1.20	-4.0	59 0.0	000	0.000
Medium Trucks:	77.72	-18.97		-0.60	)	-1.20	-4.6	88 0.0	000	0.000
Heavy Trucks:	82.99	-16.53		-0.60	)	-1.20	-5.	35 0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrie	er atten	uation)					
VehicleType	Leq Peak Ho	ur Leq Daj		Leq Ev	ening	Leq	Night	Ldn		NEL
Autos:		9.0	57.9		56.1		50.1	58.7		59.3
Medium Trucks:		3.9	56.2		49.9		48.3	56.8	-	57.0
Heavy Trucks:		1.7	64.0		55.0		56.2	64.6		64.7
Vehicle Noise:	66	3.2	65.5		59.2		57.7	66.1	1	66.4
Centerline Distanc	e to Noise C	ontour (in feet	)							
			L	70 a		65	dBA	60 dBA		dBA
			Ldn:		33		70	151		326
		CNEL					34 73 157			338

Scenario. Road Name. Road Segment.	4th St.	Project Phase 1	1				Name: lumber:		Rabbit Trail	Develop	
SITE S	PECIFIC IN	IPUT DATA			Site Con				L INPUT	S	
Average Daily Ti Peak Hour P Peak Ho	ercentage: ur Volume: cle Speed:	2,843 vehicle 8.33% 237 vehicle 40 mph 36 feet			Me He Vehicle I	dium Tr avy Tru <b>Vlix</b>	ucks (2 cks (3+	Autos Axles). Axles).	15 15 15		
	Biotarioo.	00 1001			Vehi	cleType		Day	Evening	Night	Daily
Site Data  Barrier Type (0-Wa	ier Height:	<b>0.0 feet</b> 0.0				edium T Heavy T		77.5% 84.8% 86.5%	6 4.9%	9.6% 10.3% 10.8%	3.529
Centerline Dist.	to Barrier:	44.0 feet		1	Voise So	urce El	evatio	ns (in f	eet)		
	Observer:	44.0 feet 0.0 feet 5.0 feet 0.0 feet		ı		Auto n Truck y Truck uivalen	s: 2 s: 8	0.000 0.297 0.004 0.004	Grade Ad	justment	: 0.0
	oad Grade: Left View: Right View:	0.0% -90.0 degree				Auto n Truck y Truck	s: 40	).460 ).241 ).262	,		
						,					
FHWA Noise Model VehicleType	REMEL	Traffic Flow	Die	stance	Finite	Dood	Fres	nol	Barrier Att	on Por	m Atten
Autos: Medium Trucks:	66.51 77.72	-8.02		1.2	В	-1.20 -1.20	7700	-4.61 -4.87	0.0	000	0.00
Heavy Trucks:	82.99	-19.71		1.3	1	-1.20		-5.50	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barri	er atten	uation)						
	eq Peak Hοι			Leq E		Leq	Night		Ldn		NEL
Autos:	58		57.5		55.7		49		58.3		58.
Medium Trucks:	55		55.0		48.6		47		55.	-	55.
Heavy Trucks: Vehicle Noise:	63 65		62.8 64.4		53.7 58.3		55 56		63.	-	63. 65.
Centerline Distance	to Noise Co	ontour (in foot	1								
Contenine Distance	to Noise CC	mour (mreet	,	70 c	iBA	65	dBA		60 dBA	55	dBA
			Ldn:		21		4	4	95	,	20
		0	NEL:		21		4	6	99	1	213

Thursday, September 2, 2021

	FHV	VA-RD-77-108	HIGH	1 YAW	NOISE PE	REDICTI	ON MO	DDEL			
Road Nar	rio: Existing + P ne: 4th St. ent: w/o Potrero	•						Jack F 12398	Rabbit Trail	Develop	)
SITE Highway Data	SPECIFIC IN	PUT DATA			Site Con				L INPUT	s	
Average Daily Peak Hou Peak I	Traffic (Adt): r Percentage: Hour Volume: ehicle Speed:	3,100 vehicle 8.33% 258 vehicles 40 mph			Me He	dium Tru avy Truc	ıcks (2	Autos Axles)	15		
	ane Distance:	12 feet		-	Vehicle I	<b>VIIX</b> icleType		Day	Evening	Night	Dailv
Site Data							utos:	77.59 84.89	6 12.9%	9.6%	82.67%
Barrier Type (0-V	. ,	0.0 feet 0.0				Heavy Tr		86.5%			
	ist. to Barrier:	33.0 feet		Ī	Noise Sc	ource Ele	evatio	ns (in f	eet)		
Centerline Dist. to Observer: 33.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet						Autos m Trucks y Trucks	: 2	0.000 2.297 3.004	Grade Ad	ljustment	t: 0.0
	ad Elevation:	0.0 feet		Ī	Lane Eq	uivalent	Distar	ice (in	feet)		
	Road Grade:	0.0%		Ī		Autos	: 32	2.833			
	Left View: Right View:		-90.0 degrees 90.0 degrees			Medium Trucks: 32.562 Heavy Trucks: 32.589					
FHWA Noise Mod	lel Calculations	;		-							
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Bei	rm Atten
Autos:		-8.03		2.6		-1.20		-4.52		000	0.000
Medium Trucks:		-18.54		2.6		-1.20		-4.86		000	0.000
Heavy Trucks:		-17.22		2.6		-1.20		-5.69	0.	000	0.000
Unmitigated Nois VehicleType	Leg Peak Hou				vening	Leq I	Viaht	1	Ldn		NEL
Autos:			58.8	Ley E	57.0	Leqi	vigrit 51	0	59.		60.2
Medium Trucks		-	60.0		53.6		52		60.	-	60.7
Heavy Trucks:	67.	3	66.6		57.6		58	.8	67.	2	67.3
Vehicle Noise:		.7	68.0		61.2		60	.2	68.	6	68.8
Centerline Distan	ce to Noise Co	ntour (in feet)	)						00 104		
			Ldn:	/0	dBA 27	65 (	IBA 5		60 dBA 124		dBA 267
			VEL:		28		5	-	128		276

Thursday, September 2, 2021

	FHV	VA-RD-77-108	HIGI	HWAY N	OISE P	REDICT	TION MO	ODEL			
Road Nam	io: Existing + F ne: Potrero Bl. nt: s/o Oak Val	,					t Name: Number:		Rabbit Trail	Develop	)
	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data					Site Cor	nditions	(Hard	= 10, Sc	oft = 15)		
Average Daily	. ,	4,689 vehicle	es					Autos:			
	Percentage:	8.33%				edium Ti		,			
	lour Volume:	391 vehicle	S		He	eavy Tru	icks (3+	Axles):	15		
	hicle Speed:	40 mph		١	/ehicle	Mix					
Near/Far La	ne Distance:	78 feet			Veh	icleTyp	е	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	96.10%
Bai	rrier Height:	0.0 feet			M	ledium 1	rucks:	84.8%	4.9%	10.3%	1.20%
Barrier Type (0-W		0.0				Heavy 1	rucks:	86.5%	2.7%	10.8%	2.70%
Centerline Dis		67.0 feet		1	Voise S	ource E	levatio	ns (in f	eet)		
Centerline Dist.		67.0 feet				Auto		0.000	,		
Barrier Distance		0.0 feet			Mediu	m Truck		2.297			
Observer Height (	(Above Pad): ad Elevation:	5.0 feet 0.0 feet			Hea	vy Truck	ks: 8	3.004	Grade Ad	justment	0.0
	ad Elevation:	0.0 feet		,	ane Fo	uivalen	t Distar	nce (in	feet)		
	Road Grade:	0.0%		F		Auto		1.708			
•	Left View:	-90.0 degree	es		Mediu	m Truck		1.546			
	Right View:	90.0 degree			Hea	vy Truck	ks: 54	1.562			
FHWA Noise Mode	el Calculations	5									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	inel	Barrier Att	en Bei	m Atten
Autos:	66.51	-5.58		-0.69	9	-1.20		-4.71	0.0	000	0.000
Medium Trucks:	77.72	-24.62		-0.67	7	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	82.99	-21.10		-0.67	7	-1.20		-5.29	0.0	000	0.000
Unmitigated Noise			barri					_			
VehicleType	Leq Peak Hou			Leg Ev			Night		Ldn		NEL
Autos:	59		57.9		56.2		50		58.		59.3
Medium Trucks:	51		50.5		44.2		42		51.		51.3
Heavy Trucks:	60		59.4		50.4		51		60.	-	60.1
Vehicle Noise:	62		62.1		57.4		54	.2	62.	7	63.0
Centerline Distance	ce to Noise Co	ntour (in feet	)	70 0	ID A	65	dBA		50 dBA	55	dBA
			Ldn:	700	22	00			102		219
			NEL:		22 47 102 23 50 107		-	219			
		-						-			200

Barrier Trype (0-Well, 1-Berm): 0.0   Heavy Trucks: 86.5% 2.7% 10.8% 4.51%		FHW	A-RD-77-108	HIGHV	VAY N	DISE P	REDICT	ION MO	DDEL				
Autos: 15   Site Conditions (Hard = 10, Soft = 15)	Road Name	e: California Av									Develop	•	
Average Daily Traffic (Adt): 2,399 vehicles   Peak Hour Percentage: 8,33%   Medium Trucks (2 Axles): 15   Peak Hour Votence Speed: 40 mph   Vehicle Speed: 40 mph   Vehicle Speed: 40 mph   Vehicle Type   Day   Evening   Night   Daily   Evening   Night   Daily   Site Data   Autos: 77.5%   12,9%   9,6%   93,4%   93,4%   93,4%   10,3%   2,00%   Heavy Trucks: 86.5%   2,7%   10,3%   2,00%   Heavy Trucks: 86.5%   2,7%   10,3%   2,00%   Heavy Trucks: 86.5%   2,7%   10,8%   4,51%   Medium Trucks: 84.8%   4,9%   4,9%   10,3%   2,00%   Heavy Trucks: 86.5%   2,7%   10,8%   4,51%   Medium Trucks: 84.8%   4,9%   4,9%   10,3%   2,00%   Heavy Trucks: 86.5%   2,7%   10,8%   4,51%   Medium Trucks: 84.8%   4,9%   10,3%   2,00%   Heavy Trucks: 86.5%   2,7%   10,8%   4,51%   Medium Trucks: 80.5%   2,7%   10,8%   4,51%   Medium Trucks: 80.5%   2,7%   10,8%   4,51%   Medium Trucks: 80.9%   2,297   Heavy Trucks: 80.00   Grade Adjustment: 0.0   Medium Trucks: 80.9%   Page Speed		PECIFIC IN	PUT DATA			:4- 0					s		
Site Data	Average Daily 1 Peak Hour F Peak Ho Veh	Percentage: our Volume: nicle Speed:	8.33% 200 vehicles 40 mph			Me He ehicle	edium Ti eavy Tru <b>Mix</b>	rucks (2 icks (3+	Autos: Axles): Axles):	15 15 15			
Barrier Height:   0.0   feet	Cita Data					ven			/	-		,	
Centerline Dist. to Observer: Barrier Distance to Observer: Doserver Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Grade: 0.0% Road	Barı						edium 7	rucks:	84.8%	6 4.9%	10.3%	2.00%	
Road Grade: 0.0%   Autos: 32.833   Medium Trucks: 32.562   Right View: 90.0 degrees   Heavy Trucks: 32.562   Right View: 90.0 degrees   Heavy Trucks: 32.562   Right View: 90.0 degrees   Heavy Trucks: 32.589   Right View: 90.0 degrees   Heavy Trucks: 32.589   Right View: 90.0 degrees   Heavy Trucks: 32.589   Right View: 90.0 degrees   Right V	Centerline Dist. to Barrier Distance to Observer Height (A Pa	o Observer: o Observer: Above Pad): d Elevation:			Mediu Hea	Auto m Truck vy Truck	os: 0 (s: 2 (s: 8	.000 .297 .004	Grade Ad	justment	: 0.0		
VehicleType	R	Road Grade: Left View: Right View:	0.0% -90.0 degree			Medium Trucks: 32.562							
Autos: 66.51			Troffic Flour	Diete		Einite	Dood	Eroo	no!	Parriar Att	on Do	on Atton	
VehicleType   Leq Peak Hour   Leq Day   Leq Evening   Leq Night   Ldn   CNEL	Autos: Medium Trucks:	66.51 77.72	-8.61 -25.30	Dista	2.64		-1.20 -1.20		-4.52 -4.86	0.0	000	0.000 0.000 0.000	
Autos:         59.3         58.2         56.5         50.4         59.0         59.1           Medium Trucks:         53.9         53.2         48.8         45.3         53.7         54.1           Heavy Trucks:         62.7         62.1         53.0         54.3         62.6         62.1           Vehicle Noise:         64.7         64.0         58.4         56.1         64.6         64.5           Centerline Distance to Noise Contour (in feet)         70 dBA         65 dBA         60 dBA         55 dBA           Ldn:         14         31         67         144	Unmitigated Noise	Levels (witho	ut Topo and	barrier	attenu	ation)							
Medium Trucks:         53.9         53.2         46.8         45.3         53.7         54.1           Heavy Trucks:         62.7         62.1         53.0         54.3         62.6         62.1           Vehicle Noise:         64.7         64.0         58.4         56.1         64.6         64.6           Centerline Distance to Noise Contour (in feet)           To dBA         65 dBA         60 dBA         55 dBA           Ldn:         14         31         67         144	VehicleType I	Leq Peak Hour	Leq Day	- 1	Leq Ev	ening	Leq	Night		Ldn	C	NEL	
Centerline Distance to Noise Contour (in feet)           70 dBA         65 dBA         60 dBA         55 dBA           Ldn:         14         31         67         144	Medium Trucks:	53.9	9	53.2		46.8		45.	3	53.	7	59.6 54.0 62.8	
70 dBA 65 dBA 60 dBA 55 dBA Ldn: 14 31 67 144	Vehicle Noise:	64.7	7	64.0		58.4		56.	.1	64.0	3	64.9	
Ldn: 14 31 67 144	Centerline Distance	e to Noise Cor	ntour (in feet)										
						14	65	3	1	67		144	

Scenario: Existing Road Name: Oak Va Road Segment: e/o Potr	lley P	kwy.				Project N Job Nu			abbit Trail	Develop	•
SITE SPECIFIC	INP	UT DATA			Site Con	NC ditions (F			L INPUT	S	
Average Daily Traffic (Adi Peak Hour Percentage Peak Hour Volum Vehicle Spee	e: e:	7,245 vehicle 8.33% 603 vehicles 50 mph			Me	dium Truck avy Truck	A:ks (2 A	utos: xles):	15 15 15		
Near/Far Lane Distance		80 feet		١	/ehicle I				1		
Site Data					veni	cleType Δι		Day 77.5%	Evening 12.9%	Night 9.6%	Daily 94.59
Barrier Heigh Barrier Type (0-Wall, 1-Berm		0.0 feet 0.0				edium Tru Heavy Tru	cks: 8	34.8% 36.5%	4.9%	10.3% 10.8%	1.67
Centerline Dist. to Barrie		60.0 feet		٨	Voise So	urce Ele	/ations	(in fe	et)		
Centerline Dist. to Observe Barrier Distance to Observe Observer Height (Above Pad Pad Elevatio	er: ():	60.0 feet 0.0 feet 5.0 feet 0.0 feet				Autos: n Trucks: y Trucks:	2.2	97	Grade Ad	justment	t: 0.0
Road Elevation	n:	0.0 feet		L	ane Equ	uivalent L	Distanc	e (in f	eet)		
Road Grad Left Viev Right Viev	v:	0.0% -90.0 degree 90.0 degree				Autos: n Trucks: y Trucks:	44.8	03			
FHWA Noise Model Calculat	ions										
VehicleType REMEL	7	Traffic Flow	Dis	tance	Finite	Road	Fresne	e/ .	Barrier Att	en Ber	rm Atte
Autos: 70	.20	-4.73		0.58	3	-1.20	-	4.69	0.0	000	0.0
	.00	-22.27 -18.75		0.61 0.61		-1.20 -1.20		4.88 5.34		000	0.0
Unmitigated Noise Levels (v	vithou	ıt Topo and I	arrie	r atteni	uation)						
VehicleType Leq Peak		Leq Day		Leg Ev		Leq N	ight		Ldn	С	NEL
Autos:	64.9		3.8		62.0		55.9		64.6	6	65
Medium Trucks:	58.1	5	57.4		51.1		49.5		58.0	0	58
Heavy Trucks:	66.0	(	55.4		56.4		57.6		66.0	D	66
Vehicle Noise:	68.9	•	8.1		63.3		60.3		68.7	7	69
Centerline Distance to Noise	Con	tour (in feet)		70 d	IDA I	65 dl	34 1	_	0 dBA		dBA
				/U a	IDA I	00 at	DM	0	u udA	) ၁၁	UDA
			dn:		49		106		229		49

Thursday, September 2, 2021

	FHV	VA-RD-77-108	HIGHW	AY N	OISE PI	REDICTI	ON M	DDEL			
Road Nan	no: Existing + P ne: 4th St. nt: e/o Potrero	•						Jack I 12398	Rabbit Trail	Develop	1
	SPECIFIC IN	PUT DATA			2:4- 0				L INPUT	S	
Highway Data				- 2	site Con	aitions	Hara		oft = 15)		
Average Daily	. ,	8,794 vehicle	:S			T	! (0	Autos			
	Percentage:	8.33% 733 vehicles				dium Tru avy Truc					
	hicle Speed:	40 mph	5	L	пе	avy IIuc	KS (3+	Axies)	. 15		
	inicie Speeu. ine Distance:	40 mpn 48 feet		١	/ehicle l	Vix					
	ine Distance.	40 1001			Veh	icleType		Day	Evening	Night	Daily
Site Data							lutos:	77.59		9.6%	
Ва	rrier Height:	0.0 feet				edium Tr		84.89			
Barrier Type (0-V	Vall, 1-Berm):	0.0			- 1	Heavy Tr	ucks:	86.59	6 2.7%	10.8%	9.32%
Centerline Di	st. to Barrier:	59.0 feet		^	Voise So	ource Ele	evatio	ns (in t	eet)		
	Centerline Dist. to Observer: 59.0 feet							.000	,		
Barrier Distance		0.0 feet			Mediu	m Trucks		.297			
Observer Height	. ,	5.0 feet			Heav	y Trucks	 s: 8	.004	Grade Ad	justment	0.0
-	ad Elevation:	0.0 feet		L		•					
	ad Elevation:	0.0 feet			ane Eq	uivalent			feet)		
	Road Grade:	0.0%				Autos		.129			
	Left View:	-90.0 degree				m Trucks		3.966			
	Right View:	90.0 degree	es.		Heav	y Trucks	s: 53	3.982			
FHWA Noise Mod		ì									
VehicleType	REMEL	Traffic Flow	Distar		Finite		Fres		Barrier Att		m Atten
Autos:		-3.45		-0.62		-1.20		-4.69		000	0.000
Medium Trucks:		-14.29		-0.60		-1.20		-4.88		000	0.000
Heavy Trucks:		-12.99		-0.60		-1.20		-5.35	0.0	000	0.000
Unmitigated Nois		<del></del>					h II I-4		Ldn		NFL.
VehicleType Autos:	Leq Peak Hou 61.		60.1	ey Ev	ening 58.4	Leq	Night 52	2	60.9	_	NEL 61.5
Medium Trucks:			60.9		54.6		53		61.		61.7
Heavy Trucks:			67.6		58.5		59		68.	-	68.3
Vehicle Noise:			69.0		62.3		61		69.		69.8
Centerline Distan	ce to Noise Co	ntour (in feet)									
				70 d	IBA .	65 (	dBA		60 dBA	55	dBA
		1	Ldn:		56		12	0	259	)	557
		CN	VEL:		58		12	4	267	7	575

	FHW	A-RD-77-108	HIGH	IWAY N	OISE P	REDICT	ION MO	DDEL			
Road Name	o: Existing + Pr e: 4th St. nt: e/o Veile Av.	•					t Name: lumber:		Rabbit Trail	Develop	1
	SPECIFIC IN	PUT DATA			···- 0				L INPUT	S	
Highway Data				3	ille Coi	uitions	(naru -				
Average Daily	. ,	6,237 vehicle	S					Autos:			
	Percentage:	8.33%					rucks (2	,			
	our Volume:	520 vehicles			He	avy Tru	icks (3+	Axles):	15		
	nicle Speed:	40 mph		ν	ehicle	Иiх					
Near/Far Lar	ne Distance:	36 feet			Veh	icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	88.71%
Bar	rier Heiaht:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	4.83%
Barrier Type (0-W		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	6.46%
Centerline Dis		44.0 feet		٨	loise S	ource E	levation	s (in f	eet)		
Centerline Dist. t		44.0 feet				Auto	s: 0	.000			
Barrier Distance t		0.0 feet			Mediu	m Truck	(s: 2	.297			
Observer Height (	,	5.0 feet			Hear	y Truck	s: 8	.004	Grade Ad	iustment	0.0
	d Elevation:	0.0 feet		-		·					
	d Elevation:	0.0 feet		L	ane Eq		t Distar		reet)		
F	Road Grade:	0.0%				Auto		.460			
	Left View:	-90.0 degree				m Truck		.241			
	Right View:	90.0 degree	S		Hea	y Truck	(S: 40	.262			
FHWA Noise Mode					,						
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fres		Barrier Att		m Atten
Autos:	66.51	-4.69		1.28		-1.20		-4.61		000	0.000
Medium Trucks:	77.72	-17.33		1.31		-1.20		-4.87		000	0.000
Heavy Trucks:	82.99	-16.07		1.31		-1.20		-5.50	0.0	000	0.000
Unmitigated Noise			parrie				A.C. 1.1	_		_	
VehicleType Autos:	Leq Peak Hour 61.5		30.8	Leq Ev	ening 59.0		Night 53	^	Ldn 61.6	_	NEL 62.2
Medium Trucks:	60.5		59.8		53.4		53. 51.	-	60.	-	60.6
Heavy Trucks:	67.0		36.4		57.4		51. 58.	-	67.0	-	
Vehicle Noise:	68.1		38.1		61.9		60.	-	68.6		67.1
					01.9		60.	.0	68.6	•	69.0
Centerline Distanc	e to Noise Coi	ntour (in feet)		70 d	BA	65	dBA		60 dBA	55	dBA
		,	Ldn:	,,,,	36		71	_	169		363
			IEL:		38 81			-			377
			_				·	-	110		011

	- FH	WA-RD-	77-108 HIG	HWAY	NOISE P	REDICI	TON MC	JDEL			
Scenario Road Name Road Segmen		•	1+2				t Name: lumber:		abbit Trail	Develop	
	PECIFIC II	NPUT D	ATA						L INPUT	S	
Highway Data					Site Cor	ditions	(Hard =	= 10, Sc	oft = 15)		
Average Daily 1	Traffic (Adt):	12,228	vehicles					Autos:			
Peak Hour F	Percentage:	8.33%					ucks (2	,			
	our Volume:	1,019 \	/ehicles		He	eavy Tru	cks (3+	Axles):	15		
	nicle Speed:	40 1	nph	- 1	Vehicle	Mix					
Near/Far Lan	ne Distance:	12 f	eet	-	Veh	icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	81.57%
Barı	rier Heiaht:	0.0	feet		М	edium T	rucks:	84.8%	4.9%	10.3%	8.42%
Barrier Type (0-Wa	all, 1-Berm):	0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	10.00%
Centerline Dis		33.0		1	Noise S	ource E	levation	ıs (in fe	eet)		
Centerline Dist. t		33.0				Auto	s: 0	.000			
Barrier Distance t			feet		Mediu	m Truck		.297			
Observer Height (A	,		feet		Hear	vy Truck	s: 8	.004	Grade Ad	iustment	0.0
	d Elevation:		feet				4 Di-4	/:	e 4)		
	d Elevation:		feet	Ľ	Lane Eq	uivaien Auto		.833	eet)		
H	Road Grade:	0.0%			A de elle	Auto m Truck		.833			
	Left View:		degrees			m Truck vy Truck	02	.562			
	Right View:	90.0	degrees		i ica	vy IIuch	. 32	.509			
FHWA Noise Mode											
VehicleType	REMEL	Traffic		istance		Road	Fres		Barrier Att		m Atten
Autos:	66.51		-2.13	2.6		-1.20		-4.52		000	0.00
Medium Trucks:	77.72		-11.99	2.6	-	-1.20		-4.86		000	0.00
Heavy Trucks:	82.99		-11.24	2.6		-1.20		-5.69	0.0	000	0.00
Unmitigated Noise										_	
	Leq Peak Ho		eq Day	Leq E	vening		Night		Ldn		NEL
Autos:	-	5.8 7.2	64.7 66.5		62.9 60.1		56. 58.	-	65.5 67.1	-	66. 67.
Medium Trucks:	-	7.2	72.6		63.6		64.	-	73.2		
Heavy Trucks: Vehicle Noise:		3.2 4.8	72.6		67.2		66.	-	73.2		73.
					07.2		00.		74.1		7-7
Centerline Distance	e to Noise C	ontour (	ın feet)	70	dBA	65	dBA	-	i0 dBA	55	dBA
								1 4	O UDA	1 00	UDH
			Ldn:		68		146	3	314		677

		WA-RD-77-108	ния	WATN	OISE PI						
	o: Existing + I e: Potrero Bl. t: s/o Oak Va	,					Name: umber:		abbit Trail	Develop	
SITE S	PECIFIC IN	NPUT DATA				N	OISE	MODE	L INPUT	S	
Highway Data				S	ite Con	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily 1	raffic (Adt):	5.739 vehicle	es					Autos:	15		
Peak Hour I	Percentage:	8.33%			Ме	dium Tru	icks (2 /	Axles):	15		
Peak Ho	our Volume:	478 vehicle	s		He	avy Truc	ks (3+ /	Axles):	15		
Veh	icle Speed:	40 mph		,	/ehicle l	Miss					
Near/Far Lar	e Distance:	78 feet				icleType		Dav	Evening	Niaht	Dailv
Site Data							lutos:	77.5%			96.819
Ran	rier Heiaht:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3%	0.989
Barrier Type (0-Wa		0.0			1	Heavy Tr	ucks:	86.5%	2.7%	10.8%	2.219
Centerline Dis		67.0 feet		۸	loise So	ource Ele	evation	s (in fe	eet)		
Centerline Dist. t	o Observer:	67.0 feet		F		Autos		000	,		
Barrier Distance t	o Observer:	0.0 feet			Mediu	m Trucks		297			
Observer Height (A	,	5.0 feet			Heav	v Trucks	s: 8.	004	Grade Ad	ustment	0.0
	d Elevation:	0.0 feet		<u> </u>		,					
	d Elevation:	0.0 feet		L	ane Eq	uivalent			feet)		
F	Road Grade:	0.0%				Autos		708			
	Left View:	-90.0 degre				m Trucks		546			
	Right View:	90.0 degre	es		Heav	y Trucks	s: 54.	562			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow		ance		Road	Fresr		Barrier Att		m Atten
Autos:	66.51			-0.69		-1.20		-4.71		000	0.00
Medium Trucks:	77.72			-0.67		-1.20		-4.88		000	0.00
Heavy Trucks:	82.99			-0.67		-1.20		-5.29	0.0	000	0.00
Unmitigated Noise	•										
-,-	Leq Peak Hou		_	Leq Ev		Leq			Ldn		NEL
Autos:		0.0	58.8		57.1		51.0	-	59.6		60
Medium Trucks:	-	1.2	50.5 59.4		44.2 50.4		42.6 51.6	-	51.1 60.0		51.
Heavy Trucks:_ Vehicle Noise:		3.3	62.4		58.1		51.6		63.1		60
					38.1		54.0	,	03.		63
Centerline Distance	e to Noise C	ontour (in feet	)	70 d	'BA	65 (	dBA	6	60 dBA	55	dBA
Diotano											
ormic Diotalic			Ldn:		23		50		108		23

Thursday, September 2, 2021

	FHV	/A-RD-77-108	HIGHW	AY NO	OISE PF	REDICTION	ON MC	DEL			
	io: Existing + P e: California A nt: n/o 6th St.					Project i Job Nu			Rabbit Trail	Develop	)
	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data				S	ite Con	ditions (					
Average Daily	. ,	2,609 vehicle	:S					Autos:			
	Percentage:	8.33%				dium Tru					
	our Volume:	217 vehicles	3		He	avy Truc	ks (3+	Axles):	15		
	hicle Speed:	40 mph		ν	ehicle I	Mix					
Near/Far La	ne Distance:	12 feet			Vehi	icleType		Day	Evening	Night	Daily
Site Data						Α	utos:	77.5%	12.9%	9.6%	94.01%
Bai	rier Heiaht:	0.0 feet			Me	edium Tri	ucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W		0.0			F	leavy Tri	ucks:	86.5%	2.7%	10.8%	4.15%
Centerline Dis	. ,	33.0 feet			laiaa Ca	urce Ele	uration	a (in f	n m f l		
Centerline Dist.	to Observer:	33.0 feet		/4	oise su	Autos			eu)		
Barrier Distance	to Observer:	0.0 feet						000			
Observer Height (	Above Pad):	5.0 feet				m Trucks		297	Crodo Ad	ii iatma n	t: 0.0
Pa	ad Elevation:	0.0 feet			Heav	y Trucks	. 8	004	Grade Ad	jusunem	1. 0.0
Roa	ad Elevation:	0.0 feet		L	ane Equ	uivalent	Distan	ce (in	feet)		
ı	Road Grade:	0.0%				Autos	: 32	.833			
	Left View:	-90.0 degree	es.		Mediur	m Trucks	: 32	.562			
	Right View:	90.0 degree	es.		Heav	y Trucks	32	.589			
FHWA Noise Mode	el Calculations	i									
VehicleType	REMEL	Traffic Flow	Distai		Finite		Fresi		Barrier Att		rm Atten
Autos:	66.51	-8.22		2.64		-1.20		-4.52		000	0.000
Medium Trucks:	77.72	-25.30		2.69		-1.20		-4.86		000	0.000
Heavy Trucks:	82.99	-21.78		2.69		-1.20		-5.69	0.0	000	0.000
Unmitigated Noise	Levels (witho	out Topo and	barrier a	attenu	ıation)						
VehicleType	Leq Peak Hou			eq Ev		Leq N	-		Ldn		NEL
Autos:	59.		58.6		56.9		50.		59.4		60.0
Medium Trucks:	53.	-	53.2		46.8		45.	-	53.		54.0
Heavy Trucks:	62.		62.1		53.0		54.	-	62.0	_	62.8
Vehicle Noise:	64.		64.1		58.7		56.	3	64.	7	65.0
Centerline Distanc	e to Noise Co	ntour (in feet)									
				70 di		65 a			60 dBA	55	dBA
			Ldn:		15 15		32		68		146
	CNEL:						33	3	71		153

amber 2, 2021 Thursday, September 2, 2021

F	HWA-RD-77-10	8 HIG	HWAY N	IOISE P	REDICT	ION MO	ODEL			
Scenario: Existing Road Name: Oak Vall Road Segment: e/o Potre	ey Pkwy.					t Name: lumber:		Rabbit Trail	Develop	1
SITE SPECIFIC	INPUT DATA			0:4- 0				L INPUT	s	
Highway Data				Site Con	aitions	(Hara		oft = 15)		
Average Daily Traffic (Adt).	.,	les					Autos:			
Peak Hour Percentage					dium Tı		,			
Peak Hour Volume		es		He	avy Tru	icks (3+	Axies).	15		
Vehicle Speed			1	Vehicle	Mix					
Near/Far Lane Distance	80 feet			Veh	icleType	9	Day	Evening	Night	Daily
Site Data						Autos:	77.5%	12.9%	9.6%	95.27%
Barrier Height	0.0 feet			М	edium 7	rucks:	84.8%	4.9%	10.3%	1.45%
Barrier Type (0-Wall, 1-Berm)					Heavy 1	rucks:	86.5%	2.7%	10.8%	3.27%
Centerline Dist. to Barrier			1	Noise S	ource E	levatio	ns (in f	eet)		
Centerline Dist. to Observer					Auto		0.000	,		
Barrier Distance to Observer				Mediu	m Truck	(S: 2	2.297			
Observer Height (Above Pad)				Hear	v Truck	(s: 8	3.004	Grade Ad	ljustment	0.0
Pad Elevation			_		,					
Road Elevation			1	Lane Eq				feet)		
Road Grade					Auto		5.000			
Left View					m Truck		1.803			
Right View	90.0 degre	ees		Hea	ry Truck	(S: 44	1.822			
FHWA Noise Model Calculation				_						
VehicleType REMEL	Traffic Flow	_	stance		Road	Fres		Barrier Att		m Atten
Autos: 70.1		-	0.5	-	-1.20		-4.69		000	0.000
Medium Trucks: 81.0			0.6		-1.20		-4.88		000	0.000
Heavy Trucks: 85.3			0.6		-1.20		-5.34	0.0	000	0.000
VehicleType Leg Peak H				uation) vening	100	Night	-	Ldn		NEL
	65.5	64.4	Ley Li	62.6		741911t 56	5	65.	_	65.8
	58.1	57.4		51.1		49		58.	-	58.2
	66.0	65.4		56.4		57		66.	-	66.1
	69.1	68.3		63.8		60		69.	-	69.3
Centerline Distance to Noise	Contour (in fee	t)								
			70 d	dBA	65	dBA	-	60 dBA	55	dBA
		Ldn:		51		11	0	238	3	512
	(	NEL:		54		11	6	250	)	539

	- FR	WA-RD-77-10	JO HIG	HWAY	IOISE P	KEDIC	TON M	UDEL			
Scenario Road Name Road Segmen		•					t Name: Number:		Rabbit Trail	Develop	
	SPECIFIC II	NPUT DATA	١						L INPUT	s	
Highway Data					Site Cor	nditions	(Hard	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	10,474 vehi	cles					Autos	15		
Peak Hour I	Percentage:	8.33%			Me	edium Ti	rucks (2	Axles).	15		
Peak Ho	our Volume:	873 vehic	les		He	eavy Tru	icks (3+	Axles).	15		
	nicle Speed:	40 mph		- 1	Vehicle	Mix					
Near/Far Lar	ne Distance:	48 feet		F	Ver	icleTyp	е	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	86.38%
Bar	rier Heiaht:	0.0 feet			M	ledium 1	rucks:	84.8%	4.9%	10.3%	5.80%
Barrier Type (0-Wa	all, 1-Berm):	0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	7.829
Centerline Dis		59.0 feet		1	Noise S	ource E	levatio	ns (in f	eet)		
Centerline Dist. t		59.0 feet				Auto	os: (	0.000	,		
Barrier Distance t		0.0 feet			Mediu	m Truck	ks: 2	2.297			
Observer Height (	,	5.0 feet			Hea	vy Truck	ks: 8	3.004	Grade Ad	justment	0.0
	d Elevation:	0.0 feet			Lane Eq		4 Di-4-	/	£4)		
	d Elevation: Road Grade:	0.0 feet		Ľ,	Larie Eq	Auto		1.129	reet)		
r	Left View:	0.0%			Modiu	m Truck		3.966			
	Right View:	-90.0 degr 90.0 degr				vy Truci	00	3.966 3.982			
FHWA Noise Mode	10-11										
VehicleType	REMEL	Traffic Flow	, D	istance	Finite	Road	Fres	enel	Barrier Att	en Rei	m Atten
Autos:	66.51			-0.6		-1.20		-4.69		000	0.00
Medium Trucks:	77.72	-14.2	9	-0.6	0	-1.20		-4.88		000	0.00
Heavy Trucks:	82.99	-12.9	19	-0.6	0	-1.20		-5.35	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo an	d barr	ier atten	uation)						
VehicleType	Leq Peak Ho	ur Leq D	ay	Leq E	vening	Leg	Night		Ldn	C	NEL
Autos:		2.1	61.0		59.3		53		61.8	-	62.
Medium Trucks:	-	1.6	60.9		54.6		53		61.	-	61.
Heavy Trucks:		3.2	67.6		58.5		59		68.		68.
Vehicle Noise:	69	9.9	69.2		62.7	'	61	.3	69.8	В	70.
Centerline Distanc	e to Noise C	ontour (in fe	et)					_			
					dBA	65	dBA		60 dBA		dBA
			Ldn: CNFL:		57		12 12		264		568
			UNEL:		59		12	.,	273		588

	— - гн	WA-RD-77-108	HIGH	WAYN	OISE PI	(EDIC I	ON MC	DEL			
Scenario Road Name Road Segmen		•					Name: umber:		abbit Trail	Develop	
	PECIFIC II	NPUT DATA							L INPUT	s	
Highway Data					Site Con	ditions	(Hard =	= 10, So	ft = 15)		
Average Daily	raffic (Adt):	7,917 vehicl	es					Autos:	15		
Peak Hour I	-	8.33%				dium Tru		,			
	our Volume:	660 vehicle	:S		He	avy Truc	ks (3+	Axles):	15		
	icle Speed:	40 mph		1	/ehicle l	Иіх					
Near/Far Lar	e Distance:	36 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							lutos:	77.5%	12.9%	9.6%	91.119
Bar	rier Height:	0.0 feet			Me	edium Ti	ucks:	84.8%	4.9%	10.3%	3.809
Barrier Type (0-Wi	-	0.0			F	leavy Ti	ucks:	86.5%	2.7%	10.8%	5.09
Centerline Dis	t. to Barrier:	44.0 feet		1	Voise Sc	urce El	evation	ns (in fe	eet)		
Centerline Dist. t	o Observer:	44.0 feet		F		Auto:		000	.,		
Barrier Distance t	o Observer:	0.0 feet			Mediui	m Trucks	: 2	.297			
Observer Height (	,	5.0 feet			Heav	y Trucks	s: 8	.004	Grade Ad	justment	: 0.0
	d Elevation:	0.0 feet				•					
	d Elevation:	0.0 feet		1	ane Eq			_ •	eet)		
F	Road Grade:	0.0%				Auto		.460			
	Left View:	-90.0 degre				m Truck		.241			
	Right View:	90.0 degre	es		Heav	y Truck:	s: 40	.262			
FHWA Noise Mode	l Calculation	ıs									
Vehicle Type	REMEL	Traffic Flow		tance	Finite		Fres		Barrier Att		m Atten
Autos:	66.51			1.2	-	-1.20		-4.61		000	0.00
Medium Trucks:	77.72			1.3		-1.20		-4.87		000	0.00
Heavy Trucks:	82.99			1.3	-	-1.20		-5.50	0.0	000	0.00
Unmitigated Noise							N Contra		Ldn		NFL.
VehicleType Autos:	Leq Peak Ho	ur Leq Da	61.9	Leg E	ening 60.2	Leq	Night 54	1	Lan 62.		NEL 63
Medium Trucks:	-	0.5	59.8		53.4		51.		60.		60
Heavy Trucks:	-	0.5 7.0	66.4		57.4		58.	-	67.0	-	67.
Vehicle Noise:		9.1	68.4		62.6		60.	-	69.0		69.
Centerline Distanc	e to Noise C	ontour (in feet	f)								
	5		,	70 c	iBA	65	dΒA	6	i0 dBA	55	dBA
			Ldn:		38		81	1	175	,	37

Thursday, September 2, 2021

	FHV	VA-RD-77-108	HIGH	WAY N	IOISE PI	REDICTI	ON M	DDEL			
Road Nar	rio: Existing + P me: 4th St. ent: w/o Potrero	•						Jack F 12398	Rabbit Trail	Develop	
SITE Highway Data	SPECIFIC IN	PUT DATA		- 1,	Sita Con	N ditions (			EL INPUT	s	
Average Daily Peak Hou Peak I	r Traffic (Adt): r Percentage: Hour Volume: ehicle Speed:	16,428 vehicle 8.33% 1,368 vehicles 40 mph			Ме	dium Tru avy Truc	icks (2	Autos Axles)	: 15 : 15		
Near/Far La	ane Distance:	12 feet				icleType	- 1	Dav	Evening	Night	Dailv
Site Data		0.0.54					utos:	77.59 84.89	6 12.9%	9.6%	86.28%
Barrier Type (0-V	. ,	0.0 feet 0.0			- 1	Heavy Tr	ucks:	86.59		10.8%	
	ist. to Barrier:	33.0 feet		1	Voise So	ource Ele	evatio	ns (in f	eet)		
Centerline Dist Barrier Distance Observer Height	to Observer:	33.0 feet 0.0 feet 5.0 feet 0.0 feet				Autos m Trucks y Trucks	: 2	0.000 2.297 3.004	Grade Ad	ljustment	: 0.0
	ad Elevation:	0.0 feet		1	ane Eq	uivalent	Distai	ice (in	feet)		
	Road Grade:	0.0%			·	Autos	32	2.833			
	Left View: Right View:	-90.0 degree				m Trucks vy Trucks	. 0.	2.562 2.589			
FHWA Noise Mod	lel Calculations	5									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fres	nel	Barrier Att	ten Ber	m Atten
Autos	66.51	-0.60		2.6	4	-1.20		-4.52	0.	000	0.000
Medium Trucks		-11.99		2.69		-1.20		-4.86		000	0.000
Heavy Trucks		-11.24		2.69		-1.20		-5.69	0.	000	0.000
Unmitigated Nois VehicleType	Leg Peak Hou			r atten Leg Ev		Leq I	Viaht	1	Ldn		NEL
Autos			66.2	LEY E	64.5	Leq	vigrit 58	4	67.		67.6
Medium Trucks			66.5		60.1		58		67.	-	67.3
Heavy Trucks	73.	.2	72.6		63.6		64	.8	73.	2	73.3
Vehicle Noise		.0	74.3		67.9		66	.5	74.	9	75.1
Centerline Distan	ce to Noise Co	ntour (in feet)		70.	4D.4	65 (	/D /		60 dBA		dBA
			Ldn:	70 c	70	00 (	1BA 15		о <i>и ав</i> А 325		700
			VEL:		72		15		336	-	725

	FHW	A-RD-77-108	HIGH	HWAY N	OISE P	REDICTI	ON MC	DEL			
Road Name	o: OYC 2023 W e: Potrero Bl. t: s/o Oak Valle	,	t				Name: umber:		tabbit Trail	Develo	)
	PECIFIC IN	PUT DATA							L INPUT	s	
Highway Data				5	Site Cor	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily 1	Traffic (Adt):	3,314 vehicle	es					Autos:	15		
Peak Hour F	Percentage:	8.33%			Me	edium Tru	ıcks (2	Axles):	15		
Peak Ho	our Volume:	276 vehicles	S		He	eavy Truc	ks (3+	Axles):	15		
Veh	nicle Speed:	40 mph		1	/ehicle	Mix					
Near/Far Lan	ne Distance:	78 feet				icleType		Dav	Evening	Niaht	Dailv
Site Data						- A	Autos:	77.5%	12.9%	9.6%	91.81%
Ran	rier Height:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3%	2.52%
Barrier Type (0-Wa		0.0				Heavy Tr	rucks:	86.5%	2.7%	10.8%	5.67%
Centerline Dis		67.0 feet		1	loise S	ource Ele	evation	s (in fe	eet)		
Centerline Dist. t	o Observer:	67.0 feet				Autos	s: 0	.000			
Barrier Distance t		0.0 feet			Mediu	m Trucks	s: 2	297			
Observer Height (A	Above Pad):	5.0 feet				vy Trucks		004	Grade Ad	liustmen	t: 0.0
Pa	d Elevation:	0.0 feet								,	
	d Elevation:	0.0 feet		L	ane Eq	uivalent			feet)		
R	Road Grade:	0.0%				Autos		.708			
	Left View:	-90.0 degree				m Trucks		.546			
	Right View:	90.0 degree	es		Hea	vy Trucks	s: 54	.562			
FHWA Noise Mode											
VehicleType		Traffic Flow	Dis	stance		Road	Fres		Barrier Att		rm Atten
Autos:	66.51	-7.29		-0.69		-1.20		-4.71		000	0.000
Medium Trucks:	77.72	-22.90		-0.67		-1.20		-4.88		000	0.000
Heavy Trucks:	82.99	-19.38		-0.67		-1.20		-5.29	0.0	000	0.000
Unmitigated Noise							N 17 1- 4	1	Ldn		NEL
VehicleType   Autos:	Leq Peak Hour 57.3		56.2	Leq Ev	rening 54.5		Night 48.	4	Lan 57.		NEL 57.6
Medium Trucks:	52.9		52.2		45.9		48.		52.	-	53.0
Heavy Trucks:	61.7	-	61.1		45.9 52.1		53.	-	52. 61.	-	61.8
Vehicle Noise:	63.5		62.7		56.8		54.	_	63.		63.6
Centerline Distance	e to Noise Cor	ntour (in feet	)								
		,,		70 a	ΙBΑ	65 (	dBA	6	60 dBA	55	dBA
			Ldn:		24		52	2	112	2	242
		C	NEL:		25		54	ļ	117	,	251

	FH	WA-RD-77-108	HIGH	IWAY N	OISE P	REDICT	TION MODE	L		
	e: California /	Without Project	t				t Name: Jac Number: 123	k Rabbit Trail 398	Develo	р
SITE S	SPECIFIC II	IPUT DATA					NOISE MO	DEL INPUT	S	
Highway Data				S	ite Cor	ditions	(Hard = 10	, Soft = 15)		
Peak H	Traffic (Adt): Percentage: our Volume: hicle Speed:	2,258 vehicl 8.33% 188 vehicle					Aut rucks (2 Axid icks (3+ Axid			
Near/Far Lai		40 mph		ν	'ehicle	Mix				
Near/Far Lar	ne Distance:	12 feet			Ver	icleTyp	e Da	y Evening	Night	Daily
Site Data							Autos: 77	.5% 12.9%	9.69	6 91.81%
Bar	rier Height:	0.0 feet		٦	M	edium 1	rucks: 84	.8% 4.9%	10.39	6 2.52%
Barrier Type (0-W		0.0				Heavy 1	rucks: 86	.5% 2.7%	10.89	6 5.67%
Centerline Dis		33.0 feet			laica S	ourco E	levations (i	n foot)		
Centerline Dist.	to Observer:	33.0 feet		^	ioise s	Auto				
Barrier Distance	to Observer:	0.0 feet					0.000			
Observer Height (	Above Pad):	5.0 feet				m Truci			livotmov	t 0.0
Pa	d Elevation:	0.0 feet			Hea	vy Truci	ks: 8.004	Grade Ad	jusuner	n. 0.0
Roa	d Elevation:	0.0 feet		L	ane Eq	uivalen	t Distance	(in feet)		
F	Road Grade:	0.0%				Auto	os: 32.83	3		
	Left View:	-90.0 degre	es		Mediu	m Truck	ks: 32.562	2		
	Right View:	90.0 degre	es		Hea	vy Truck	ks: 32.589	9		
FHWA Noise Mode	l Calculation	s								
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresnel	Barrier Att	en Be	erm Atten
Autos:	66.51	-8.95		2.64	ļ	-1.20	-4.	52 0.	000	0.000
Medium Trucks:	77.72	-24.57		2.69	9	-1.20	-4.	86 0.	000	0.000
Heavy Trucks:	82.99	-21.05		2.69	)	-1.20	-5.	69 0.	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrie	er atteni	uation)					
VehicleType	Leq Peak Ho	ur Leq Daj	V	Leq Ev	ening	Leg	Night	Ldn	(	CNEL
Autos:	59	9.0	57.9		56.1		50.1	58.	7	59.3
Medium Trucks:	54	1.6	53.9		47.6		46.0	54.	5	54.7
Heavy Trucks:	63	3.4	62.8		53.8		55.0	63.	4	63.5
Vehicle Noise:	65	5.2	64.4		58.5		56.6	65.	0	65.3
Centerline Distance	e to Noise C	ontour (in feet	)							
			L	70 d		65	dBA	60 dBA		5 dBA
		_	Ldn:		15		33	72		154
		С	NEL:		16		35	74		160

Highway Data Average Daily Traffic (Adt) Peak Hour Percentage Peak Hour Volume	: 7	UT DATA	Road Name: Oak Valley Pkwy.  Road Segment: e/o Potrero Bl.  SITE SPECIFIC INPUT DATA					Project Name: Jack Rabbit Trail Develop Job Number: 12398								
Average Daily Traffic (Adt) Peak Hour Percentage Peak Hour Volume				9	Site Con	NO ditions (H			L INPUT	S						
Vehicle Speed Near/Far Lane Distance	:	7,389 vehicle 3.33% 616 vehicles 50 mph 80 feet			Me He Vehicle I	dium Truc avy Truck	ks (2 /	Autos: Axles):	15 15 15 15	Night	Daily					
Site Data					****		tos:	77.5%			91.81					
Barrier Height Barrier Type (0-Wall, 1-Berm)	:	<b>0.0 feet</b> 0.0				edium Tru Heavy Tru		84.8% 86.5%		10.3% 10.8%	2.52					
Centerline Dist. to Barrier Centerline Dist. to Observer Barrier Distance to Observer Observer Height (Above Pad) Pad Elevation	:	60.0 feet 60.0 feet 0.0 feet 5.0 feet 0.0 feet			Mediui	Autos: m Trucks: ry Trucks:	0. 2.	s (in fe 000 297 004	et) Grade Ad	justment	: 0.0					
Road Elevation Road Grade Left View Right View	: ( : -	0.0 feet 0.0% -90.0 degree 90.0 degree		1	Mediui	Autos: m Trucks: ry Trucks:	45. 44.	000	eet)							
FHWA Noise Model Calculati	ons															
VehicleType REMEL Autos: 70.	_	raffic Flow -4.77	Dis	tance 0.58		Road -1.20	Fresr	el -4.69	Barrier Att 0.0	en Ber	m Atte					
Medium Trucks: 81. Heavy Trucks: 85.		-20.39 -16.87		0.6		-1.20 -1.20		-4.88 -5.34		000	0.0					
Unmitigated Noise Levels (w	thou	t Topo and I	barrie	er atten	uation)											
VehicleType Leq Peak F	_	Leq Day		Leq Ev		Leq Ni	ght		Ldn	С	NEL					
Autos:	64.8		63.7		61.9		55.9		64.	-	65					
Medium Trucks:	60.0		59.3		52.9		51.4		59.	-	60					
Heavy Trucks: Vehicle Noise:	67.9 70.1		67.3 69.3		58.3 63.9		59.5 61.5		67.9 70.0		68 70					
Centerline Distance to Noise	Cont	our (in feet)														
Brown to Horse	20.10	, ,		70 d		65 dE			0 dBA		dBA					
			Ldn: VFL:		60 62		128		277 289		59 62					

Thursday, September 2, 2021

	FHV	VA-RD-77-108	HIGHWA	Y NOISE F	REDICT	ION M	ODEL			
Road Nam	io: OYC 2023 \ne: 4th St. nt: e/o Potrero	,	t				Jack I 12398	Rabbit Trail	Develop	1
	SPECIFIC IN	PUT DATA		0:4- 0-	N nditions			EL INPUT	s	
Highway Data				Site Co.	naitions	(Hara				
Average Daily	. ,	6,154 vehicle 8.33%	!S		edium Tru	uaka (1	Autos			
	Percentage: lour Volume:	513 vehicles			eavy Truc					
	hicle Speed:	40 mph	,			JAG (0 1	ANICO	. 10		
	ne Distance:	48 feet		Vehicle						
	ne Distance.	40 1001		Vei	hicleType		Day	Evening	Night	Daily
Site Data						Autos:	77.59		9.6%	
Ba	rrier Height:	0.0 feet		٨.	1edium Ti		84.89			
Barrier Type (0-W	/all, 1-Berm):	0.0			Heavy Ti	rucks:	86.59	6 2.7%	10.8%	5.67%
Centerline Di		59.0 feet		Noise S	ource El	evatio	ns (in t	eet)		
Centerline Dist.		59.0 feet			Auto	s: (	0.000			
Barrier Distance		0.0 feet		Mediu	ım Truck:	s: 2	2.297			
Observer Height	,	5.0 feet		Hea	vy Trucks	s: 8	3.004	Grade Ad	justment	0.0
	ad Elevation:	0.0 feet		1 5		D:-4-	/:	£4\		
	ad Elevation:	0.0 feet		Lane Ed	quivalent			reet)		
	Road Grade:	0.0%		14-45	Auto: ım Truck:		1.129			
	Left View:	-90.0 degree				00	3.966			
	Right View:	90.0 degree	es.	неа	vy Truck:	s: 50	3.982			
FHWA Noise Mod		1								
VehicleType	REMEL	Traffic Flow	Distanc		Road	Fres		Barrier Att		m Atten
Autos:	66.51	-4.60		0.62	-1.20		-4.69		000	0.000
Medium Trucks:	77.72	-20.21		0.60	-1.20		-4.88		000	0.000
Heavy Trucks:	82.99	-16.69		0.60	-1.20		-5.35	0.0	000	0.000
Unmitigated Noise		<del></del>				Nicelat		Ldn		NFL.
VehicleType Autos:	Leq Peak Hou		59.0	Evening 57.2		Night 51	2	59.i		NEL 60.4
Medium Trucks:	55.		55.0	48.6		47		55.		55.8
Heavy Trucks:	64.		63.9	54.8	-	56		64.4	-	64.6
Vehicle Noise:	66.		65.5	59.6		57		66.		66.4
Centerline Distan	ce to Noise Co	ntour (in feet)	ı							
		-	7	0 dBA	65	dBA		60 dBA	55	dBA
			Ldn:	33		7	0	151		325
		CN	VEL:	34		7	3	157	,	338

Thursday, September 2, 2021 Thursday, September 2, 2021

	FHV	VA-RD-77-108	HIGI	HWAY	NOISE P	REDICT	ION M	DDEL					
Road Na	ario: OYC 2023 v me: 4th St. ent: e/o Veile Av	,	t				Name: lumber:		tabbit Trail	Develop			
	SPECIFIC IN	PUT DATA							L INPUT	s			
Highway Data					Site Cor	nditions	(Hard	= 10, Sc	oft = 15)				
Average Dail	y Traffic (Adt):	3,767 vehicle	es		Autos: 15								
Peak Hou	ır Percentage:	8.33%			Medium Trucks (2 Axles): 15								
Peak	Hour Volume:	314 vehicle	S		He	eavy Tru	cks (3+	Axles):	15				
ν	'ehicle Speed:	40 mph		ŀ	Vehicle	Mix							
Near/Far L	ane Distance:	36 feet		f	VehicleType Day Evening Night					Night	Dailv		
Site Data											. ,		
P.	arrier Height:	0.0 feet			Medium Trucks: 84.8% 4.9% 10.3% 2								
Barrier Type (0-		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	5.67%		
*, ,	Dist to Barrier:	44.0 feet		ļ									
Centerline Dis		44.0 feet		ļ	Noise S				eet)				
Barrier Distance		0.0 feet				Auto		0.000					
Observer Height		5.0 feet				m Truck		2.297					
	Pad Flevation:	0.0 feet			Hea	vy Truck	:s: 8	3.004	Grade Ad	justment	0.0		
-	nad Elevation:	0.0 feet		-	Lane Eq	uivalen	t Distar	nce (in t	feet)				
	Road Grade:	0.0%				Auto		0.460	,				
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 40	0.241					
	Right View:	90.0 degree			Heavy Trucks: 40.262								
FHWA Noise Mod	del Calculations	S											
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	inel	Barrier Att	en Ber	m Atten		
Autos	: 66.51	-6.73		1.2	28	-1.20		-4.61	0.0	000	0.000		
Medium Trucks	: 77.72	-22.35		1.3	31	-1.20		-4.87	0.0	000	0.000		
Heavy Trucks	82.99	-18.82		1.3	31	-1.20		-5.50	0.0	000	0.000		
Unmitigated Nois	se Levels (with	out Topo and	barri	er attei	nuation)								
VehicleType	Leq Peak Hou			Leq E	vening		Night		Ldn	_	VEL		
Autos			58.8		57.0		50		59.6	-	60.2		
Medium Trucks			54.8		48.4		46		55.3	-	55.6		
Heavy Trucks			63.7		54.6		55		64.2	2	64.3		
Vehicle Noise	: 66	.0	65.3		59.3	1	57	.5	65.9	9	66.1		
Centerline Distar	nce to Noise Co	ntour (in feet,	)										
			L	70	dBA	65	dBA		60 dBA		dBA		
			Ldn:		23		5		109		234		
	CNEL:				24 52 113 24					243			

	o: OYC 2023 \	VA-RD-77-10 Without Proje			0.02	Projec	Name.		abbit Trail	Develop	
Road Name Road Segmen		BI.				JOD I	iumber.	12398			
SITE S	SPECIFIC IN	PUT DATA					NOISE	MODE	L INPUT	s	
Highway Data				5	Site Cor	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	3,295 vehic	les					Autos:	15		
Peak Hour	Percentage:	8.33%			Me	dium Ti	ucks (2	Axles):	15		
Peak H	our Volume:	274 vehicle	es		He	avy Tru	cks (3+	Axles):	15		
Vel	hicle Speed:	40 mph		1	/ehicle	Miv					
Near/Far Lar	ne Distance:	12 feet		F.		icleType		Day	Evening	Night	Daily
Site Data											91.819
Rar	rier Height:	0.0 feet			М	edium 7	rucks:	84.8%	4.9%	10.3%	2.529
Barrier Type (0-W		0.0				Heavy 7	rucks:	86.5%	2.7%	10.8%	5.679
Centerline Dis	t. to Barrier:	33.0 feet			Voise S	ource E	levatio	ns (in fe	eet)		
Centerline Dist. t		33.0 feet				Auto		0.000	.,		
Barrier Distance t		0.0 feet			Mediu	m Truck		2.297			
Observer Height (	Above Pad):	5.0 feet				/y Truck		3.004	Grade Ad	iustment.	0.0
	d Elevation:	0.0 feet				•					
	d Elevation:	0.0 feet		L	.ane Eq			_ •	feet)		
F	Road Grade:	0.0%				Auto		2.833			
	Left View:	-90.0 degre				m Truck	0.	2.562			
	Right View:	90.0 degre	ees		Hea	ry Truck	:s: 32	2.589			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		m Atten
Autos:	66.51	-7.31		2.64		-1.20		-4.52		000	0.00
Medium Trucks:	77.72	-22.93	-	2.69	-	-1.20		-4.86		000	0.00
Heavy Trucks:	82.99	-19.41		2.69		-1.20		-5.69	0.0	000	0.00
Unmitigated Noise VehicleType	Levels (with Leg Peak Hou			er atteni Leg Ev		100	Night	_	Ldn		NEL
Autos:	60 60		59.5	Ley Lv	57.8		Tvigiti 51	7	60.3		60.
Medium Trucks:	56		55.6		49.2		47		56.1		56
Heavy Trucks:	65		64.4		55.4		56		65.0		65.
Vehicle Noise:	66		66.1		60.1		58		66.7	_	66.
Centerline Distanc	e to Noise Co	ntour (in fee	t)								
				70 a	iBA	65	dBA	6	i0 dBA	55	dBA
			Ldn:		20		4	3	92	•	198
	CNEL:				21 44 96			206			

Scenario: OYC 2023 Road Name: Potrero B Road Segment: s/o Oak V	l.	Phase 1			Project N Job Nur			abbit Trail	Develop	
SITE SPECIFIC I	NPUT DATA	1	Si	ito Con	NO ditions (H			L INPUT	S	
Average Daily Traffic (Adt):  Peak Hour Percentage:  Peak Hour Volume:  Vehicle Speed:  Near/Far Lane Distance:	3,917 vehic 8.33% 326 vehic 40 mph 78 feet			Med Hed ehicle N	dium Truck avy Truck <b>fix</b>	ks (2 A s (3+ A	utos: xles): xles):	15 15 15		
	70 1001			Vehi	cleType		Day	Evening	Night	Daily
Site Data  Barrier Height:  Barrier Type (0-Wall, 1-Berm):	0.0 feet 0.0				Au edium Trud deavy Trud	cks: {	77.5% 84.8% 86.5%	4.9%	9.6% 10.3% 10.8%	2.13
Centerline Dist. to Barrier: Centerline Dist. to Observer: Barrier Distance to Observer: Observer Height (Above Pad): Pad Elevation:	67.0 feet 67.0 feet 0.0 feet 5.0 feet 0.0 feet			Mediur Heav	Autos: n Trucks: y Trucks:	0.0 2.2 8.0	00 97 04	Grade Ad	iustment	: 0.0
Road Elevation: Road Grade: Left View: Right View:			Li	Mediur	Autos: n Trucks: y Trucks:	54.7 54.5	08 46	eet)		
FHWA Noise Model Calculatio	ns									
VehicleType REMEL  Autos: 66.5  Medium Trucks: 77.7		0	-0.69 -0.67	Finite	-1.20 -1.20		4.71 4.88		en Ber 000 000	m Atte 0.0 0.0
Heavy Trucks: 82.9	9 -19.3	8	-0.67		-1.20		5.29	0.0	000	0.0
Unmitigated Noise Levels (wit	hout Topo an	d barrier	attenu	ation)						
VehicleType Leq Peak Ho			Leq Eve		Leq Ni	_		Ldn	_	NEL
Medium Trucks:	i8.1 i2.9	57.0 52.2		55.2 45.9		49.2 44.3		57.8 52.8	3	58 53
	31.7	61.1 62.9		52.1 57.3		53.3 55.1		63.6		6
Centerline Distance to Noise (	Contour (in fee	et)								
	,	<i>-</i>	70 dE	BA .	65 dE	3A	6	0 dBA	55	dBA
		Ldn:		25		54		116		24

Thursday, September 2, 2021

	FHV	VA-RD-77-108	HIGH	IWAY I	NOISE PE	REDICTION	OM MO	DEL				
	io: OYC 2023 \ e: California A nt: n/o 6th St.		nase 1	I		Project i Job Nu			tabbit Trail	Develop	)	
	SPECIFIC IN	PUT DATA			a:. a				L INPUT	s		
Highway Data					Site Con	aitions (						
Average Daily	. ,	2,379 vehicle	es					Autos:				
	Percentage:	8.33%				dium Tru						
	our Volume:	198 vehicles	3		He	avy Truc	ks (3+ /	Axles):	15			
	hicle Speed:	40 mph		ı	Vehicle I	Лix						
Near/Far La	ne Distance:	12 feet		ľ	Veh	cleType		Day	Evening	Night	Daily	
Site Data						Α	utos:	77.5%	12.9%	9.6%	92.23%	
Bai	rier Heiaht:	0.0 feet			Medium Trucks: 84.8% 4.9% 10.3% 2.39%							
Barrier Type (0-W		0.0			F	leavy Tri	ucks:	86.5%	2.7%	10.8%	5.38%	
Centerline Dis	. ,	33.0 feet			Noise Sc	uraa Ele	uration	a (in f	n m d l			
Centerline Dist.	to Observer:	33.0 feet			Noise 30	Autos			et)			
Barrier Distance	to Observer:	0.0 feet					. 0.	000 297				
Observer Height (	Above Pad):	5.0 feet				n Trucks			Grade Ad	i ratma ni		
Pa	ad Elevation:	0.0 feet			Heav	y Trucks	. 8.	004	Grade Adj	justriierii	. 0.0	
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distan	ce (in	feet)			
ı	Road Grade:	0.0%				Autos	: 32.	833				
	Left View:	-90.0 degree	es		Mediui	n Trucks	: 32.	562				
	Right View:	90.0 degree	es		Heav	y Trucks	32.	589				
FHWA Noise Mode	el Calculations	;										
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite		Fresi		Barrier Att		rm Atten	
Autos:	66.51	-8.71		2.6		-1.20		-4.52		000	0.000	
Medium Trucks:	77.72	-24.57		2.6	-	-1.20		-4.86		000	0.000	
Heavy Trucks:	82.99	-21.05		2.6	9	-1.20		-5.69	0.0	000	0.000	
Unmitigated Noise	Levels (witho	out Topo and	barrie	er atter	uation)							
VehicleType	Leq Peak Hou	r Leq Day	,	Leq E	vening	Leq N	light		Ldn	С	NEL	
Autos:	59.	_	58.1		56.4		50.3		58.9		59.5	
Medium Trucks:	54.	-	53.9		47.6		46.0	)	54.5	-	54.7	
Heavy Trucks:	63.		62.8		53.8		55.0		63.4		63.5	
Vehicle Noise:	65.	2	64.5		58.6		56.	7	65.	1	65.4	
Centerline Distanc	e to Noise Co	ntour (in feet)	)									
				70	dBA	65 a		- 6	60 dBA		dBA	
			Ldn:		16		34		72		156 162	
		Lan: CNEL:				16 35 75						

September 2, 2021 Thursday, September 2, 2021

	FH\	WA-RD-77-108	HIGH	WAY I	NOISE P	REDICT	ION MC	DEL			
Road Na	ario: OYC 2023 me: Oak Valley ent: e/o Potrero	Pkwy.	hase	1			Name: lumber:		abbit Trail	Develo	р
	SPECIFIC IN	IPUT DATA			Site Con				L INPUT	S	
Highway Data					Site Con	uitions	(naru -				
	y Traffic (Adt):	7,992 vehicle	es					Autos:	15		
	r Percentage:	8.33%				dium Tr		,			
	Hour Volume:	666 vehicle	S		He	avy Tru	CKS (3+	Axies):	15		
	'ehicle Speed:	50 mph			Vehicle	Mix					
Near/Far L	ane Distance:	80 feet			Veh	icleType	,	Day	Evening	Night	Daily
Site Data						,	Autos:	77.5%	12.9%	9.69	6 92.43%
В	arrier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.39	6 2.33%
Barrier Type (0-	Wall, 1-Berm):	0.0				Heavy T	rucks:	86.5%	2.7%	10.89	5.24%
	Dist. to Barrier:	60.0 feet		-	Noise S	ource El	evation	s (in fe	eet)		
Centerline Dist		60.0 feet		Ī		Auto	s: 0	.000			
Barrier Distance	e to Observer:	0.0 feet			Mediu	m Truck	s: 2	297			
Observer Height	. ,	5.0 feet			Hear	y Truck	s: 8	.004	Grade Ad	justmer	t: 0.0
	Pad Elevation:	0.0 feet		ļ.							
R	oad Elevation:	0.0 feet		-	Lane Eq				eet)		
	Road Grade:	0.0%				Auto		.000			
	Left View:	-90.0 degre				m Truck		.803			
	Right View:	90.0 degre	es		Hea	y Truck	s: 44	.822			
FHWA Noise Mod	del Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos	70.20	-4.40		0.5	8	-1.20		-4.69	0.0	000	0.000
Medium Trucks	: 81.00	-20.39		0.6	31	-1.20		-4.88	0.0	000	0.000
Heavy Trucks				0.6		-1.20		-5.34	0.0	000	0.000
Unmitigated Nois											
VehicleType	Leq Peak Hou	- 1 - 2		Leq E	vening	_	Night	1	Ldn		OF
Autos			64.1		62.3		56.		64.9		65.5
Medium Trucks			59.3 67.3		52.9 58.3		51. 59.		59.9	-	60.1
Heavy Trucks Vehicle Noise			69.4		64.1		61.	-	67.9 70.		68.0 70.4
Centerline Distar	nce to Noise Co	ontour (in feet	)								
		,		70	dBA	65	dBA	6	0 dBA	5	5 dBA
			Ldn:		61		131	l	281		606
		C	NEL:		63		136	3	294		633

	FH\	WA-RD-77-108	HIGH	WAY NO	DISE P	REDICT	ION M	ODEL			
Scenario Road Name Road Segmen	e: 4th St.	With Project P Bl.	hase 1					: Jack F : 12398	Rabbit Trail	Develop	,
	SPECIFIC IN	IPUT DATA							L INPUT	S	
	. ,	7,382 vehicle 8.33% 615 vehicle 40 mph		Si	Ме	edium Tr eavy Tru	ucks (2	Autos: Axles):	15		
Near/Far Lar		40 mpn 48 feet		V	ehicle				I I	*** **	
Site Data		.0			Ver	icleType	Autos:	77.5%	Evening 12.9%	Night 9.6%	Daily 89.62%
	rier Height: all, 1-Berm):	0.0 feet 0.0				edium T Heavy T	rucks:	84.89 86.59	4.9%	10.3%	3.62%
Centerline Dis	t. to Barrier:	59.0 feet		N	oise S	ource E	levatio	ns (in f	eet)		
Centerline Dist. t Barrier Distance t Observer Height (, Pa Roa F	Li	Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment:  Lane Equivalent Distance (in feet)  Autos: 54.129 Medium Trucks: 53.966 Heavy Trucks: 53.982						± 0.0			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fre	snel	Barrier Att	en Be	m Atten
Autos:	66.51	-3.91		-0.62		-1.20		-4.69		000	0.000
Medium Trucks: Heavy Trucks:	77.72 82.99	-17.85 -15.14		-0.60 -0.60		-1.20 -1.20		-4.88 -5.35		000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrier	r attenu	ation)						
VehicleType	Leq Peak Hou	ır Leq Day	/	Leq Eve	ening	Leq	Night		Ldn	С	NEL
Autos:	60	1.8	59.7		57.9		51	.9	60.	5	61.
Medium Trucks:	58		57.3		51.0		49		57.	-	58.
Heavy Trucks:	66		65.4		56.4		57		66.	-	66.
Vehicle Noise:	67	**	67.0		60.7		59	1.1	67.	ь	67.
Centerline Distanc	e to Noise Co	ontour (in feet	)	70 -11			-(D.4		CO -(D.4		-104
			Ldn:	70 dE	3A 41	65	dBA	17	60 dBA 188		dBA 406
		_	Lan: NEL:		41		_	11	195		406
		C	*LL.		42		8		190	,	421

Scenario: OYC 2023 Road Name: 4th St. Road Segment: e/o Veile	•	hase 1			Project N Job Nur			abbit Trail	Develop	
SITE SPECIFIC I	NPUT DATA			ito Con	NO ditions (h			L INPUT	S	
Average Daily Traffic (Adt):  Peak Hour Percentage:  Peak Hour Volume:  Vehicle Speed:  Near/Far Lane Distance:	4,864 vehicle 8.33% 405 vehicle 40 mph 36 feet			Me He ehicle I	dium Truc avy Truck	ks (2 A s (3+ A	lutos: xles):	15 15 15 15	Night	Daily
Site Data				VOIII			77.5%	12.9%	9.6%	
Barrier Height: Barrier Type (0-Wall, 1-Berm):	0.0 feet 0.0				edium Tru deavy Tru	cks:	34.8% 36.5%	4.9%	10.3% 10.8%	3.10
Centerline Dist. to Barrier: Centerline Dist. to Observer: Barrier Distance to Observer: Observer Height (Above Pad): Pad Elevation:	44.0 feet 44.0 feet 0.0 feet 5.0 feet 0.0 feet		N	Mediur	Autos: n Trucks: y Trucks:	0.0 2.2 8.0	00	<b>et)</b> Grade Adj	ustment	: 0.0
Road Elevation: Road Grade: Left View: Right View:			La	Mediur	Autos: n Trucks: y Trucks:	40.4 40.2	60	eet)		
FHWA Noise Model Calculatio	ns									
VehicleType REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresn	e/ l	Barrier Att	en Ber	m Atte
Autos: 66.5  Medium Trucks: 77.7  Heavy Trucks: 82.9	2 -20.33		1.28 1.31 1.31		-1.20 -1.20 -1.20		4.61 4.87 5.50	0.0	000 000 000	0.0 0.0 0.0
Unmitigated Noise Levels (wit	hout Topo and	barrier a	attenu	ation)						
VehicleType Leq Peak Ho	our Leq Da	y L	eq Eve	ening	Leq Ni	ght		Ldn	C	NEL
Medium Trucks:	60.9 67.5	59.8 56.8		58.1 50.4		52.0 48.9		60.6 57.3	3	61 57
	55.6 67.3	65.0 66.6		55.9 60.6		57.2 58.8		65.5 67.2		65 67
Centerline Distance to Noise (	Contour (in fee	t)								
		Ldn:	70 dE	3 <i>A</i> 29	65 dE	8A 62	6	0 dBA 133		dBA 28
	Lan: CNEL:			30			64			29

Thursday, September 2, 2021

	FH\	WA-RD-77-108	HIGHV	VAY N	OISE PI	REDICTI	ON M	DDEL			
Road Na	ario: OYC 2023 me: 4th St. nent: w/o Potrero	,	ase 1					Jack F 12398	Rabbit Trail	Develop	
SITI Highway Data	SPECIFIC IN	IPUT DATA			ite Con	N ditions (			L INPUT	s	
Average Dail Peak Hol Peak	y Traffic (Adt): ur Percentage: Hour Volume: /ehicle Speed: .ane Distance:	6,233 vehicle: 8.33% 519 vehicles 40 mph 12 feet	3		Me He <b>/ehicle</b> l	dium Tru avy Truc <b>Mix</b>	icks (2	Autos Axles) Axles)	15 15 15		
	and Distance.	12 1001			Veh	icleType		Day	Evening	Night	Daily
Site Data  B Barrier Type (0-	arrier Height: Wall, 1-Berm):	0.0 feet 0.0				A edium Tr Heavy Tr		77.59 84.89 86.59	6 4.9%	9.6% 10.3% 10.8%	4.93%
Centerline I	Dist. to Barrier:	33.0 feet			loise So	ource Ele	evatio	ns (in f	eet)		
Barrier Distance Observer Heigh		33.0 feet 0.0 feet 5.0 feet 0.0 feet			Mediu	Autos m Trucks vy Trucks	i: (	0.000 2.297 3.004	Grade Ad	ljustment	: 0.0
R	Road Elevation: 0.0 feet				ane Eq	uivalent	Distai	nce (in	feet)		
	Road Grade: Left View: Right View:	0.0% -90.0 degree 90.0 degree				Autos m Trucks y Trucks	: 32	2.833 2.562 2.589			
FHWA Noise Mo	del Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fres	snel	Barrier Att	en Ber	m Atten
Autos	s: 66.51	-4.76		2.64	i	-1.20		-4.52	0.	000	0.000
Medium Trucks Heavy Trucks				2.69		-1.20 -1.20		-4.86 -5.69		000 000	0.000
Unmitigated Noi	se I evels (with	out Tono and h	arrier	atteni	uation)						
VehicleType	Leg Peak Hou			Leg Ev		Leg I	Vight		Ldn	C	NEL
Autos			2.1		60.3		54	.3	62.	9	63.5
Medium Trucks	s: 62	2.0 €	1.2		54.9		53	.3	61.	8	62.0
Heavy Trucks	s:69	).2 6	8.6		59.6		60	.8	69.	2	69.3
Vehicle Noise	e: 70	).8 7	0.1		63.6		62	.3	70.	7	70.9
Centerline Dista	nce to Noise Co	ontour (in feet)									
				70 d		65 0			60 dBA		dBA
		_	.dn:		37		7	-	170		367
		CN	EL:	38 82 176				380			

hursday, September 2, 2021

	FHV	VA-RD-77-108	HIGI	HWAY I	NOISE P	REDICT	ION MO	ODEL			
Road Na	ario: OYC 2025 \ me: Potrero Bl. ent: s/o Oak Val	,	t				t Name: lumber:		abbit Trail	Develop	1
	SPECIFIC IN	PUT DATA			0				L INPUT	S	
Highway Data					Site Cor	aitions	(Hara :				
Average Dail	y Traffic (Adt):	3,814 vehicle	es					Autos:	15		
Peak Hou	ır Percentage:	8.33%				edium Tr		,	15		
Peak	Hour Volume:	318 vehicles	S		He	eavy Tru	icks (3+	Axles):	15		
V	'ehicle Speed:	40 mph		ŀ	Vehicle	Mix					
Near/Far L	ane Distance:	78 feet		ŀ		icleType	9	Dav	Evening	Niaht	Dailv
Site Data							Autos:	77.5%	-	9.6%	91.81%
	arrier Height:	0.0 feet			M	ledium T	rucks:	84.8%	4.9%	10.3%	2.52%
Barrier Type (0-		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	5.67%
Centerline L	Dist. to Barrier:	67.0 feet		-	Noise S	ource F	levatio	ns (in fe	et)		
Centerline Dis	t. to Observer:	67.0 feet		ŀ		Auto		0.000			
Barrier Distanc	e to Observer:	0.0 feet			Modiu	ım Truck		2.297			
Observer Heigh	(Above Pad):	5.0 feet				vy Truck		3.004	Grade Ad	iustmant	. 0.0
1	Pad Elevation:	0.0 feet			iica	vy IIuch	is. C	5.004	Orauc Au	Justinent	. 0.0
R	oad Elevation:	0.0 feet			Lane Eq	uivalen	t Distar	nce (in f	eet)		
	Road Grade:	0.0%				Auto	s: 54	1.708			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 54	1.546			
	Right View:	90.0 degree	es		Hea	vy Truck	(s: 54	1.562			
FHWA Noise Mo	del Calculations	3									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	inel	Barrier Att	en Ber	m Atten
Autos	: 66.51	-6.68		-0.6	9	-1.20		-4.71	0.0	000	0.000
Medium Trucks	: 77.72	-22.29		-0.6	67	-1.20		-4.88	0.0	000	0.000
Heavy Trucks	82.99	-18.77		-0.6	67	-1.20		-5.29	0.0	000	0.000
Unmitigated Nois			barri	er atter	nuation)						
VehicleType	Leq Peak Hou			Leq E	vening		Night		Ldn	_	NEL
Autos		-	56.8		55.1		49		57.0	-	58.2
	Medium Trucks: 53.6 52.8				46.5		44		53.4	•	53.6
Heavy Trucks			61.7		52.7		53		62.3	-	62.4
Vehicle Noise	: 64	.1	63.3		57.4		55	.5	64.0	)	64.2
Centerline Distar	nce to Noise Co	ntour (in feet)	)	70	-/0.4		-/0.4		-0 -ID 4		-/0.4
			, ,,,_	/0	dBA	65	dBA		0 dBA		dBA
			Ldn:		27		5	•	123		266
		CI	NEL:		28 59 128 2				276		

	o: OYC 2025	,	ct					: Jack R : 12398	tabbit Trail	Develop	
	SPECIFIC IN	IDIIT DATA					NOISE	MODE	L INPUT	s	
Highway Data	or Lon to in	I O I DAIA		S	Site Con				oft = 15)		
Average Daily	Traffic (Adt):	2,440 vehicl	es					Autos:	15		
Peak Hour	Percentage:	8.33%			Me	dium Ti	rucks (2	Axles):	15		
Peak H	our Volume:	203 vehicle	:S		He	eavy Tru	icks (3+	Axles):	15		
Ve	hicle Speed:	40 mph			/ehicle	Miv					
Near/Far Lar	ne Distance:	12 feet				icleTyp	e	Dav	Evening	Night	Daily
Site Data							Autos:	77.5%	-		91.819
Ran	rier Height:	0.0 feet			М	edium 1	rucks:	84.8%	4.9%	10.3%	2.529
Barrier Type (0-W		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	5.679
Centerline Dis	st. to Barrier:	33.0 feet			Voise S	ource F	levatio	ns (in fe	oet)		
Centerline Dist.	to Observer:	33.0 feet		H.	.0.00 0	Auto		0.000	,,,,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck		2.297			
Observer Height (	bserver Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet					vy Truci		3.004	Grade Ad	iustment	. 0 0
Pa							dourion	. 0.0			
Roa	ad Elevation:	0.0 feet		L	.ane Eq	uivalen	t Dista	nce (in i	feet)		
F	Road Grade:	0.0%				Auto	os: 3	2.833			
	Left View:	-90.0 degre	es			m Truck		2.562			
	Right View:	90.0 degre	es		Hea	vy Truci	ks: 3:	2.589			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fre	snel	Barrier Att	en Ber	m Atten
Autos:	66.51	-8.62		2.64	4	-1.20		-4.52	0.0	000	0.00
Medium Trucks:	77.72	-24.23		2.69	9	-1.20		-4.86	0.0	000	0.00
Heavy Trucks:	82.99	-20.71		2.69	9	-1.20		-5.69	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barri	er atteni	uation)						
VehicleType	Leq Peak Hou	ır Leq Da	y	Leq Ev	rening	Leq	Night		Ldn	C	NEL
Autos:	59		58.2		56.5		50		59.0	-	59.
Medium Trucks:	55		54.3		47.9		46		54.8	-	55
	Heavy Trucks: 63.8		63.1		54.1		55		63.7		63
Vehicle Noise:	65	.5	64.8		58.8		57	.0	65.4	4	65
Centerline Distanc	e to Noise Co	ontour (in fee	t)								
			L	70 d		65	dBA		60 dBA		dBA
			Ldn:		16			15	75		162
		С	NEL:		17		3	16	78		169

Road Name	o: OYC 2025 \ e: Oak Valley nt: e/o Potrero	,				Project N Job Nui			abbit Trail	Develop	1
SITE S	SPECIFIC IN	PUT DATA		S	ite Con	NC ditions (F			L INPUT:	S	
Average Daily Peak Hour Peak H	Percentage: our Volume: hicle Speed:	8,583 vehicles 8.33% 715 vehicles 50 mph 80 feet	5		Med Hed <b>ehicle N</b>	dium Truc avy Truck	ks (2 A	Autos: Axles):	15 15 15 15	Night	Daily
Site Data						Au	itos:	77.5%		9.6%	91.81
Barrier Type (0-W	rier Height: all, 1-Berm):	0.0 feet 0.0				edium Tru Ieavy Tru		84.8% 86.5%		10.3% 10.8%	
Centerline Dist. 1 Centerline Dist. 1 Barrier Distance 1 Observer Height (J	to Observer: to Observer:	60.0 feet 60.0 feet 0.0 feet 5.0 feet 0.0 feet		N	Mediur	Autos: n Trucks: y Trucks:	0.0 2.:	s (in fe 000 297 004	et) Grade Ad	justment	: 0.0
Roa	d Elevation:	0.0 feet		Li	ane Equ	ıivalent E	Distanc	e (in t	eet)		
F	Road Grade: Left View: Right View:	0.0% -90.0 degrees 90.0 degrees				Autos: n Trucks: y Trucks:	44.	803			
FHWA Noise Mode	l Calculations	5		-							
VehicleType	REMEL	Traffic Flow	Distar	се	Finite	Road	Fresn	iel .	Barrier Att	en Ber	m Atte
Autos:	70.20	-4.12		0.58		-1.20		-4.69		000	0.0
Medium Trucks: Heavy Trucks:	81.00 85.38	-19.74 -16.22		0.61 0.61		-1.20 -1.20		-4.88 -5.34		000 000	0.0
Unmitigated Noise	Levels (with	out Topo and b	arrier a	ttenu	ation)						
VehicleType	Leq Peak Hou	r Leq Day	Le	eq Eve	ening	Leq N	ight		Ldn	C	NEL
Autos:	65	.5 6	4.4		62.6		56.5	5	65.2	2	65
Medium Trucks:	60	.7 6	0.0		53.6		52.1		60.5	5	60
Heavy Trucks:	68		7.9		58.9		60.2	_	68.5	-	68
Vehicle Noise:	70	.7 7	0.0		64.5		62.2	2	70.6	6	70
Centerline Distanc	e to Noise Co	ntour (in feet)									
			. L	70 dl		65 dE			0 dBA		dBA
		_	dn:		66		142		306		65
		CN	EL:		69		148		319		68

Thursday, September 2, 2021

	FHV	VA-RD-77-108	HIGH	IWAY	NOISE PI	REDICTI	ON M	ODEL			
Road Nam	io: OYC 2025 \ ne: 4th St. nt: e/o Potrero	,	t					Jack F 12398	Rabbit Trail	Develop	
	SPECIFIC IN	PUT DATA			0				L INPUT	s	
Highway Data					Site Con	ditions	Hard				
Average Daily	. ,	7,249 vehicle	es					Autos.			
	Percentage:	8.33%				dium Tru		,			
	lour Volume:	604 vehicles	S		He	avy Truc	ks (3+	Axles).	15		
	hicle Speed:	40 mph		İ	Vehicle I	Wix					
Near/Far Lai	ne Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						F	utos:	77.5%	12.9%	9.6%	91.81%
Bar	rrier Height:	0.0 feet			M	edium Tr	ucks:	84.89	4.9%	10.3%	2.52%
Barrier Type (0-W	-	0.0			1	Heavy Tr	ucks:	86.5%	2.7%	10.8%	5.67%
Centerline Dis	st. to Barrier:	59.0 feet		-	Noise So	urce Fl	ovatio	ne (in f	oot)		
Centerline Dist.	to Observer:	59.0 feet		-	140/36 00	Autos		0.000	uci)		
Barrier Distance	to Observer:	0.0 feet			Madiu	m Trucks	. ,	2.297			
Observer Height (	Above Pad):	5.0 feet				y Trucks		3.004	Grade Ad	liustmant	. 0 0
Pa	ad Elevation:	0.0 feet			пеач	ry Trucks	. (	0.004	Orauc Au	justinent	. 0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalent	Dista	nce (in	feet)		
F	Road Grade:	0.0%				Autos	: 54	1.129			
	Left View:	-90.0 degree	es		Mediu	m Trucks	: 50	3.966			
	Right View:	90.0 degree	es		Heav	y Trucks	5	3.982			
FHWA Noise Mode	el Calculations	;									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	snel	Barrier Att	en Ber	m Atten
Autos:	66.51	-3.89		-0.6	32	-1.20		-4.69	0.	000	0.000
Medium Trucks:	77.72	-19.50		-0.6	30	-1.20		-4.88	0.	000	0.000
Heavy Trucks:	82.99	-15.98		-0.6	30	-1.20		-5.35	0.	000	0.000
Unmitigated Noise	e Levels (witho	out Topo and	barrie	er attei	nuation)						
	Leq Peak Hou			Leq E	vening	Leq	_		Ldn		NEL
Autos:	60.		59.7		57.9		51		60.		61.
Medium Trucks:	56.		55.7		49.3		47		56.	-	56.
Heavy Trucks:	65.		64.6		55.5		56		65.		65.3
Vehicle Noise:	67.	.0	66.2		60.3		58	.4	66.	8	67.
Centerline Distanc	e to Noise Co	ntour (in feet	)	70	10.4						10.4
				70	dBA 36	65 (		8	60 dBA		dBA
			Ldn: NFL:					-	168		363 377
		Ci	VEL:		38 81 175				)	3//	

	FHV	/A-RD-77-108	HIGH	I YAW	NOISE P	REDICT	ION M	ODEL			
Road Nan	rio: OYC 2025 V ne: 4th St. nt: e/o Veile Av	,	t				Name: lumber:		Rabbit Trail	Develop	)
	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data					Site Cor	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	4,663 vehicle	es					Autos:			
Peak Hour	Percentage:	8.33%				edium Tr		,			
Peak F	lour Volume:	388 vehicle	S		He	eavy Tru	cks (3+	Axles):	15		
Ve	ehicle Speed:	40 mph		T T	Vehicle	Mix					
Near/Far La	ne Distance:	36 feet				icleType	9	Dav	Evenina	Niaht	Dailv
Site Data							Autos:	77.5%	12.9%	9.6%	91.81%
Ra	rrier Height:	0.0 feet			M	edium T	rucks:	84.8%	4.9%	10.3%	2.52%
Barrier Type (0-W		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	5.67%
Centerline Di	ist. to Barrier:	44.0 feet			Noise S	ource F	lovatio	ne (in f	not)		
Centerline Dist.	to Observer:	44.0 feet		H	110/36 0	Auto		0.000			
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		2.297			
Observer Height	(Above Pad):	5.0 feet				vy Truck		3.004	Grade Ad	liustman	+ n n
P	ad Elevation:	ation: 0.0 feet					. 0.0				
Road Elevation: 0.0 feet					Lane Eq	uivalen	t Distai	nce (in	feet)		
	Road Grade:	0.0%				Auto	s: 40	0.460			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 40	).241			
	Right View:	90.0 degree	es		Hea	vy Truck	s: 40	).262			
FHWA Noise Mod	el Calculations	;									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	inel	Barrier Att	ten Be	rm Atten
Autos:	66.51	-5.80		1.2	28	-1.20		-4.61	0.0	000	0.000
Medium Trucks:	77.72	-21.42		1.3	31	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	82.99	-17.90		1.3	31	-1.20		-5.50	0.0	000	0.000
Unmitigated Noise	e Levels (witho	out Topo and	barri	er atter	nuation)						
VehicleType	Leq Peak Hou			Leq E	vening		Night		Ldn	_	NEL
Autos:		-	59.7		57.9		51		60.	-	61.1
Medium Trucks:			55.7		49.3		47		56.	-	56.5
Heavy Trucks:			64.6		55.5		56		65.		65.3
Vehicle Noise:	66.	9	66.2		60.3		58	.4	66.	8	67.1
Centerline Distan	ce to Noise Co	ntour (in feet	)					,		,	
			L	70	dBA	65	dBA		60 dBA		dBA
			Ldn:		27		5		125		270
		CNEL:			28 60 130			281			

	FHV	VA-RD-77-108	HIGH	A YAWE	IOISE PI	REDICT	TON MC	DDEL			
Road Nam	io: OYC 2025 \ ne: 4th St. nt: w/o Potrero	,	t				t Name: lumber:		abbit Trail	Develop	
	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data					Site Con	ditions	(Hard =				
Average Daily	. ,	4,640 vehicle	es					Autos:			
	Percentage:	8.33%					rucks (2	,			
	lour Volume:	387 vehicle	s		He	avy Tru	icks (3+	Axles):	15		
	hicle Speed:	40 mph		1	Vehicle I	Иix					
Near/Far La	ne Distance:	12 feet			Veh	icleType	е	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	91.81%
Bai	rrier Height:	0.0 feet			М	edium 7	rucks:	84.8%	4.9%	10.3%	2.52%
Barrier Type (0-W		0.0			-	Heavy 7	rucks:	86.5%	2.7%	10.8%	5.67%
Centerline Di	st. to Barrier:	33.0 feet		-	Noise So	nurce F	levation	ns (in fe	eet)		
Centerline Dist.	to Observer:	33.0 feet		H.	10/30 00	Auto		.000	.01)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		.297			
Observer Height (	'Above Pad):	5.0 feet				/v Truck		.004	Grade Ad	iustment	. 0 0
Pa	ad Elevation:	0.0 feet		L		,					
Roa	ad Elevation:	0.0 feet		1	Lane Eq				feet)		
1	Road Grade:	0.0%				Auto		.833			
	Left View:	-90.0 degree	es			m Truck		.562			
	Right View:	90.0 degree	es		Heav	ry Truck	(s: 32	.589			
FHWA Noise Mode	el Calculations	5									
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fres		Barrier Att		m Atten
Autos:	66.51	-5.83		2.6		-1.20		-4.52		000	0.00
Medium Trucks:	77.72	-21.44		2.6	-	-1.20		-4.86		000	0.00
Heavy Trucks:	82.99	-17.92		2.6	9	-1.20		-5.69	0.0	000	0.00
Unmitigated Noise								_			
VehicleType	Leq Peak Hou			Leq E			Night		Ldn		NEL
Autos:	62		61.0		59.3		53.	_	61.8	-	62.
	Medium Trucks: 57.8 57.				50.7		49.		57.6	-	57.
Heavy Trucks: Vehicle Noise:	66	-	65.9 67.6		56.9 61.6		58. 59.		66.5		66. 68.
Centerline Distance	e to Noise Co	ntour (in foot	1								
Centernine Distant	.6 10 110/36 00	mour (mileet		70 0	dBA	65	dBA	6	0 dBA	55	dBA
			Ldn:		25	i .	54	4	116		249
	CNEL:					26 56 120			259		

Scenario	o: OYC 2025	With Project P	1+2			Proiect	Name:	Jack F	abbit Trail	Develop	
	e: Potrero Bl.							12398			
Road Segmen	t: s/o Oak Va	lley Pkwy.									
	SPECIFIC IN	IPUT DATA			·4- O				L INPUT	s	
Highway Data				3	ite Cond	ditions (	Hara =				
Average Daily	. ,	6,271 vehicle	es					Autos:			
Peak Hour I	-	8.33%				dium Tru		,			
	our Volume:	522 vehicle	S		Hea	avy Truc	ks (3+	Axles):	15		
	nicle Speed:	40 mph		V	ehicle N	lix					
Near/Far Lar	ne Distance:	78 feet			Vehi	cleType		Day	Evening	Night	Daily
Site Data						Α	utos:	77.5%	12.9%	9.6%	95.029
Bar	rier Height:	0.0 feet			Me	dium Tr	ucks:	84.8%	4.9%	10.3%	1.539
Barrier Type (0-Wi	-	0.0			H	leavy Tr	ucks:	86.5%	2.7%	10.8%	3.45
Centerline Dis	t. to Barrier:	67.0 feet		N	oise So	urce Ele	evation	s (in fe	eet)		
Centerline Dist. t	o Observer:	67.0 feet		-		Autos		.000	,		
Barrier Distance t	o Observer:	0.0 feet			Mediun	n Trucks		.297			
Observer Height (	Above Pad):	5.0 feet			Heav	y Trucks	. 8	.004	Grade Ad	iustment	0.0
Pa	d Elevation:	0.0 feet									
Roa	d Elevation:	0.0 feet		Li	ane Equ	iivalent			feet)		
F	Road Grade:	0.0%				Autos		.708			
	Left View:	-90.0 degree	es			n Trucks		.546			
	Right View:	90.0 degree	es		Heav	y Trucks	: 54	.562			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow	Dista		Finite		Fres		Barrier Att		m Atten
Autos:	66.51			-0.69		-1.20		-4.71		000	0.00
Medium Trucks:	77.72			-0.67		-1.20		-4.88		000	0.00
Heavy Trucks:	82.99			-0.67		-1.20		-5.29	0.0	000	0.00
-	Lovole (with	out Topo and	barrier				E-lat	1	Ldn		VFL
									Lan		
VehicleType	Leq Peak Hou	ır Leq Day		eq Eve		Leq I	_	2	EO.	n	
VehicleType Autos:	Leq Peak Hou	ır Leq Day	59.1	eq Eve	57.4	Leq I	51.	-	59.	-	
VehicleType Autos: Medium Trucks:	Leq Peak Hou 60 53	Ir Leq Day 0.3 0.6	59.1 52.8	eq Eve	57.4 46.5	Leq I	51. 44.	9	53.4	4	53
VehicleType Autos: Medium Trucks: Heavy Trucks:	Leq Peak Hou 60 53 62	Ir Leq Day 1.3 3.6 2.4	59.1 52.8 61.7	eq Eve	57.4 46.5 52.7	Leq I	51. 44. 53.	9 9	53.4 62.3	4	53 62
VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	Leq Peak Hou 60 53 62 64	Leq Day 0.3 0.6 0.4	59.1 52.8 61.7 64.0	eq Eve	57.4 46.5	Leq I	51. 44.	9 9	53.4	4	53 62
VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	Leq Peak Hou 60 53 62 64	Leq Day 0.3 0.6 0.4	59.1 52.8 61.7 64.0		57.4 46.5 52.7 58.9		51. 44. 53. 56.	9 9 2	53.4 62.3	4 3 6	53. 62. 64.
Autos: Medium Trucks: Heavy Trucks:	Leq Peak Hou 60 53 62 64	Leq Day 0.3 0.6 0.4	59.1 52.8 61.7 64.0	eq Eve	57.4 46.5 52.7 58.9	Leq 1	51. 44. 53. 56.	9 9 2	53. 62. 64.	4 3 6 55	60. 53. 62. 64. dBA

Thursday, September 2, 2021

	FHW	/A-RD-77-108	HIGH	YAWI	NOISE PE	REDICTION	ом мо	DEL			
	o: OYC 2025 V e: California A nt: n/o 6th St.		1+2			Project i Job Nu			tabbit Trail	Develop	)
	SPECIFIC IN	PUT DATA			a:. a				L INPUT	s	
Highway Data					Site Con	aitions (					
Average Daily	. ,	2,931 vehicle	es					Autos:			
	Percentage:	8.33%				dium Tru					
	our Volume:	244 vehicles	3		He	avy Truc	ks (3+ .	Axles):	15		
	hicle Speed:	40 mph		ŀ	Vehicle I	Mix					
Near/Far Lai	ne Distance:	12 feet		Ī	Veh	icleType		Day	Evening	Night	Daily
Site Data						Α	utos:	77.5%	12.9%	9.6%	93.18%
Bar	rier Heiaht:	0.0 feet			Me	edium Tri	ucks:	84.8%	4.9%	10.3%	2.10%
Barrier Type (0-W		0.0			F	leavy Tri	ucks:	86.5%	2.7%	10.8%	4.72%
Centerline Dis	. ,	33.0 feet		H	Noise Sc	uraa Ele	uration	a (in f	n m d l		
Centerline Dist.	to Observer:	33.0 feet		l l	Noise 30	Autos			et)		
Barrier Distance	to Observer:	0.0 feet					. 0.	000			
Observer Height (	Above Pad):	5.0 feet				m Trucks		297	Grade Ad	i ratma ni	
Pa	nd Elevation:	0.0 feet			Heav	y Trucks	. 8.	004	Grade Adj	justriierii	. 0.0
Roa	nd Elevation:	0.0 feet		Ī	Lane Eq	uivalent	Distan	ce (in	feet)		
F	Road Grade:	0.0%				Autos	: 32	833			
	Left View:	-90.0 degree	es		Mediui	m Trucks	: 32	562			
	Right View:	90.0 degree	es		Heav	y Trucks	32	589			
FHWA Noise Mode	el Calculations	i									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite		Fresi		Barrier Att		rm Atten
Autos:	66.51	-7.76		2.6		-1.20		-4.52		000	0.000
Medium Trucks:	77.72	-24.23		2.6	-	-1.20		-4.86		000	0.000
Heavy Trucks:	82.99	-20.71		2.6	9	-1.20		-5.69	0.0	000	0.000
Unmitigated Noise	Levels (witho	ut Topo and	barrie	er atter	uation)						
	Leq Peak Hou			Leq E	vening	Leq N	-		Ldn		NEL
Autos:	60.	_	59.1		57.3		51.	-	59.9	-	60.5
Medium Trucks:	55.	-	54.3		47.9		46.		54.8	-	55.0
Heavy Trucks:	63.		63.1		54.1		55.		63.7		63.8
Vehicle Noise:	65.	7	65.0		59.3		57.	2	65.6	6	65.9
Centerline Distanc	e to Noise Co	ntour (in feet)	)					,			
				70	dBA	65 a			60 dBA		dBA
			Ldn:		17		36		78		168
		CI	VEL:		17		38		81		175

Thursday, September 2, 2021 Thursday, September 2, 2021

	FHW	/A-RD-77-108	HIGH	1 YAW	NOISE P	REDICT	ION MO	DDEL			
Road Nam	io: OYC 2025 V e: Oak Valley F nt: e/o Potrero	Pkwy.	1+2				Name: lumber:		tabbit Trail	Develop	
	SPECIFIC IN	PUT DATA			a:. a				L INPUT	S	
Highway Data					Site Cor	aitions	(Hara :				
Average Daily	. ,	11,040 vehicle	es					Autos:			
	Percentage:	8.33%				dium Tr		,			
	our Volume:	920 vehicle	S		He	avy Tru	cks (3+	Axles):	15		
	hicle Speed:	50 mph			Vehicle	Mix					
Near/Far Lai	ne Distance:	80 feet		F	Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	93.63%
Rar	rier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	1.96%
Barrier Type (0-W		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	4.41%
Centerline Dis		60.0 feet		1	Noise S	ource E	levatio	ns (in fe	eet)		
Centerline Dist.	to Observer:	60.0 feet		F		Auto		.000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck	s: 2	297			
Observer Height (.	Above Pad):	5.0 feet			Hear	/y Truck	s: 8	.004	Grade Ad	liustment	0.0
Pa	ad Elevation:	0.0 feet		Lane Equivalent Distance (in feet)							
Road Elevation: 0.0 feet					Lane Eq	uivalen	t Distar	ice (in i	feet)		
F	Road Grade:	0.0%				Auto		.000			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 44	.803			
	Right View:	90.0 degree	es		Hea	ry Truck	s: 44	.822			
FHWA Noise Mode	el Calculations	ı		'							
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fres		Barrier Att		m Atten
Autos:	70.20	-2.94		0.5	-	-1.20		-4.69		000	0.000
Medium Trucks:	81.00	-19.74		0.6		-1.20		-4.88		000	0.000
Heavy Trucks:	85.38	-16.22		0.6	1	-1.20		-5.34	0.0	000	0.000
Unmitigated Noise							A 17 1- 4	_	Ldn		NFL.
VehicleType Autos:	Leq Peak Houi		65.5	Leq E	vening 63.8		Night 57	7	Lan 66.	_	NEL 66.9
Medium Trucks:	60.	-	60.0		53.6		52		60.	-	60.3
Heavy Trucks:	68.	-	67.9		58.9		60		68.	-	68.6
Vehicle Noise:	71.	-	70.3		65.3		62		71.	-	71.3
Centerline Distanc	e to Noise Co	ntour (in feet	)								
		,		70	dBA	65	dBA	6	60 dBA	55	dBA
			Ldn:		70		15	0	324	ı.	697
	CNEL:				73 157 339			731			

Scenario Road Name Road Segmen	e: 4th St.	With Project F	P1+2				t Name: lumber:		Rabbit Trail	Develop	)
	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data				S	ite Cor	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily 1	Traffic (Adt):	8,723 vehic	les					Autos:			
Peak Hour F	Percentage:	8.33%				edium Ti		,			
	our Volume:	727 vehicle	es		He	eavy Tru	icks (3+	Axles):	15		
	nicle Speed:	40 mph		ν	'ehicle	Mix					
Near/Far Lan	e Distance:	48 feet			Veh	icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	93.19%
Ran	rier Heiaht:	0.0 feet			М	edium 7	rucks:	84.8%	4.9%	10.3%	2.09%
Barrier Type (0-Wa		0.0				Heavy 7	rucks:	86.5%	2.7%	10.8%	4.71%
Centerline Dis	t. to Barrier:	59.0 feet			loise Si	ource E	levatio	ns (in f	pet)		
Centerline Dist. t	o Observer:	59.0 feet		F F	.0.00 0	Auto		0.000	301)		
Barrier Distance t	o Observer:	0.0 feet			Modiu	m Truck		2.297			
Observer Height (A	Above Pad):	5.0 feet				vy Truck		3.004	Grade Ad	liustmen	- 0.0
Pa	d Elevation:	0.0 feet		L	rica	vy IIucr	is. C	5.004	0,000,10	jacamom	. 0.0
Roa	d Elevation:	0.0 feet		L	ane Eq	uivalen	t Distar	nce (in	feet)		
R	Road Grade:	0.0%				Auto	s: 54	1.129			
	Left View:	-90.0 degre	ees		Mediu	m Truck	(s: 53	3.966			
	Right View:	90.0 degre	ees		Hea	vy Truck	(s: 53	3.982			
FHWA Noise Mode	I Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	inel	Barrier Att	en Be	m Atten
Autos:	66.51	-3.02	_	-0.62		-1.20		-4.69		000	0.00
Medium Trucks:	77.72		-	-0.60		-1.20		-4.88		000	0.00
Heavy Trucks:	82.99	-15.98	3	-0.60	)	-1.20		-5.35	0.0	000	0.00
Unmitigated Noise										1	
	Leq Peak Hou		,	Leq Ev			Night		Ldn		NEL
Autos:	61		60.6		58.8		52		61.		62.0
Medium Trucks:		5.4	55.7		49.3		47		56.		56.
Heavy Trucks:	65		64.6		55.5		56		65.		65.3
Vehicle Noise:		7.2	66.4		60.8	i	58	.ნ	67.	U	67.
Centerline Distance	e to Noise Co	ontour (in fee	t)	70 d	D.4		dBA	Т.	50 dBA		dBA
			Ldn:	70 a	BA 37	65	8		174		375 375

		/A-RD-77-108 I		WAYI	NOISE PI						
Road Nam		With Project P1	+2					: Jack F : 12398	abbit Trail	Develop	
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Con	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	6,137 vehicles	3					Autos:	15		
Peak Hour	Percentage:	8.33%						Axles):			
Peak H	our Volume:	511 vehicles			He	avy Tru	cks (3+	- Axles):	15		
Ve	hicle Speed:	40 mph		f	Vehicle I	Лix					
Near/Far La	ne Distance:	36 feet		ŀ		cleType	9	Day	Evening	Night	Daily
Site Data							Autos:	77.5%		9.6%	93.78
Rai	rier Height:	0.0 feet			Me	edium T	rucks:	84.8%	4.9%	10.3%	1.91
Barrier Type (0-W	-	0.0			F	leavy T	rucks:	86.5%	2.7%	10.8%	4.31
Centerline Dis	. ,	44.0 feet		-	Noise Sc		141-	(i £	41		
Centerline Dist.	to Observer:	44.0 feet		H	Noise Sc			- 1	eet)		
Barrier Distance	to Observer:	0.0 feet				Auto		0.000			
Observer Height (	Above Pad):	5.0 feet				n Truck		2.297	Crodo Ad	iuatmant	
Pa	ad Elevation:	0.0 feet			Heav	y Truck	S: 6	8.004	Grade Ad	iusimeni.	0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	ıivalen	t Dista	nce (in	feet)		
1	Road Grade:	0.0%				Auto	s: 4	0.460			
	Left View:	-90.0 degrees	3		Mediui	n Truck	s: 4	0.241			
	Right View:	90.0 degrees	3		Heav	y Truck	s: 4	0.262			
FHWA Noise Mode	el Calculations	1									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fre	snel	Barrier Att	en Ber	m Atter
Autos:	66.51	-4.52		1.2	18	-1.20		-4.61	0.0	000	0.00
Medium Trucks:	77.72	-21.42		1.3	1	-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	82.99	-17.90		1.3	11	-1.20		-5.50	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and b	arriei	r atter	nuation)						
VehicleType	Leq Peak Hou	r Leq Day		Leq E	vening	Leq	Night		Ldn	CI	NEL
Autos:	62	.1 6	1.0		59.2		53	3.1	61.8	3	62
Medium Trucks:	56	.4 5	5.7		49.3		47	.8	56.	2	56
Heavy Trucks:	65	2 6	4.6		55.5		56	8.8	65.		65
Vehicle Noise:	67	3 6	6.5		61.1		58	3.7	67.	2	67
Centerline Distanc	e to Noise Co	ntour (in feet)									
				70	dBA	65	dBA	_	60 dBA		dBA
			dn:		28		-	31	132		28
		CN			30			4	138		29

Thursday, September 2, 2021

	FHV	/A-RD-77-108	HIGHV	NAY N	IOISE PI	REDICTI	ON M	DDEL			
Road Nam	io: OYC 2025 \ e: 4th St. nt: w/o Potrero	,	l+2					Jack F 12398	Rabbit Trail	Develop	)
	SPECIFIC IN	PUT DATA			Sita Can				L INPUT	s	
Highway Data					Site Con	aitions	Hara				
Average Daily		16,706 vehicle	:S					Autos			
	Percentage:	8.33%				dium Tru					
		1,392 vehicles	3		He	avy Truc	:KS (3+	Axies)	. 15		
	hicle Speed:	40 mph			Vehicle I	Viix					
Near/Far La	ne Distance:	12 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						F	lutos:	77.59	6 12.9%	9.6%	84.32%
Bai	rier Height:	0.0 feet			M	edium Tr	ucks:	84.89	6 4.9%	10.3%	6.84%
Barrier Type (0-W		0.0			- 1	Heavy Tr	ucks:	86.5%	6 2.7%	10.8%	8.84%
Centerline Dis	st. to Barrier:	33.0 feet		-	Noise So	urco El	ovatio	ne (in f	inati		
Centerline Dist.	to Observer:	33.0 feet		ľ	V0/36 30	Autos		.000	eeij		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Trucks		.297			
Observer Height (	Above Pad):	5.0 feet				y Trucks		.004	Grade Ad	liustment	. 00
Pa	ad Elevation:	0.0 feet		L	ricas	ry Trucks	s. c	1.004	0/440//14	yacamom.	. 0.0
Ros	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distai	nce (in	feet)		
ı	Road Grade:	0.0%				Autos	s: 32	2.833			
	Left View:	-90.0 degree	s		Mediu	m Trucks	32	2.562			
	Right View:	90.0 degree	es.		Heav	y Trucks	32	2.589			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow	Dista		Finite		Fres		Barrier Att		rm Atten
Autos:	66.51	-0.63		2.6		-1.20		-4.52		000	0.000
Medium Trucks:	77.72	-11.54		2.6		-1.20		-4.86		000	0.000
Heavy Trucks:	82.99	-10.43		2.6		-1.20		-5.69	0.0	000	0.000
Unmitigated Noise VehicleType	Leg Peak Hou				uation) vening	l en	Night	1	Ldn		NFL.
Autos:	67.		66.2	Loy L	64.4		58	4	67.0	_	67.6
Medium Trucks:	67.		67.0		60.6		59		67.		67.7
Heavy Trucks:	74.		73.4		64.4		65		74.0	-	74.1
Vehicle Noise:	75.	-	74.9		68.2		67		75.	-	75.7
Centerline Distanc	e to Noise Co	ntour (in feet)									
				70		65 (	dΒA		60 dBA		dBA
			Ldn:		77		16		358		771
		CI	VEL:		80		17	2	370	)	797

September 2, 2021 Thursday, September 2, 2021

FHV	VA-RD-77-108	HIGH	WAY N	OISE PI	REDICT	ION MO	DEL			
Scenario: OYC 2027 \ Road Name: Potrero Bl. Road Segment: s/o Oak Val	•	!				Name: umber:		Rabbit Trail	Develo	р
SITE SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data			٥	site Con	ditions					
Average Daily Traffic (Adt):	5,264 vehicle	:S					Autos:			
Peak Hour Percentage:	8.33%				dium Tri					
Peak Hour Volume:	438 vehicles	•		He	avy Truc	cks (3+ A	Axles):	15		
Vehicle Speed:	40 mph		ν	/ehicle l	Mix					
Near/Far Lane Distance:	78 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data					-	Autos:	77.5%	12.9%	9.69	6 91.81%
Barrier Height:	0.0 feet			М	edium Ti	rucks:	84.8%	4.9%	10.39	6 2.52%
Barrier Type (0-Wall, 1-Berm):	0.0			1	Heavy Ti	rucks:	86.5%	2.7%	10.89	6 5.67%
Centerline Dist. to Barrier:	67.0 feet		٨	loise So	ource El	evation	s (in f	eet)		
Centerline Dist. to Observer:	67.0 feet				Auto		000	,		
Barrier Distance to Observer:	0.0 feet			Mediu	m Truck	s: 2.	297			
Observer Height (Above Pad):	5.0 feet			Heav	y Truck	s: 8.	004	Grade Ad	justmer	t: 0.0
Pad Elevation:	0.0 feet		-							
Road Elevation:	0.0 feet		L	ane Eq	uivalent			feet)		
Road Grade:	0.0%				Auto		708			
Left View:	-90.0 degree				m Truck		546			
Right View:	90.0 degree	:S		Heav	y Truck	s: 54.	562			
FHWA Noise Model Calculations	3									
VehicleType REMEL	Traffic Flow	Dist	ance	Finite	Road	Fresn	nel .	Barrier Att	en Be	rm Atten
Autos: 66.51	-5.28		-0.69		-1.20		-4.71		000	0.000
Medium Trucks: 77.72	-20.89		-0.67		-1.20		-4.88		000	0.000
Heavy Trucks: 82.99	-17.37		-0.67		-1.20		-5.29	0.0	000	0.000
Unmitigated Noise Levels (with									_	
VehicleType Leq Peak Hou			Leq Ev		_	Night		Ldn	_	NEL
Autos: 59		58.2		56.5		50.4		59.	-	59.6
Medium Trucks: 55.		54.2		47.9		46.3		54.		55.0
Vehicle Noise: 63		63.1 64.7		54.1		55.3		63.		63.8 65.6
				58.8		56.9	,	65.	4	65.6
Centerline Distance to Noise Co	ntour (in feet)		70 d	IRΔ	65	dBA		50 dBA	5	5 dBA
		Ldn:	, o u	33	001	71		153	_	329
										323

	FH	WA-RD-77-108	HIGH	IWAY N	OISE P	REDICT	TION MODE	L		
	e: California /	Without Project	t				t Name: Jac Number: 123	ck Rabbit Trail 398	Develop	
SITE S	SPECIFIC II	NPUT DATA						DEL INPUT	S	
Highway Data				S	Site Cor	nditions	(Hard = 10	, Soft = 15)		
Peak H	Percentage: our Volume:	2,858 vehicl 8.33% 238 vehicle					Au rucks (2 Axl icks (3+ Axl	,		
	hicle Speed:	40 mph		V	/ehicle	Mix				
Near/Far Lar	ne Distance:	12 feet			Veh	icleTyp	e Da	y Evening	Night	Daily
Site Data							Autos: 77	.5% 12.9%	9.6%	91.81%
Rar	rier Height:	0.0 feet			M	ledium 1	rucks: 84	.8% 4.9%	10.3%	2.52%
Barrier Type (0-W		0.0				Heavy 1	rucks: 86	.5% 2.7%	10.8%	5.67%
Centerline Dis	t. to Barrier:	33.0 feet			laica S	ourco E	levations (i	in foot)		
Centerline Dist. t	to Observer:	33.0 feet		-	ioise s	Auto				
Barrier Distance t	to Observer:	0.0 feet					0.00			
Observer Height (	Above Pad):	5.0 feet				m Truck			justment:	0.0
Pa	d Elevation:	0.0 feet			неа	vy Truci	ks: 8.004	4 Grade Au	justinent.	0.0
Roa	d Elevation:	0.0 feet		L	ane Eq	uivalen	t Distance	(in feet)		
F	Road Grade:	0.0%				Auto	s: 32.83	3		
	Left View:	-90.0 degre	es		Mediu	m Truck	ks: 32.56	2		
	Right View:	90.0 degre	es		Hea	vy Truck	ks: 32.58	9		
FHWA Noise Mode	l Calculation	s								
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresnel	Barrier Att	en Bern	Atten
Autos:	66.51	-7.93		2.64	1	-1.20	-4.	.52 0.0	000	0.000
Medium Trucks:	77.72	-23.55		2.69	9	-1.20	-4.	.86 0.0	000	0.000
Heavy Trucks:	82.99	-20.02		2.69	9	-1.20	-5.	.69 0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrie	er atteni	uation)					
VehicleType	Leq Peak Ho	ur Leq Daj	V	Leq Ev	ening	Leg	Night	Ldn	CN	EL
Autos:	60	0.0	58.9		57.1		51.1	59.	7	60.3
Medium Trucks:	55	5.7	54.9		48.6	i	47.0	55.	5	55.7
Heavy Trucks:	64	1.5	63.8		54.8	1	56.0	64.4	4	64.5
Vehicle Noise:	66	5.2	65.4		59.5	i -	57.6	66.	1	66.3
Centerline Distance	e to Noise C	ontour (in feet	)							
				70 d		65	dBA	60 dBA	55 d	
			Ldn:		18		39	84		180
		С	NEL:		19		40	87		188

	FHV	VA-RD-77-108	HIGHW/	AY I	NOISE PE	REDICI	ION M	JUEL			
	: Oak Valley						t Name lumber		Rabbit Trail	Develop	
SITE S	PECIFIC IN	PUT DATA			Site Con				L INPUT	s	
• •				+	Site Con	uitions	(паги				
Average Daily T	. ,	12,094 vehicle	8					Autos:			
Peak Hour F	-	8.33%					ucks (2	,			
	our Volume:	1,007 vehicles			He	avy Tru	cks (3+	Axles):	15		
	icle Speed:	50 mph		ı	Vehicle I	Ліх					
Near/Far Lan	e Distance:	80 feet		ı	Vehi	cleType	9	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	91.81
Barr	rier Height:	0.0 feet			Me	edium T	rucks:	84.8%	4.9%	10.3%	2.52
Barrier Type (0-Wa	-	0.0			F	leavy T	rucks:	86.5%	2.7%	10.8%	5.67
Centerline Dist		60.0 feet		ŀ	M-: 0-			/:- #	41		
Centerline Dist. to	Observer:	60.0 feet		ŀ	Noise So			- '	eet)		
Barrier Distance to	Observer:	0.0 feet				Auto		0.000			
Observer Height (A	Above Pad):	5.0 feet				n Truck		2.297	0		
	d Elevation:	0.0 feet			Heav	y Truck	(S.' )	3.004	Grade Ad	ustment	0.0
Road	d Elevation:	0.0 feet		Ī	Lane Equ	ıivalen	t Dista	nce (in	feet)		
R	oad Grade:	0.0%		Ī		Auto	s: 4	5.000			
	Left View:	-90.0 degree	3		Mediur	n Truck	s: 4	1.803			
	Right View:	90.0 degree	S		Heav	y Truck	s: 4	1.822			
FHWA Noise Model	Calculation										
VehicleType	REMEL	Traffic Flow	Distan	ce	Finite		Fres		Barrier Att	en Ber	m Atter
Autos:	70.20	-2.63		0.5		-1.20		-4.69		000	0.00
Medium Trucks:	81.00	-18.25		0.6		-1.20		-4.88		000	0.00
Heavy Trucks:	85.38	-14.73		0.6		-1.20		-5.34	0.0	000	0.00
VehicleType	Levels (with Leg Peak Hou			_	vening	Loa	Night		Ldn	-	NEL
Autos:	<u>-еч геак пои</u> 67		5.8	:4 ⊏	64.1	Leq	TVIGITE 58	0	66.0	_	VEL 67
Medium Trucks:	62		1.4		55.1		53		62.0	-	62
Heavy Trucks:	70		9.4		60.4		61		70.0	-	70
Vehicle Noise:	72		1.5		66.0		63		72.		72
Centerline Distance	e to Noise Co	ntour (in feet)									
				70	dBA	65	dBA	(	60 dBA	55	dBA
		L	.dn:		83		17	8	384		82
			EL:								

Thursday, September 2, 2021

	IWA-RD-//-10	8 HIGI	HWAY	NOISE PE	REDICTI	ON M	ODEL			
Scenario: OYC 2027 Road Name: 4th St. Road Segment: e/o Potrer	,	ect			Project of Job No			Rabbit Trail	Develop	1
SITE SPECIFIC I	NPUT DATA			Site Con				EL INPUT	s	
Highway Data				Site Con	uitions (	паги				
Average Daily Traffic (Adt):	10,532 vehic	iles			di T	! (0	Autos			
Peak Hour Percentage: Peak Hour Volume:	8.33% 877 vehicl				dium Tru avy Truc					
Vehicle Speed:	40 mph	es		пе	avy IIuc	KS (3+	Axies)	. 15		
Near/Far Lane Distance:	40 mpn 48 feet			Vehicle I	Wix					
Near/Far Larie Distance.	48 1661			Veh	icleType		Day	Evening	Night	Daily
Site Data					Α	utos:	77.59	6 12.9%	9.6%	91.81%
Barrier Height:	0.0 feet				edium Tr		84.89			
Barrier Type (0-Wall, 1-Berm):	0.0			F	Heavy Tr	ucks:	86.59	6 2.7%	10.8%	5.67%
Centerline Dist. to Barrier:	59.0 feet		1	Noise Sc	ource Fle	evatio	ns (in f	eet)		
Centerline Dist. to Observer:	59.0 feet		1		Autos		0.000	001)		
Barrier Distance to Observer:	0.0 feet			Mediu	m Trucks		2.297			
Observer Height (Above Pad):	5.0 feet				y Trucks		3.004	Grade Ad	liustment	0.0
Pad Elevation:	0.0 feet								,	
Road Elevation:	0.0 feet			Lane Eq				feet)		
Road Grade:	0.070				Autos		1.129			
Left View:	-90.0 degre	ees			m Trucks		3.966			
Right View:	90.0 degre	ees		Heav	y Trucks	: 53	3.982			
HWA Noise Model Calculation			'							
VehicleType REMEL	Traffic Flow		stance	Finite		Fres		Barrier Att		m Atten
Autos: 66.5			-0.6		-1.20		-4.69		000	0.000
Medium Trucks: 77.7			-0.6		-1.20		-4.88		000	0.000
Heavy Trucks: 82.99			-0.6		-1.20		-5.35	0.	000	0.000
Unmitigated Noise Levels (with VehicleType Leg Peak Ho				nuation) Evening	Leg I	Viaht		Ldn		NFL.
	2.4	61.3	red E	59.6	Leyi	vigrit 53	5	62.	_	62.7
	8.0	57.3		51.0		49		57.		58.1
	6.8	66.2		57.2		58		66	-	66.9
	8.6	67.8		61.9		60		68.	-	68.7
Centerline Distance to Noise C	Contour (in fee	et)								
			70	dBA	65.0	IRA		60 dBA	55	dBA
		- 1								0.071
		Ldn:		47 48	00 0	10	0	216	3	465 483

Thursday, September 2, 2021

	FHV	VA-RD-77-108	HIGH	HWAY	NOISE P	REDICT	ION MO	DDEL			
Road Nar	rio: OYC 2027 \ ne: 4th St. ent: e/o Veile Av	,	t				Name: lumber:		abbit Trail	Develop	)
	SPECIFIC IN	PUT DATA			0:: 0				L INPUT	S	
Highway Data					Site Cor	aitions	(Hara :				
Average Daily	. ,	7,476 vehicle	es					Autos:	15		
	r Percentage:	8.33%				dium Tr		,			
	Hour Volume:	623 vehicle	S		He	avy Tru	cks (3+	Axles):	15		
	ehicle Speed:	40 mph		ı	Vehicle	Mix					
Near/Far La	ane Distance:	36 feet		ı	Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	91.81%
Ra	arrier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	2.52%
Barrier Type (0-V		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	5.67%
Centerline D	ist. to Barrier:	44.0 feet			Noise S	ource E	levatio	ns (in fe	eet)		
Centerline Dist	to Observer:	44.0 feet				Auto	s: 0	.000			
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck	s: 2	297			
Observer Height	(Above Pad):	5.0 feet			Hear	/y Truck	s: 8	.004	Grade Ad	iustmen	t: 0.0
	Pad Elevation:	0.0 feet				•					
Ro	ad Elevation:	0.0 feet			Lane Eq				feet)		
	Road Grade:	0.0%				Auto		.460			
	Left View:	-90.0 degree	es			m Truck		).241			
	Right View:	90.0 degree	es		Hea	ry Truck	s: 40	).262			
FHWA Noise Mod	lel Calculations	3									
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fres		Barrier Att		rm Atten
Autos.		-3.75		1.2		-1.20		-4.61		000	0.000
Medium Trucks.		-19.37		1.3		-1.20		-4.87	0.0	000	0.000
Heavy Trucks.	82.99	-15.85		1.3	31	-1.20		-5.50	0.0	000	0.000
Unmitigated Nois							A.C. order		I do		NE
VehicleType Autos	Leq Peak Hou		61.7	Leq E	ening 60.0		Night 53		Ldn 62.5		NEL
Autos. Medium Trucks		-	61.7 57.7		51.4		53 49		58.3	-	63.1 58.5
Heavy Trucks.		-	66.6		57.6		49 58	-	67.	-	67.3
Vehicle Noise			68.2		62.3		60	-	68.9		69.1
Centerline Distan	ce to Noise Co	ntour (in feet	)								
				70	dBA	65	dBA	6	0 dBA	55	i dBA
			Ldn:		37		8	0	172	!	370
		C	NEL:		38		8	3	178		384

FHV	VA-RD-77-108 H	IIGHWAY	' NOISE PI	REDICT	ION MODEL		
Scenario: OYC 2027 Road Name: 4th St. Road Segment: w/o Potrero					Name: Jack lumber: 12398	Rabbit Trail De	velop
SITE SPECIFIC IN	IPUT DATA			ı	IOISE MOD	EL INPUTS	
Highway Data			Site Con	ditions	(Hard = 10, S	oft = 15)	
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume:	9,108 vehicles 8.33% 759 vehicles	;			Autos ucks (2 Axles) cks (3+ Axles)	): 15	
Vehicle Speed:	40 mph		Vehicle I	Viix			
Near/Far Lane Distance:	12 feet		Veh	icleType	Day	Evening N	ight Daily
Site Data  Barrier Height:	0.0 feet			edium T Heavy T		% 4.9% 1	9.6% 91.81% 0.3% 2.52% 0.8% 5.67%
Barrier Type (0-Wall, 1-Berm):				1001) 11	- GO.O.	2.170	0.070 0.0770
Centerline Dist. to Barrier:	33.0 feet		Noise So	ource El	evations (in	feet)	
Centerline Dist. to Observer:	33.0 feet			Auto	s: 0.000		
Barrier Distance to Observer:	0.0 feet		Mediu	m Truck	s: 2.297		
Observer Height (Above Pad):	5.0 feet		Heav	y Truck	s: 8.004	Grade Adjust	tment: 0.0
Pad Elevation:	0.0 feet						
Road Elevation:	0.0 feet		Lane Eq		Distance (in	reet)	
Road Grade:	0.0%			Auto			
Left View: Right View:	-90.0 degrees 90.0 degrees			m Truck ry Truck			
FHWA Noise Model Calculation:	s						
VehicleType REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier Atten	Berm Atten
Autos: 66.51	-2.90	2	.64	-1.20	-4.52	0.000	0.000
Medium Trucks: 77.72	-18.51	2	.69	-1.20	-4.86	0.000	0.000
Heavy Trucks: 82.99	-14.99	2	.69	-1.20	-5.69	0.000	0.000
Unmitigated Noise Levels (with	out Topo and b	arrier atte	enuation)				
VehicleType Leq Peak Hou	r Leq Day	Leq	Evening	Leq	Night	Ldn	CNEL
Autos: 65	.1 6	3.9	62.2		56.1	64.7	65.4
Medium Trucks: 60	.7 6	0.0	53.6		52.1	60.5	60.8
Heavy Trucks: 69	.5 6	8.9	59.8		61.1	69.4	69.6
Vehicle Noise: 71	.2 7	0.5	64.5		62.7	71.1	71.4
Centerline Distance to Noise Co	ontour (in feet)	7	0 dBA	65	dBA	60 dBA	55 dBA
	,	dn:	39	03	84	181	391
	CNI		41		87	189	406

Site Data	ht Daily .6% 95.09 .3% 1.51
	.6% 95.09
Average Daily Traffic (Adt): 8,770 vehicles   Peak Hour Percentage: 8,33%   Medium Trucks: (2 Axles): 15   15	.6% 95.09
Peak Hour Percentage: 8.33%   Medium Trucks (2 Axles): 15	.6% 95.09
Peak Hour Volume: Vehicle Speed: 40 mph   Vehicle Mix	.6% 95.09
Vehicle Speed:   40 mph   Near/Far Lane Distance:   78 feet     Vehicle Mix   Vehicle Type   Day   Evening   Ni	.6% 95.09
Near/Far Lane Distance: 78   feet       Vehicle Type   Day     Evening   Near/Far Lane Distance: 78   feet     Vehicle Type   Day   Evening   Near Lane Distance: 77.5%   12.9%   12	.6% 95.09
Site Data   Site Data   Barrier Height:   Barrier Height:   Barrier Height:   0.0 feet   Medium Trucks:   84.8%   4.9%   1. Heavy Trucks:   86.5%   2.7%   1. Medium Trucks:   84.8%   4.9%   1. Heavy Trucks:   86.5%   2.7%   1. Medium Trucks:   8.0.00   Medium Trucks:   8.0.00   Medium Trucks:   8.0.04   Grade Adjust   Me	.6% 95.09
Barrier Height:   0.0 feet   Heavy Trucks:   84.8%   4.9%   1.	
Barrier Trype (C-Wall, 1-Berm)	.3% 1.51
Barrier Type (0-Wall, 1-Berm): 0.0   Heavy Trucks: 86.5% 2.7% 1	
Centerline Dist. to Observer: 67.0 feet   Autos: 0.000	.8% 3.40
Autos: 0.000	
Barrier Distance to Observer: 0.0 feet   Medium Trucks: 2.297   Heavy Trucks: 2.297   Heavy Trucks: 8.004   Grade Adjust	
Diserver Height (Above Pad):	
Pad Elevation:   0.0 feet	nent: 0.0
Road Grade: 0.0%   Left View: -90.0 degrees   Medium Trucks: 54.546   Heavy Trucks: 54.546	iciii. 0.0
Left View: -90.0 degrees   Medium Trucks: 54.546   Heavy Trucks: 54.546   Heavy Trucks: 54.562   Heavy Trucks: 77.72   -20.89   -0.67   -1.20   -4.77   0.000   Heavy Trucks: 82.99   -17.37   -0.67   -1.20   -4.88   0.000   Heavy Trucks: 82.99   -17.37   -0.67   -1.20   -5.29   0.000   Heavy Trucks: 82.99   -17.37   -0.67   -1.20   -1.20   -5.29   0.000   Heavy Trucks: 82.99   -17.37   -0.67   -1.20	
Right View: 90.0 degrees   Heavy Trucks: 54.562	
FHWA Noise Model Calculations   VehicleType   REMEL   Traffic Flow   Distance   Finite Road   Fresnel   Barrier Atten	
VehicleType	
Autos:   66.51   -2.91   -0.69   -1.20   -4.71   0.000	
Medium Trucks:   77.72   -20.89   -0.67   -1.20   -4.88   0.000     Heavy Trucks:   82.99   -17.37   -0.67   -1.20   -5.29   0.000     Unmitigated Noise Levels (without Topo and barrier attenuation)   VehicleType   Leq Peak Hour   Leq Day   Leq Evening   Leq Night   Ldn     Autos:   61.7   60.6   58.8   52.8   61.4     Medium Trucks:   65.0   54.2   47.9   46.3   54.8     Heavy Trucks:   63.8   63.1   54.1   55.3   63.7	Berm Atter
Heavy Trucks:   82.99   -17.37   -0.67   -1.20   -5.29   0.000	0.0
Unmitigated Noise Levels (without Topo and barrier attenuation)           VehicleType         Leq Peak Hour         Leq Day         Leq Evening         Leq Night         Ldn           Autos:         61.7         60.6         58.8         52.8         61.4           Medium Trucks:         55.0         54.2         47.9         46.3         54.8           Heavy Trucks:         63.8         63.1         54.1         55.3         63.7	0.0
VehicleType         Leq Peak Hour         Leq Day         Leq Evening         Leq Night         Ldn           Autos:         61.7         60.6         58.8         52.8         61.4           Medium Trucks:         55.0         54.2         47.9         46.3         54.8           Heavy Trucks:         63.8         63.1         54.1         55.3         63.7	0.0
Autos:         61.7         60.6         58.8         52.8         61.4           Medium Trucks:         55.0         54.2         47.9         46.3         54.8           Heavy Trucks:         63.8         63.1         54.1         55.3         63.7	
Medium Trucks:         55.0         54.2         47.9         46.3         54.8           Heavy Trucks:         63.8         63.1         54.1         55.3         63.7	CNEL
Heavy Trucks: 63.8 63.1 54.1 55.3 63.7	
	62
	55
Vehicle Noise: 66.2 65.4 60.3 57.6 66.0	55 63
Centerline Distance to Noise Contour (in feet)	55
70 dBA 65 dBA 60 dBA	55 63 66
Ldn: 37 79 170	55 63 66 55 dBA
CNEL: 38 82 178	55 63 66

	FHW	A-RD-77-108	HIGHWA'	Y NOISE P	REDICT	ION MC	DEL			
Scenario: Road Name: Road Segment:	California Av	rith Project BC	)			Name: umber:		Rabbit Trail	Develop	1
SITE SP	ECIFIC INF	UT DATA			N	IOISE	MODE	L INPUT	S	
Highway Data				Site Cor	ditions	(Hard =	10, S	oft = 15)		
Average Daily Tra	ffic (Adt):	3,559 vehicle	S				Autos.			
Peak Hour Per	rcentage:	8.33%			edium Tri		,			
Peak Hour	Volume:	296 vehicles		He	eavy True	cks (3+	Axles).	15		
	e Speed:	40 mph		Vehicle	Mix					
Near/Far Lane	Distance:	12 feet		Veh	icleType		Day	Evening	Night	Daily
Site Data						Autos:	77.5%	6 12.9%	9.6%	93.42%
Rarrie	r Height:	0.0 feet		М	edium T	rucks:	84.89	6 4.9%	10.3%	2.02%
Barrier Type (0-Wall,	-	0.0			Heavy T	rucks:	86.5%	6 2.7%	10.8%	4.55%
Centerline Dist. t	o Barrier:	33.0 feet		Noise S	ource El	evation	s (in f	eet)		
Centerline Dist. to 0		33.0 feet			Auto		.000	,		
Barrier Distance to 0		0.0 feet		Mediu	m Truck		.297			
Observer Height (Abo	,	5.0 feet		Hea	vy Truck	s: 8.	.004	Grade Ad	justment	: 0.0
	evation:	0.0 feet			•					
	levation:	0.0 feet		Lane Eq			_	feet)		
	d Grade:	0.0%			Auto		.833			
	.eft View:	-90.0 degree			m Truck	02	.562			
Ri	ght View:	90.0 degree	S	Hea	vy Truck	s: 32	.589			
FHWA Noise Model C										
		Traffic Flow	Distance		Road	Fresi		Barrier Att		m Atten
Autos:	66.51	-6.90	_	2.64	-1.20		-4.52		000	0.000
Medium Trucks:	77.72	-23.55	_	2.69	-1.20		-4.86		000	0.000
Heavy Trucks:	82.99	-20.02		2.69	-1.20		-5.69	0.0	000	0.000
Unmitigated Noise Le						h II l- 4	1	l de		NE
VehicleType Le	q Peak Hour 61.0		59.9 Leq	Evening 58.2		Night 52	4	Ldn 60.7		NEL 61.3
Autos: Medium Trucks:	55.7		9.9 54.9	58.2 48.6		52. 47.		55.5		55.7
Heavy Trucks:	64.5	-	3.8 3.8	54.8		56.	-	64.4	-	64.5
Vehicle Noise:	66.5		55.7	60.1		57.	-	66.3		66.6
Centerline Distance t	o Noise Cor	tour (in feet)								
			7	'0 dBA	65	dBA		60 dBA	55	dBA
		L	dn:	19		40	)	87	•	188
		CN	IEL:	20		42	2	91		196

FH	WA-RD-77-108	HIGH	WAY N	OISE PI	REDICT	ION MOI	DEL			
Scenario: OYC 2027 Road Name: Oak Valley Road Segment: e/o Potrero	Pkwy.	0				Name: . umber: 1		abbit Trail	Develop	)
SITE SPECIFIC II	IPUT DATA							. INPUT	s	
Highway Data			S	site Con	aitions	(Hard =				
Average Daily Traffic (Adt):	15,600 vehicle	es					Autos:	15		
Peak Hour Percentage:	8.33%					ucks (2 A	,	15		
Peak Hour Volume:	1,300 vehicles	S		He	avy Truc	cks (3+ A	(xles	15		
Vehicle Speed:	50 mph		ν	/ehicle l	Wix					
Near/Far Lane Distance:	80 feet		F	Veh	icleType		Dav	Evening	Night	Dailv
Site Data							77.5%	12.9%		93.65%
Barrier Height:	0.0 feet			М	edium Ti	rucks:	84.8%	4.9%	10.3%	1.95%
Barrier Type (0-Wall, 1-Berm):	0.0			1	Heavy Ti	rucks:	86.5%	2.7%	10.8%	4.40%
Centerline Dist. to Barrier:	60.0 feet		۸	loise Sc	urce El	evations	(in fe	et)		
Centerline Dist. to Observer:	60.0 feet				Auto	s: 0.0	000			
Barrier Distance to Observer:	0.0 feet			Mediu	m Truck	s: 2.2	297			
Observer Height (Above Pad):	5.0 feet			Heav	y Truck	s: 8.0	004	Grade Adj	iustment	t: 0.0
Pad Elevation:	0.0 feet		-							
Road Elevation:	0.0 feet		L	ane Eq		Distanc		eet)		
Road Grade:	0.0%				Auto					
Left View:	-90.0 degree				m Truck					
Right View:	90.0 degree	es		Heav	y Truck	s: 44.8	322			
FHWA Noise Model Calculation	s									
VehicleType REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresn	el L	Barrier Atte	en Bei	rm Atten
Autos: 70.20	-1.44		0.58	3	-1.20		-4.69	0.0	000	0.000
Medium Trucks: 81.00	-18.25		0.61	I	-1.20		-4.88	0.0	000	0.000
Heavy Trucks: 85.38			0.61		-1.20		-5.34	0.0	000	0.000
Unmitigated Noise Levels (with										
VehicleType Leq Peak Ho	. , . ,		Leq Ev			Night		Ldn		NEL
		67.0		65.3		59.2		67.8		68.4
		61.4		55.1		53.5		62.0	-	62.2
	• •	69.4 71.8		60.4		61.6		70.0 72.5		70.1 72.8
		11.0		8.00		04.0	'	12.5	,	12.8
Centerline Distance to Noise Co	ontour (in feet,	)	70 d	IBA	65	dBA	6	0 dBA	55	dBA
	, ,	Ldn:	70 d	IBA 88	65	dBA 189	6	0 dBA 407		i dBA 877

Scenario Road Name Road Segmen	e: 4th St.	With Project I	30					Jack F 12398	tabbit Trail	Develop	)
	PECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data				S	ite Cor	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily 1	raffic (Adt):	17,262 vehic	les					Autos:	15		
Peak Hour F	Percentage:	8.33%				dium Tr		,			
	our Volume:	1,438 vehicle	es		He	avy Tru	cks (3+	Axles):	15		
	icle Speed:	40 mph		ν	ehicle	Mix					
Near/Far Lan	e Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	88.52%
Ran	rier Heiaht:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	4.51%
Barrier Type (0-Wa		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	6.98%
Centerline Dis	. ,	59.0 feet									
Centerline Dist. t	o Observer:	59.0 feet		N	ioise S	ource E			eet)		
Barrier Distance t	o Observer:	0.0 feet				Auto		0.000			
Observer Height (A	Above Pad):	5.0 feet				m Truck		2.297	0	·	
	d Elevation:	0.0 feet			Hea	y Truck	s: 8	3.004	Grade Ad	justmen	. 0.0
Roa	d Elevation:	0.0 feet		L	ane Eq	uivalen	t Distai	nce (in	feet)		
R	load Grade:	0.0%				Auto	s: 54	1.129			
	Left View:	-90.0 degre	ees		Mediu	m Truck	s: 50	3.966			
	Right View:	90.0 degre	ees		Hea	y Truck	s: 50	3.982			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		rm Atten
Autos:	66.51		-	-0.62		-1.20		-4.69		000	0.00
Medium Trucks:	77.72			-0.60		-1.20		-4.88		000	0.00
Heavy Trucks:	82.99			-0.60		-1.20		-5.35	0.0	000	0.00
Unmitigated Noise											
	Leq Peak Hou			Leg Ev			Night		Ldn		NEL
Autos:		1.4	63.3		61.5		55		64.		64.
Medium Trucks:		2.7 9.9	62.0 69.3		55.6 60.2		54 61		62.5 69.5		62.
Heavy Trucks: Vehicle Noise:		1.6	70.8		64.5		63		71.	-	69. 71.
Centerline Distance					20			-		-	
Centernne Distanc	e to Noise Co	ontour (In ree	::()	70 d	BA	65	dBA		60 dBA	55	dBA
			Ldn:		74		15	9	342	!	737

Scenario: OYC 202 Road Name: 4th St. Road Segment: e/o Veile		Project BC	,					: Jack F : 12398	Rabbit Trail	Develop	1
SITE SPECIFIC I	NPUT	DATA			Site Con				L INPUT	S	
• •	40.0	47bisla			Site Con	uitions	(I I a I u	Autos:			
Average Daily Traffic (Adt):	13,64	47 vehicle	5		Mo	dium Tr	uaka (*				
Peak Hour Percentage: Peak Hour Volume:		ა‰ 7 vehicles				avy Tru		,			
Vehicle Speed:	, .	7 verlicies 0 mph		L			יט) כחכ	Axies).	10		
Near/Far Lane Distance:		6 feet		L	Vehicle I	Иiх					
iveai/Fai Laile Distalice.	3	o ieet			Veh	cleType		Day	Evening	Night	Daily
Site Data						,	Autos:	77.5%	12.9%	9.6%	91.409
Barrier Height:	0	.0 feet			Me	edium T	rucks:	84.8%	4.9%	10.3%	3.269
Barrier Type (0-Wall, 1-Berm):	0	.0			F	leavy T	rucks:	86.5%	2.7%	10.8%	5.339
Centerline Dist. to Barrier:	44	.0 feet		ŀ	Noise Sc	urco E	ovatio	ne (in f	not)		
Centerline Dist. to Observer:	44	.0 feet			Noise 30	Auto		0.000	eel)		
Barrier Distance to Observer:	0	.0 feet			A decedio o	Auto n Truck		2.297			
Observer Height (Above Pad):	5	.0 feet						2.297 3.004	Grade Ad	i votmont	
Pad Elevation:	0	.0 feet			Heav	y Truck	S. (	5.004	Grade Ad	justrnent	. 0.0
Road Elevation:	0	.0 feet		Ī	Lane Eq	uivalen	Dista	nce (in	feet)		
Road Grade:	0.0	%		ſ		Auto	s: 4	0.460			
Left View:	-90	.0 degree	s		Mediui	n Truck	s: 4	0.241			
Right View:	90	.0 degree	3		Heav	y Truck	s: 4	0.262			
HWA Noise Model Calculatio	ns										
VehicleType REMEL	Traf	fic Flow	Dis	tance	Finite	Road	Fre	snel	Barrier Att	en Ber	m Atten
Autos: 66.5	1	-1.16		1.2	18	-1.20		-4.61	0.0	000	0.00
Medium Trucks: 77.7	2	-15.63		1.3	11	-1.20		-4.87	0.0	000	0.00
Heavy Trucks: 82.9	9	-13.50		1.3	11	-1.20		-5.50	0.0	000	0.00
Inmitigated Noise Levels (wit			arrie				h El milad		l de		
VehicleType Leq Peak Ho	55.4	Leq Day	4.3	Leq E	vening 62.6	Leq	Night 56		Ldn 65.		NEL 65
	12.2	-	11.5		55.1			).5 3.6	62.1		62
	9.6		9.0		55.1 59.9			1.2	69.	-	62
	1.5		0.8		64.9			3.0	71.4	-	71
Centerline Distance to Noise C	Contou	r (in feet)									
		,		70	dBA	65	dBA		50 dBA	55	dBA
				70	UDA						
		L	.dn:	70	55	00	11		254		54

Barrier Height:   0.0   feet		FH	WA-RD-77-10	8 HIG	HWAY	NOISE P	REDICTI	ON MO	DDEL			
Autos:   15	Road Na	me: 4th St.	,	30							Develop	)
Average Daily Traffic (Adt): 25,374 vehicles   Peak Hour Percentage: 8,33%   Medium Trucks (2 Axies): 15   Peak Hour Volume: 2,114 vehicles   Vehicle Speed: 40 mph   Near/Far Lane Distance: 12 feet   Vehicle Mix   Vehicle Type   Day   Evening   Night   Daily   Night   Daily   Night		SPECIFIC I	NPUT DATA			Sito Con					s	
Near/Far Lane Distance: 12 feet   VehicleType   Day   Evening   Night   Daily	Average Dai Peak Ho Peak	ur Percentage: Hour Volume:	8.33% 2,114 vehicle			Me He	edium Tru eavy Truc	cks (2	Autos. Axles).	15		
Autos: 77.5%   12.9%   9.6%   88.23%	Near/Far I	.ane Distance:	12 feet						Day	Evenina	Night	Daily
Barrier Type (0-Wall, 1-Berm): 0.0   Centerline Dist. to Barrier: 33.0 feet   Centerline Dist. to Observer: 33.0 feet   Centerline Dist. to Centerline Dist. to Centerline Dist. to Centerline Dist. 30.0 feet   Centerline Dist. 10 Centerline Dist.		arrier Height:	0.0 feet				A		77.5%	6 12.9%	9.6%	88.23%
Centerline Dist. to Observer: Barrier Distance to Observer: Dobsever Height (Above Pad): 5.0 feet Pad Elevation: Road Elevation: 0.0 feet Road Grade: 0.09*			0.0				Heavy Tr	ucks:	86.5%	6 2.7%	10.8%	6.82%
Autos: 0.000	Centerline I	Dist. to Barrier:	33.0 feet			Noise Se	ource Ele	evatio	ns (in f	eet)		
Road Elevation:	Barrier Distant Observer Heigh	e to Observer: t (Above Pad):	0.0 feet 5.0 feet			Mediu	Autos m Trucks	: 0	0.000 0.297		ljustment	t: 0.0
Road Grade: 0.0%						Lane Eq	uivalent	Distar	ice (in	feet)		
FRIght View: 90.0 degrees   Heavy Trucks: 32.589   FRIWA Noise Model Calculations   VehicleType   REMEL   Traffic Flow   Distance   Finite Road   Fresnel   Barrier Atten   Berm Atten   Autos: 66.51   1.38   2.64   -1.20   -4.52   0.000   0.000   Medium Trucks: 77.72   -111.13   2.69   -1.20   -4.66   0.000   0.000   Meavy Trucks: 82.99   -9.74   2.69   -1.20   -5.69   0.000   0.000   Meavy Trucks: 82.99   -9.74   2.69   -1.20   -5.69   0.000   0.000   Meavy Trucks: 82.99   -9.74   2.69   -1.20   -5.69   0.000   0.000   Meavy Trucks: 82.99   -9.74   2.69   -1.20   -5.69   0.000   0.000   Meavy Trucks: 82.99   -9.74   2.69   -1.20   -5.69   0.000   0.000   Meavy Trucks: 68.1   66.5   60.4   69.0   69.1   69		Road Grade:					Autos	: 32	2.833			
VehicleType								. 02				
Autos: 66.51   1.38   2.64   -1.20   -4.52   0.000   0.00   Medium Trucks: 77.72   -11.13   2.69   -1.20   -4.86   0.000   0.00   Heavy Trucks: 82.99   -9.74   2.69   -1.20   -5.69   0.000   0.00   Unmitigated Noise Levels (without Topo and barrier attenuation)    VehicleType   Leq Peak Hour   Leq Day   Leq Evening   Leq Night   Ldn   CNEL	FHWA Noise Mo	del Calculation	ns									
Medium Trucks: 77.72	VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	nel	Barrier Att	en Bei	rm Atten
Heavy Trucks:   82.99   -9.74   2.69   -1.20   -5.69   0.000   0.000     Unmitigated Noise Levels (without Topo and barrier attenuation)   VehicleType   Leq Peak Hour   Leq Day   Leq Evening   Leq Night   Ldn   CNEL     Autos:   69.3   68.2   66.5   60.4   69.0   69.0     Medium Trucks:   68.1   67.4   61.0   59.5   67.9   68.     Heavy Trucks:   74.7   74.1   65.1   66.3   74.7   74.0     Vehicle Noise:   76.5   75.8   69.5   68.0   76.4   76.0     Centerline Distance to Noise Contour (in feet)     To dBA   65 dBA   60 dBA   55 dBA     Ldn:   88   190   409   880				-								0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)   VehicleType   Leq Peak Hour   Leq Day   Leq Evening   Leq Night   Ldn   CNEL   Autos: 69.3   68.2   66.5   60.4   69.0   69.0   Medium Trucks: 68.1   67.4   61.0   59.5   67.9   68.8   Heavy Trucks: 74.7   74.1   65.1   66.3   74.7   74.1   Vehicle Noise: 76.5   75.8   69.5   68.0   76.4   76.1				-								
VehicleType         Leq Peak Hour         Leq Day         Leq Evening         Leq Night         Ldn         CNEL           Autos:         69.3         68.2         66.5         60.4         69.0         69.0           Medium Trucks:         68.1         67.4         61.0         59.5         67.9         68.           Heavy Trucks:         74.7         74.1         65.1         66.3         74.7         74.1           Vehicle Noise:         76.5         75.8         69.5         68.0         76.4         76.1           Centerline Distance to Noise Contour (in feet)         70 dBA         65 dBA         60 dBA         55 dBA           Ldn:         88         190         409         880							-1.20		-5.69	0.	000	0.000
Autos:         69.3         68.2         66.5         60.4         69.0         69.1           Medium Trucks:         68.1         67.4         61.0         59.5         67.9         68.           Heavy Trucks:         74.7         74.1         65.1         66.3         74.7         74.1           Vehicle Noise:         76.5         75.8         69.5         68.0         76.4         76.4           Centerline Distance to Noise Contour (in feet)         70 dBA         65 dBA         60 dBA         55 dBA           Ldn:         88         190         409         880							1001	liaht	1	l dn		NEI
Medium Trucks:         68.1         67.4         61.0         59.5         67.9         68.           Heavy Trucks:         74.7         74.1         65.1         66.3         74.7         74.           Vehicle Noise:         76.5         75.8         69.5         68.0         76.4         76.1           Centerline Distance to Noise:         Contour (in feet)         70 dBA         65 dBA         60 dBA         55 dBA           Ldn:         88         190         409         880				,	Leq				4			69.6
Vehicle Noise:         76.5         75.8         69.5         68.0         76.4         76.1           Centerline Distance to Noise Contour (in feet)           70 dBA         65 dBA         60 dBA         55 dBA           Ldn:         88         190         409         880											-	68.1
Centerline Distance to Noise Contour (in feet)           70 dBA         65 dBA         60 dBA         55 dBA           Ldn:         88         190         409         880	Heavy Truck	s: 7	4.7	74.1		65.1		66	.3	74.	7	74.8
70 dBA 65 dBA 60 dBA 55 dBA Ldn: 88 190 409 880	Vehicle Noise	e: 7	6.5	75.8		69.5		68	.0	76.	4	76.6
Ldn: 88 190 409 880	Centerline Dista	nce to Noise C	ontour (in fee	t)								
					70		65 c					
CNEL: 91 197 423 912									-			880
			(	NEL:		91		19	7	423	3	912

	FH'	WA-RD-77-108	HIGI	YAWH	NOISE PI	REDICTI	ON MOI	DEL			
Road Nar	rio: HY 2045 V ne: Potrero Bl. ent: s/o Oak Va	,					Name: c umber: 1		abbit Trail	Develo	р
	SPECIFIC II	IPUT DATA							L INPUT	S	
Highway Data					Site Con	ditions	(Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):	23,682 vehicl	es				,	Autos:	15		
Peak Hou	r Percentage:	8.33%			Me	dium Tru	ıcks (2 A	(xles	15		
Peak I	Hour Volume:	1,973 vehicle	S		He	avy Truc	ks (3+ A	(xles	15		
V	ehicle Speed:	40 mph			Vehicle	Mix					
Near/Far La	ane Distance:	78 feet				icleType		Day	Evening	Night	Daily
Site Data						A	Autos:	77.5%	12.9%	9.69	6 91.81%
Ba	arrier Heiaht:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.39	6 2.52%
Barrier Type (0-V		0.0			1	Heavy Tr	ucks:	86.5%	2.7%	10.89	6 5.67%
Centerline D	ist. to Barrier:	67.0 feet			Noise So	urce Ele	ovations	in fo	of)		
Centerline Dist.	to Observer:	67.0 feet			NOISE SC	Autos		000	ei)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Trucks		97			
Observer Height	(Above Pad):	5.0 feet				vy Trucks		004	Grade Ad	iustmar	t- 0.0
F	Pad Elevation:	0.0 feet			rica	ry Trucks	5. 0.0	J04	Orace Au	usunci	12. 0.0
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distanc	e (in f	eet)		
	Road Grade:	0.0%				Autos	s: 54.7	708			
	Left View:	-90.0 degre	es		Mediu	m Trucks	s: 54.5	546			
	Right View:	90.0 degre	es		Heav	y Trucks	54.5	562			
FHWA Noise Mod	lel Calculation	s									
VehicleType	REMEL	Traffic Flow		stance	Finite	Road	Fresn	_	Barrier Att	en Be	erm Atten
Autos.				-0.		-1.20		-4.71		000	0.000
Medium Trucks.				-0.	57	-1.20		-4.88		000	0.000
Heavy Trucks.	82.99	-10.84		-0.	67	-1.20		-5.29	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barri	er atte	nuation)						
VehicleType	Leq Peak Ho			Leq E	vening	_	Night		Ldn		CNEL
Autos.		5.9	64.8		63.0		56.9		65.6		66.2
Medium Trucks.	-	.5	60.8		54.4		52.9		61.3	-	61.6
Heavy Trucks.		).3	69.7		60.6		61.9		70.2		70.3
Vehicle Noise.	72	2.0	71.3		65.3		63.5	•	71.9	9	72.2
Centerline Distan	ce to Noise C	ontour (in feet	)					_		_	
			L	70	dBA	65 (		6	0 dBA		5 dBA
			Ldn:		90		193		416		897
		С	NEL:		93		201		433		932

				IIWAII	IOISE P						
	o: HY 2045 W e: California A	,	ct					: Jack R : 12398	abbit Trail	Develop	
	SPECIFIC IN	IDIIT DAT				_	NOISE	MODE	L INPUT		
Highway Data	SPECIFIC II	IFOI DAI	•		Site Cor						
Average Daily	Traffic (Adt):	1,737 vehi	icles					Autos:	15		
Peak Hour	Percentage:	8.33%			Me	edium Ti	rucks (2	Axles):	15		
Peak H	our Volume:	145 vehic	eles		He	eavy Tru	ıcks (3+	Axles):	15		
Ve	hicle Speed:	40 mph		-	Vehicle	Mix					
Near/Far La	ne Distance:	12 feet		H		icleTyp	е	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	91.819
Rai	rier Heiaht:	0.0 feet			М	edium 1	Trucks:	84.8%	4.9%	10.3%	2.529
Barrier Type (0-W		0.0				Heavy 1	Trucks:	86.5%	2.7%	10.8%	5.679
Centerline Dis	st. to Barrier:	33.0 feet			Noise S	nurco F	lovatio	ne (in fa	oot)		
Centerline Dist.	to Observer:	33.0 feet		i i	10/36 0	Auto		0.000	.01)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		2.297			
Observer Height (	Above Pad):	5.0 feet				vv Truci		3.004	Grade Ad	iustment	0.0
Pa	ad Elevation:	0.0 feet			Tica	vy Truci	13.	3.004	Orado riaj	doumont	0.0
Roa	ad Elevation:	0.0 feet		1	Lane Eq	uivalen	t Dista	nce (in :	feet)		
I	Road Grade:	0.0%				Auto	os: 3	2.833			
	Left View:	-90.0 deg	rees		Mediu	m Truck	ks: 3:	2.562			
	Right View:	90.0 deg	rees		Hea	vy Truci	ks: 3:	2.589			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flov	v Di	stance	Finite	Road	Fre	snel	Barrier Att	en Ber	m Atten
Autos:	66.51	-10.0		2.6		-1.20		-4.52		000	0.00
Medium Trucks:	77.72			2.6	-	-1.20		-4.86		000	0.00
Heavy Trucks:	82.99	-22.	19	2.6	9	-1.20		-5.69	0.0	000	0.00
Unmitigated Noise			nd barri	ier atten	uation)						
	Leq Peak Hou		,	Leq E	vening		Night		Ldn		VEL
Autos:		'.9	56.8		55.0		48		57.6		58.
Medium Trucks:		3.5	52.8		46.4		44		53.3		53.
Heavy Trucks:		2.3	61.7		52.6		53		62.2		62.
Vehicle Noise:	64	1.0	63.3		57.3		55	5.5	63.9	9	64.
Centerline Distanc	e to Noise Co	ontour (in fe	et)								
			Į	70 (		65	dBA		0 dBA		dBA
			Ldn:		13		_	18	60		
			Ldn: CNEL:		13 13		_	!8 !9	60 62		129 135

Scenario: HY 2045	A/ithout Draine				Drainat A	lama: I	aak D	abbit Trail	Develor	
Road Name: Oak Valle		t			Job Nui			addit i raii	Develop	
Road Segment: e/o Potrer					000 1441	noci. i	2000			
SITE SPECIFIC I	NPUT DATA	1						L INPUT	s	
Highway Data			S	ite Con	ditions (F	lard =	10, Sc	ft = 15)		
Average Daily Traffic (Adt):	19,233 vehic	cles				A	Autos:	15		
Peak Hour Percentage:	8.33%			Me	dium Truc	ks (2 A	xles):	15		
Peak Hour Volume:	1,602 vehicl	les		He	avy Truck	s (3+ A	xles):	15		
Vehicle Speed:	50 mph		ı	/ehicle I	Mix					
Near/Far Lane Distance:	80 feet		ľ		cleType		Day	Evening	Night	Daily
Site Data					Au	itos:	77.5%	12.9%	9.6%	91.81
Barrier Height:	0.0 feet			Me	edium Tru	cks:	84.8%	4.9%	10.3%	2.52
Barrier Type (0-Wall, 1-Berm):	0.0			F	leavy Tru	cks:	86.5%	2.7%	10.8%	5.67
Centerline Dist. to Barrier:	60.0 feet			loise So	urce Elev	/ations	(in fe	et)		
Centerline Dist. to Observer:	60.0 feet		F	.0.00 00	Autos:		•	,		
Barrier Distance to Observer:	0.0 feet			Mediu	n Trucks:					
Observer Height (Above Pad):	5.0 feet				y Trucks:			Grade Ad	iustment	0.0
Pad Elevation:	0.0 feet				•					
Road Elevation:	0.0 feet		L	ane Equ	ıivalent E			eet)		
Road Grade:					Autos:					
Left View:	-90.0 degr	ees			n Trucks:					
Right View:	90.0 degr	ees		Heav	y Trucks:	44.8	322			
FHWA Noise Model Calculatio	ns									
VehicleType REMEL	Traffic Flow		ance	Finite		Fresn		Barrier Att		m Atter
Autos: 70.2			0.58		-1.20		-4.69		000	0.00
Medium Trucks: 81.0		-	0.61		-1.20		-4.88		000	0.00
Heavy Trucks: 85.3	8 -12.7	1	0.61		-1.20		-5.34	0.0	000	0.00
Unmitigated Noise Levels (wit										
VehicleType Leq Peak Ho			Leq Ev		Leq N	-		Ldn	_	NEL
	9.0	67.9		66.1		60.0		68.7		69
	4.2	63.5		57.1		55.6		64.0	-	64
	2.1	71.4		62.4		63.7		72.0		72 74
	4.3	73.5		68.0		65.7		74.	1	74
	Contour (in fee	et)		1						-10.4
Centerline Distance to Noise (			70 d	RA I	65 dF					
Centerline Distance to Noise (		Ldn:	70 d	<i>BA</i> 113	65 dE	243	6	i0 dBA 524		dBA 1.12

Thursday, September 2, 2021

FH	WA-RD-77-108 HI	GHWAY	NOISE PI	REDICT	ION MODEL		
Scenario: HY 2045 V Road Name: 4th St. Road Segment: e/o Potrero	,				Name: Jack lumber: 123	Rabbit Trail D 98	evelop
SITE SPECIFIC II	IPUT DATA			N	IOISE MOI	EL INPUTS	
Highway Data			Site Con	ditions	(Hard = 10,	Soft = 15)	
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume: Vehicle Speed:	10,969 vehicles 8.33% 914 vehicles 40 mph			avy Tru	Auto ucks (2 Axle cks (3+ Axle	s): 15	
Near/Far Lane Distance:	48 feet		Veh	icleType	Day	Evening I	Night Daily
Site Data  Barrier Height: Barrier Type (0-Wall, 1-Berm):	0.0 feet 0.0			edium T Heavy T		3% 4.9%	9.6% 91.81% 10.3% 2.52% 10.8% 5.67%
Centerline Dist. to Barrier:	59.0 feet		Maine Ca		evations (in	foot)	
Centerline Dist. to Observer: Barrier Distance to Observer: Observer Height (Above Pad): Pad Elevation: Road Elevation: Road Grade:	59.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet 0.0%		Mediu Heav	Auto m Truck y Truck	s: 0.000 s: 2.297 s: 8.004	Grade Adju	stment: 0.0
Left View: Right View:	-90.0 degrees 90.0 degrees			m Truck ry Truck	s: 53.966		
FHWA Noise Model Calculation			1			T =	T
VehicleType         REMEL           Autos:         66.51           Medium Trucks:         77.72	-2.09 -17.70	-0.0	62 60	-1.20 -1.20 -1.20	-4.6 -4.8	0.00	0 0.000 0 0.000
Heavy Trucks: 82.99	-14.18	-0.0	50	-1.20	-5.3	5 0.00	0.000
Unmitigated Noise Levels (with	out Topo and ba	rrier atte	nuation)				
VehicleType Leq Peak Ho			vening		Night	Ldn	CNEL
	2.6 61		59.7		53.7	62.3	62.9
	3.2 57.		51.1		49.6	58.1	58.3
	7.0 66	• •	57.3		58.6	66.9	67.1
Vehicle Noise: 68	3.8 68	.0	62.1		60.2	68.6	68.9
Centerline Distance to Noise C	ontour (in feet)	70	dBA	65	dBA	CO -ID4	55 dBA
	Ld			05		60 dBA 222	
	CNE		48 50		103 107	231	478 497

September 2, 2021 Thursday, September 2, 2021

F	HWA-RD-77-10	8 HIGH	HWAY N	OISE PI	REDICTI	ON MO	DEL			
Scenario: HY 2045 Road Name: 4th St. Road Segment: e/o Veile	•					Name: . umber:		abbit Trail	Develop	)
SITE SPECIFIC	INPUT DATA							L INPUT	s	
Highway Data			S	ite Con	ditions (					
Average Daily Traffic (Adt):	6,094 vehic	les					Autos:	15		
Peak Hour Percentage:	8.33%				dium Tru		,	15		
Peak Hour Volume:	508 vehicle	es		He	avy Truc	ks (3+ A	Axles):	15		
Vehicle Speed:			V	ehicle l	Mix					
Near/Far Lane Distance:	36 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data					Α.	utos:	77.5%	12.9%	9.6%	91.81%
Barrier Height:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3%	2.52%
Barrier Type (0-Wall, 1-Berm).	0.0			-	Heavy Tr	ucks:	86.5%	2.7%	10.8%	5.67%
Centerline Dist. to Barrier.			٨	loise So	ource Ele	evations	s (in fe	et)		
Centerline Dist. to Observer.					Autos	: 0.0	000			
Barrier Distance to Observer.				Mediu	m Trucks	: 2.	297			
Observer Height (Above Pad):				Heav	y Trucks	: 8.0	004	Grade Ad	justment	: 0.0
Pad Elevation:			L							
Road Elevation:			L	ane Eq	uivalent			eet)		
Road Grade:					Autos		460			
Left View:					m Trucks					
Right View:	90.0 degre	ees		Heav	y Trucks	: 40.:	262			
FHWA Noise Model Calculation	ns									
VehicleType REMEL	Traffic Flow		stance		Road	Fresn	_	Barrier Att		m Atten
Autos: 66.5			1.28		-1.20		-4.61		000	0.000
Medium Trucks: 77.7			1.31		-1.20		-4.87		000	0.000
Heavy Trucks: 82.9			1.31		-1.20		-5.50	0.0	000	0.000
Unmitigated Noise Levels (wi										
VehicleType Leq Peak H	our Leq Da 31.9	60.8	Leq Ev	ening 59.1	Leq I	Vight 53.0	<u> </u>	Ldn 61.6		NEL 62.2
	57.6	56.9		50.5		48.9		57.4	-	57.6
	66.4	65.7		50.5		48.9 58.0		66.	•	
	88.1	67.4		61.4		59.6		68.0		66.4
Centerline Distance to Noise	Contour (in fee	t)								
		<i>-</i>	70 d	BA	65 0	iBA	6	0 dBA	55	dBA
		Ldn:		32		70		150		323

	FHW	/A-RD-77-108	HIGH	1 YAW	NOISE PI	REDICT	ION M	ODEL			
Scenario Road Name Road Segmen		•						: Jack F : 12398	Rabbit Trail	Develop	
	PECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Con	ditions	(Hard	= 10, S	oft = 15)		
Average Daily 1	raffic (Adt):	11,624 vehicle	es					Autos	15		
Peak Hour F	Percentage:	8.33%			Me	edium Tr	ucks (2	Axles):	15		
Peak Ho	our Volume:	968 vehicles	3		He	eavy Tru	cks (3+	Axles).	15		
Veh	icle Speed:	40 mph		H	Vehicle i	Mix					
Near/Far Lan	e Distance:	12 feet		H		icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	91.81%
Ran	rier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	2.52%
Barrier Type (0-Wa		0.0				Heavy T	rucks:	86.5%	6 2.7%	10.8%	5.67%
Centerline Dis	t. to Barrier:	33.0 feet		T.	Noise So	ource E	levatio	ns (in f	eet)		
Centerline Dist. t	o Observer:	33.0 feet		f		Auto		0.000	,		
Barrier Distance t	o Observer:	0.0 feet			Mediu	m Truck		2.297			
Observer Height (A	Above Pad):	5.0 feet				vy Truck		3.004	Grade Ad	liustment	0.0
	d Elevation:	0.0 feet		L		•				,	
	d Elevation:	0.0 feet		1	Lane Eq				feet)		
R	load Grade:	0.0%				Auto		2.833			
	Left View:	-90.0 degree	es			m Truck	0	2.562			
	Right View:	90.0 degree	es		Heav	vy Truck	s: 3	2.589			
FHWA Noise Mode				'							
VehicleType	REMEL	Traffic Flow	Dis	tance		Road	Fre.		Barrier At		m Atten
Autos:	66.51	-1.84		2.6		-1.20		-4.52		000	0.00
Medium Trucks:	77.72	-17.45		2.6	-	-1.20		-4.86		000	0.000
Heavy Trucks:	82.99	-13.93		2.6		-1.20		-5.69	0.	000	0.000
VehicleType	Levels (without Leg Peak Hou				vening	100	Night		Ldn		VEL
Autos:	66.		65.0	Ley E	63.2	,	-	. 2	65.		66.4
Medium Trucks:	61.	-	61.0		54.7			. <u>-</u> 1.1	61.		61.8
Heavy Trucks:	70.	-	69.9		60.9			.1	70.	-	70.0
Vehicle Noise:	72.		71.5		65.6			1.7	72.		72.4
Centerline Distance	e to Noise Co	ntour (in feet)									
·		-	Т	70	dBA	65	dBA		60 dBA	55	dBA
			Ldn:		46		6	19	213		460
		CI	VEL:		48		10	13	222	)	478

	FHW	A-RD-77-108	HIGH	IWAY	NOISE P	REDICTI	ON MO	DEL			
Road Nam	io: HY 2045 Wi e: Potrero Bl. nt: s/o Oak Vall	,					Name: . umber:		abbit Trail	Develop	
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Con	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	27,188 vehicle	es					Autos:	15		
Peak Hour	Percentage:	8.33%			Me	edium Tru	icks (2 A	Axles):	15		
Peak H	our Volume:	2,265 vehicles	S		He	avy Truc	ks (3+ A	Axles):	15		
Ve	hicle Speed:	40 mph			Vehicle	Miv					
Near/Far La	ne Distance:	78 feet				icleType		Day	Evening	Night	Daily
Site Data							lutos:	77.5%	12.9%	9.6%	92.879
Rai	rier Height:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3%	2.19%
Barrier Type (0-W	-	0.0				Heavy Tr	ucks:	86.5%	2.7%	10.8%	4.94%
Centerline Dis	st. to Barrier:	67.0 feet			Noise S	ouroe El	oration.	n (in fe	not)		
Centerline Dist.	to Observer:	67.0 feet			Noise 3	Autos		000	et)		
Barrier Distance	to Observer:	0.0 feet			A decedio	Autos m Trucks		297			
Observer Height (	Above Pad):	5.0 feet						297 004	Grade Ad	iuotmont	. 0 0
Pa	ad Elevation:	0.0 feet			Heat	y Trucks	5. 8.1	JU4	Grade Adj	usuneni	0.0
Ros	ad Elevation:	0.0 feet		ı	Lane Eq	uivalent	Distanc	e (in i	feet)		
1	Road Grade:	0.0%		ĺ		Autos	54.	708			
	Left View:	-90.0 degree	es		Mediu	m Trucks	54.	546			
	Right View:	90.0 degree	es		Hear	y Trucks	54.	562			
FHWA Noise Mode	el Calculations										
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresn	_	Barrier Att	en Ber	m Atten
Autos:	66.51	1.90		-0.6	69	-1.20		-4.71	0.0	000	0.00
Medium Trucks:	77.72	-14.36		-0.6	37	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	82.99	-10.84		-0.6	37	-1.20		-5.29	0.0	000	0.00
Unmitigated Noise	Levels (witho	ut Topo and	barrie	er attei	nuation)						
VehicleType	Leq Peak Hour			Leq E	vening		Night		Ldn		NEL
Autos:	66.	-	65.4		63.7		57.6		66.2	-	66.
Medium Trucks:	61.	-	60.8		54.4		52.9		61.3		61.
Heavy Trucks:	70.		69.7		60.6		61.9		70.2		70.
Vehicle Noise:	72.:	2	71.4		65.7		63.6	6	72.1	l	72.
Centerline Distance	e to Noise Co	ntour (in feet,	)								
			L	70	dBA	65 (	dBA	6	60 dBA	55	dBA
			Ldn:		92		198		427		919
		CI	VEL:		96		206		444		957

Thursday, September 2, 2021

Scenario: HY 2045 With Project BO   Road Name: California Av.   Road Segment: n/o 6th St.	Daily 6 94.179
	6 94.179 6 1.809
Average Daily Traffic (Adt): 2,439 vehicles   Peak Hour Percentage: 8,33%   Medium Trucks (2 Axles): 15   Heavy Trucks (3+ Axles): 15   Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet   Vehicle Mix Vehicle Type   Day   Evening   Night Vehicle Fire Night: Near/Far Lane Distance: 12 feet   Vehicle Mix Vehicle Fire Night: No.0 feet   Autos: 77.5% 12.9% 9.6%   Medium Trucks: 84.8% 4.9% 10.3%   Medium Trucks: 84.8% 4.9% 10.3%   Medium Trucks: 84.8% 4.9% 10.3%   Medium Trucks: 86.5% 2.7% 10.3%   Medium Trucks: 86.5% 2.7% 10.3%   Medium Trucks: 2.297   Moise Source Elevations (in feet)   Autos: 0.000   Medium Trucks: 2.297   Medium Trucks: 2.297   Medium Trucks: 2.297   Medium Trucks: 32.562   Medium Trucks: 32.562	6 94.179 6 1.809
Peak Hour Percentage: 8.33%   Medium Trucks (2 Axles): 15	6 94.179 6 1.809
Peak Hour Volume: Vehicle Speed: 40 mph   Vehicle Mix   Vehicle Mix   Vehicle Mix   Vehicle Mix   Vehicle Mix   Vehicle Mix   Vehicle Type   Day   Evening   Night    6 94.179 6 1.809	
Vehicle Speed:	6 94.179 6 1.809
Near/Far Lane Distance: 12 feet   VehicleType   Day   Evening   Niight	6 94.179 6 1.809
Site Data   Barrier Height:   0.0   feet   Barrier Type (0-Wall, 1-Bermi):   0.0   Get   Barrier Dist. to Barrier:   33.0   feet   Get    6 94.179 6 1.809	
Barrier Height:   0.0   feet	6 1.80%
Barrier Type (O-Wall, 1-Berm): 0.0   Heavy Trucks: 86.5% 2.7% 10.8%	
Noise Source Elevations (in feet)   Source Elevations (in feet)	6 4.04%
Centerline Dist. to Observer:   33.0 feet   Autos: 0.000	
Centerline Dist. to Observer:  Barrier Distance to Observer:  Observer Helpit (Above Pad):  Pad Elevation:  Road Grade:  0.0 feet  Road Grade:  0.0 feet  Road Grade:  0.0 feet  Road Grade:  0.0 feet  Lane Equivalent Distance (in feet)  Autos: 32.333  Medium Trucks: 32.562  Heavy Trucks: 32.589	
Barrier Distance to Observer: 0.0 feet   Medium Trucks: 2.297	
Observer Height (Above Pad):   5.0 feet   Heavy Trucks:   8.004   Grade Adjustmen	
Pad Elevation: 0.0 feet   Lane Equivalent Distance (in feet)	nt: 0.0
Road Grade: 0.0%	
Left View:	
Right View: 90.0 degrees   Heavy Trucks: 32.589	
FHWA Noise Model Calculations  VehicleType   REMEL   Traffic Flow   Distance   Finite Road   Fresnel   Barrier Atten   Be Autos: 66.51 -8.51 2.64 -1.20 -4.52 0.000	
VehicleType         REMEL         Traffic Flow         Distance         Finite Road         Fresnel         Barrier Atten         Be a prier Atten           Autos:         66.51         -8.51         2.64         -1.20         -4.52         0.000	
Autos: 66.51 -8.51 2.64 -1.20 -4.52 0.000	
	erm Atten
Medium Trucks: 77.72 -25.71 2.69 -1.20 -4.86 0.000	0.00
	0.00
Heavy Trucks: 82.99 -22.19 2.69 -1.20 -5.69 0.000	0.00
Unmitigated Noise Levels (without Topo and barrier attenuation)  VehicleType   Leq Peak Hour   Leq Day   Leq Evening   Leq Night   Ldn   C	ONEL
Autos: 59.4 58.3 56.6 50.5 59.1	59.
Medium Trucks: 53.5 52.8 46.4 44.9 53.3	53.
Heavy Trucks: 62.3 61.7 52.6 53.9 62.2	00.
Vehicle Noise:         64.5         63.7         58.3         55.9         64.3	62
Centerline Distance to Noise Contour (in feet)	62. 64.
	64.
Ldn: 14 30 64	64. 5 dBA
CNEL: 14 31 67	64.

	FH\	WA-RD-77-108	HIGH	HWAY N	IOISE P	REDICTI	ION MO	DDEL			
Road Na	nrio: HY 2045 W me: Oak Valley ent: e/o Potrero	Pkwy.						Jack R 12398	tabbit Trail	Develo	р
	SPECIFIC IN	IPUT DATA			0:- 0				L INPUT	S	
Highway Data					Site Cor	ditions	(Hara :				
Average Daily	/ Traffic (Adt):	22,739 vehicle	es					Autos:			
Peak Hou	r Percentage:	8.33%				edium Tru		,			
Peak	Hour Volume:	1,894 vehicle	S		He	eavy Truc	cks (3+	Axles):	15		
V	ehicle Speed:	50 mph		1	Vehicle	Mix					
Near/Far L	ane Distance:	80 feet			Ver	icleType		Dav	Evening	Niaht	Daily
Site Data							Autos:	77.5%	-	9.69	6 93.07%
R	arrier Height:	0.0 feet			M	edium Ti	rucks:	84.8%	4.9%	10.39	6 2.13%
Barrier Type (0-l	Vall, 1-Berm):	0.0				Heavy Tr	rucks:	86.5%	2.7%	10.89	4.80%
	ist. to Barrier:	60.0 feet		1	Noise S	ource El	evatio	ns (in fe	eet)		
Centerline Dist		60.0 feet				Autos	s: 0	.000			
Barrier Distance		0.0 feet			Mediu	m Trucks	s: 2	.297			
Observer Height	. ,	5.0 feet			Hea	vy Trucks	s: 8	.004	Grade Ad	justmer	t: 0.0
F	Pad Elevation:	0.0 feet								,	
Re	oad Elevation:	0.0 feet		-	Lane Eq	uivalent			feet)		
	Road Grade:	0.0%				Autos		0.000			
	Left View:	-90.0 degree				m Trucks		.803			
	Right View:	90.0 degree	es		Hea	vy Trucks	s: 44	.822			
FHWA Noise Mod		s									
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier At		rm Atten
Autos		0.17		0.5	-	-1.20		-4.69		000	0.000
Medium Trucks		-16.23		0.6		-1.20		-4.88		000	0.000
Heavy Trucks	: 85.38	-12.71		0.6	1	-1.20		-5.34	0.	000	0.000
Unmitigated Nois								-			
VehicleType	Leq Peak Hou			Leq E	vening		Night		Ldn	_	NEL
Autos			68.6		66.9		60	-	69.	-	70.1
Medium Trucks			63.5		57.1		55	-	64.	-	64.3
Heavy Trucks			71.4		62.4		63		72.		72.1
Vehicle Noise			73.7		68.5		65	.9	74.	4	74.6
Centerline Distar	ice to Noise Co	ontour (in feet	)	70.	dBA	65.	dBA	-	SO dBA	- F	5 dBA
			Ldn:	701	117	05 (	25		543		1,170
			NEL:		122		26	_	568		1,170
		Ci	*LL.		122		20	+	300	,	1,225

Road Name: Road Segment: SITE SE Highway Data Average Daily Tr Peak Hour Pe Peak Hou	4th St. e/o Potrero PECIFIC IN	lith Project BO  BI.  IPUT DATA						: Jack R : 12398	abbit Trail	Develop	'
Road Segment:  SITE SE  Highway Data  Average Daily Tra  Peak Hour Pe  Peak Hour	e/o Potrero PECIFIC IN raffic (Adt):					JOD N	iumber.	12398			
SITE SE Highway Data Average Daily Tr Peak Hour Pe Peak Hou	PECIFIC IN										
<b>Highway Data</b> Average Daily Tr Peak Hour Pe Peak Hou	raffic (Adt):	IPUT DATA									
Average Daily Tr Peak Hour Pe Peak Hou	. ,			S	ite Cor			<b>MODE</b> = 10, Sc	L INPUT	S	
Peak Hour Pe Peak Hou	. ,	17.700 vehicle					(,,,,,,	Autos:	15		
Peak Hou		8.33%	es		Me	dium Tr	ucke (2	Axles):			
	-	8.33% 1.474 vehicle	_					Axles):			
venio		,	S		пе	avy IIu	CKS (ST	Axies).	13		
Near/Far Lane	cle Speed:	40 mph		ν	'ehicle	Mix					
ivear/r-ar Lane	Distance:	48 feet			Veh	icleType	•	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	88.60%
Barrie	er Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	4.469
Barrier Type (0-Wali		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	6.949
Centerline Dist.	to Barrier:	59.0 feet			laica S	ourco E	lovatio	ns (in fe	not)		
Centerline Dist. to	Observer:	59.0 feet			ioise si	Auto		0.000	eu		
Barrier Distance to	Observer:	0.0 feet			A 4 17:-	m Truck	(	2.297			
Observer Height (At	bove Pad):	5.0 feet						3.004	Grade Ad	iustmant	. 0.0
Pad	Elevation:	0.0 feet			пеа	vy Truck	S. (	5.004	Orauc Au	Justinoni	. 0.0
Road	Elevation:	0.0 feet		L	ane Eq	uivalen	t Distai	nce (in i	feet)		
Ro	ad Grade:	0.0%				Auto	s: 54	1.129			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 50	3.966			
F	Right View:	90.0 degre	es		Hea	vy Truck	s: 50	3.982			
FHWA Noise Model	Calculations	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	snel	Barrier Att	en Bei	m Atten
Autos:	66.51	-0.17		-0.62	2	-1.20		-4.69	0.0	000	0.00
Medium Trucks:	77.72	-13.15		-0.60	)	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	82.99	-11.22		-0.60	)	-1.20		-5.35	0.0	000	0.00
Unmitigated Noise L			barrie								
	eq Peak Hou			Leq Ev			Night		Ldn		NEL
Autos:	64		63.4		61.7		55		64.2	_	64.
Medium Trucks:	62		62.1		55.7		54		62.0	-	62.
Heavy Trucks:	70		69.3		60.3		61		69.9		70.
Vehicle Noise:	71	.7	70.9		64.6		63	.1	71.	5	71.
Centerline Distance	to Noise Co	ntour (in feet	)	70		-	-/0.4		- AD 4		-/04
			L	70 d		65	dBA 16		60 dBA		dBA 747
		_	Ldn: NFL:		75 77		16 16		347 360		747

	- FH	WA-RD-77-108	HIGH	TWAT	TOISE P	KEDIC I	ION WI	JUEC			
Scenario Road Name Road Segmen	e: 4th St.	Vith Project BC	)					Jack F 12398	tabbit Trail	Develop	
	PECIFIC II	NPUT DATA							L INPUT	s	
Highway Data					Site Con	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily	raffic (Adt):	12,265 vehicl	es					Autos:			
Peak Hour I	Percentage:	8.33%				dium Tr		,			
	our Volume:	1,022 vehicle	es .		He	avy True	cks (3+	Axles):	15		
	icle Speed:	40 mph			Vehicle	Wix					
Near/Far Lar	e Distance:	36 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						-	Autos:	77.5%	12.9%	9.6%	91.369
Bar	rier Heiaht:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	3.359
Barrier Type (0-Wa	all, 1-Berm):	0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	5.309
Centerline Dis	t. to Barrier:	44.0 feet		H	Noise S	urco El	ovatio	ne (in f	not)		
Centerline Dist. t	o Observer:	44.0 feet			WOISE SE	Auto.		0.000	<i>:ei)</i>		
Barrier Distance t	o Observer:	0.0 feet			Mediu	m Truck.		297			
Observer Height (/	Above Pad):	5.0 feet				v Truck		.004	Grade Ad	liustment	0.0
Pa	d Elevation:	0.0 feet				,				,	
	d Elevation:	0.0 feet			Lane Eq				feet)		
F	Road Grade:	0.0%				Auto.		0.460			
	Left View:	-90.0 degre				m Truck		).241			
	Right View:	90.0 degre	es		Hear	y Truck	s: 40	).262			
FHWA Noise Mode		-									
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att	_	m Atten
Autos:	66.51			1.2	-	-1.20		-4.61		000	0.00
Medium Trucks:	77.72			1.3		-1.20		-4.87		000	0.00
Heavy Trucks:	82.99			1.3		-1.20		-5.50	0.	000	0.00
Unmitigated Noise	•						N II oo bad	_	Ldn		NEL
VehicleType Autos:	Leq Peak Ho	ur Leq Da	63.9	Leq E	vening 62.1	Leq	Night 56	0	Lan 64		NEL 65
Medium Trucks:		1.8	61.1		54.8		53		61.		61
Heavy Trucks:	-	9.1	68.5		59.4		60	-	69.		69
Vehicle Noise:		1.1	70.3		64.5		62		70.	-	71
Centerline Distanc	e to Noise C	ontour (in fee	t)								
		,		70	dBA	65	dBA	(	60 dBA	55	dBA
			Ldn:		51		11	0	236	, '	509
			Luii.		31		- 11	U	230	)	00

Thursday, September 2, 2021

	FH	WA-RD-77-108	HIG	HWAY	NOISE PI	REDICTI	ON M	ODEL			
Road Na	ario: HY 2045 V ime: 4th St. ient: w/o Potrer	,						Jack F 12398	Rabbit Trail	Develop	
	SPECIFIC II	NPUT DATA			0'' 0				L INPUT	S	
Highway Data					Site Con	aitions	(Hara				
	y Traffic (Adt):	27,890 vehicle	es					Autos			
	ur Percentage:	8.33%				dium Tru					
	Hour Volume:	_,	s		He	avy Truc	cks (3+	Axles)	: 15		
	/ehicle Speed:	40 mph			Vehicle I	Mix					
Near/Far L	.ane Distance:	12 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						-	lutos:	77.59	6 12.9%	9.6%	88.56%
В	arrier Height:	0.0 feet			M	edium Ti	ucks:	84.89	6 4.9%	10.3%	4.73%
Barrier Type (0-		0.0			1	Heavy Ti	ucks:	86.59	6 2.7%	10.8%	6.72%
Centerline I	Dist. to Barrier:	33.0 feet			Noise So	ourco El	ovatio	ne (in f	inati		
Centerline Dis	t. to Observer:	33.0 feet			NOISE SC	Auto:		0.000	eei)		
Barrier Distanc	e to Observer:	0.0 feet			A decesion	m Truck:		2.297			
Observer Heigh	t (Above Pad):	5.0 feet					-	3.004	Grade Ad	iustmant	. 0.0
	Pad Elevation:	0.0 feet			Heav	y Truck	5. 6	3.004	Grade Ad	justinent	. 0.0
R	oad Elevation:	0.0 feet			Lane Eq	uivalent	Dista	nce (in	feet)		
	Road Grade:	0.0%				Auto	s: 32	2.833			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 32	2.562			
	Right View:	90.0 degre	es		Heav	y Truck	s: 32	2.589			
FHWA Noise Mo	del Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	snel	Barrier Att	en Ber	m Atten
Autos	s: 66.51	1.81		2.0	54	-1.20		-4.52	0.0	000	0.000
Medium Trucks	s: 77.72	-10.92		2.0	69	-1.20		-4.86	0.0	000	0.000
Heavy Trucks	s: 82.99	-9.39		2.0	69	-1.20		-5.69	0.0	000	0.000
Unmitigated Noi			_								
VehicleType	Leq Peak Ho			Leq E	vening	,	Night		Ldn		NEL
Autos		9.8	68.7		66.9		60		69.		70.1
Medium Trucks		8.3	67.6		61.2		59		68.		68.4
Heavy Trucks Vehicle Noise		5.1 6.9	74.5 76.1		65.4		66		75.0 76.1		75.2 77.0
					69.9		50	.3	76.	'	//.0
Centerline Dista	nce to Noise C	ontour (in feet	)	70	dBA	65	dBA	1	60 dBA	55	dBA
			Ldn:	70	93	00 1	20		431		928
		С	NEL:		96		20	-	446		962

hursday, September 2, 2021

## **APPENDIX 9.1:**

**CADNAA OPERATIONAL NOISE MODEL INPUTS** 



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## 12398 - Beaumont Pointe

CadnaA Noise Prediction Model: 12398\_15b.cna

Date: 23.06.22 Analyst: B. Lawson

**Calculation Configuration** 

Configurat	ion
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

### **Receiver Noise Levels**

Name	М.	ID		Level Lr		Lir	nit. Val	ue		Land	Use	Height		C	oordinates	
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Υ	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	32.1	32.0	38.7	55.0	45.0	0.0				5.00	а	6318806.11	2292331.15	5.00
RECEIVERS		R2	34.3	34.2	40.9	55.0	45.0	0.0				5.00	а	6321134.99	2290808.09	5.00
RECEIVERS		R3	35.9	35.8	42.5	55.0	45.0	0.0				5.00	а	6323538.75	2288028.01	5.00
RECEIVERS		R4	40.3	40.1	46.8	55.0	45.0	0.0				5.00	a	6324208.60	2285233.27	5.00
RECEIVERS		R5	43.0	42.7	49.4	55.0	45.0	0.0				5.00	а	6322668.83	2282431.69	5.00
RECEIVERS		xBIO-1	42.2	42.1	48.8	0.0	0.0	0.0		х	Total	5.00	а	6315486.52	2289104.40	5.00
RECEIVERS		xBIO-2	46.2	46.2	52.8	0.0	0.0	0.0		х	Total	5.00	а	6317292.24	2288261.01	5.00
RECEIVERS		xBIO-3	50.2	50.2	56.9	0.0	0.0	0.0		х	Total	5.00	а	6317222.84	2286292.08	5.00

Point Source(s)

Name	M.	ID	R	esult. PW	′L		Lw/L	i	Оре	erating Ti	me	K0	Height	Co	oordinates	
			Day	Evening	Night	Туре	Value	norm.	Day	Special	Night			Х	Υ	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(dB)	(ft)	(ft)	(ft)	(ft)
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6323343.27	2283042.07	25.00
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6323411.45	2283447.91	25.00
POINTSOURCE		AC03	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6323361.13	2283290.44	25.00
POINTSOURCE		AC04	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6323258.86	2283100.51	25.00
POINTSOURCE		AC05	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6323146.84	2282977.13	25.00
POINTSOURCE		AC06	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6323245.87	2282819.67	25.00
POINTSOURCE		AC07	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6323400.09	2282837.52	25.00
POINTSOURCE		AC08	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6323653.33	2282793.69	25.00
POINTSOURCE		AC09	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6323708.53	2283012.85	25.00

Name	M.	ID	R	esult. PW	'L		Lw / L	i	Оре	erating Ti	me	КО	Height	Co	oordinates	
			Day	Evening	Night	Туре	Value	norm.	Day	Special	Night			Х	Υ	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(dB)	(ft)	(ft)	(ft)	(ft)
POINTSOURCE		AC10	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6323708.53	2283202.78	25.00
POINTSOURCE		AC11	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6323711.77	2283366.74	25.00
POINTSOURCE		AC12 AC13	88.9 88.9	88.9 88.9	88.9 88.9	Lw	88.9 88.9		585.00	0.00	252.00 252.00	0.0	5.00 g	6323715.02	2283538.81	25.00
POINTSOURCE POINTSOURCE		AC14	88.9	88.9	88.9	LW	88.9		585.00 585.00	0.00	252.00	0.0	5.00 g 5.00 g	6323555.93 6323473.14	2283707.64 2283860.24	25.00 25.00
POINTSOURCE		AC15	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6322630.61	2283701.15	50.00
POINTSOURCE		AC16	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6321193.94	2285366.72	50.00
POINTSOURCE		AC17	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6320840.05	2284798.54	50.00
POINTSOURCE		AC18	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6320487.78	2284962.50	50.00
POINTSOURCE		AC19	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6320767.00	2285595.61	50.00
POINTSOURCE		AC20	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6319538.11	2286149.18	50.00
POINTSOURCE		AC21	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6319255.65	2285514.45	50.00
POINTSOURCE		AC22	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6318706.95	2285589.12	50.00
POINTSOURCE POINTSOURCE		AC23 AC24	88.9 88.9	88.9 88.9	88.9 88.9	Lw	88.9 88.9		585.00 585.00	0.00	252.00 252.00	0.0	5.00 g 5.00 g	6318163.12 6319229.56	2285921.91 2286445.79	50.00 50.00
POINTSOURCE		AC25	88.9	88.9	88.9	LW	88.9		585.00	0.00	252.00	0.0	5.00 g 5.00 g	6318695.80	2286775.65	50.00
POINTSOURCE		AC26	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6318025.68	2286382.15	50.00
POINTSOURCE		AC27	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6318306.20	2286876.95	50.00
POINTSOURCE		AC28	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6317173.74	2286856.17	50.00
POINTSOURCE		AC29	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6317443.87	2287349.68	50.00
POINTSOURCE		AC30	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6317065.06	2287590.09	50.00
POINTSOURCE		AC31	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6315523.31	2288350.44	50.00
POINTSOURCE		AC32	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00 g	6315187.86	2287742.68	50.00
POINTSOURCE	L	PARKING00	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6323692.29	2283754.72	5.00
POINTSOURCE		PARKING01	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6315002.38	2287851.87	5.00
POINTSOURCE		PARKING01	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6323590.02	2283818.03	5.00
POINTSOURCE		PARKING02 PARKING02	87.8 87.8	87.8 87.8	87.8 87.8	Lw	87.8 87.8					0.0	5.00 a 5.00 a	6315087.89 6323193.92	2288024.20 2283772.58	5.00
POINTSOURCE		PARKING02	87.8	87.8	87.8	LW	87.8					0.0	5.00 a	6315210.23	2288197.84	5.00
POINTSOURCE		PARKING03	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6323093.27	2283720.63	5.00
POINTSOURCE		PARKING04	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6315287.84	2288359.64	5.00
POINTSOURCE		PARKING04	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6323318.92	2283589.14	5.00
POINTSOURCE		PARKING05	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6316880.24	2286952.28	5.00
POINTSOURCE		PARKING05	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6323216.65	2283563.17	5.00
POINTSOURCE		PARKING06	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6316915.30	2287019.81	5.00
POINTSOURCE		PARKING06	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6323125.74	2283472.26	5.00
POINTSOURCE		PARKING07	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6316958.16	2287102.92	5.00
POINTSOURCE		PARKING07	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6323036.46	2283384.60	5.00
POINTSOURCE		PARKING08	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6317002.31	2287195.13	5.00
POINTSOURCE POINTSOURCE		PARKING08 PARKING09	87.8 87.8	87.8 87.8	87.8 87.8	Lw	87.8 87.8					0.0	5.00 a 5.00 a	6322945.55 6317042.57	2283298.56 2287278.25	5.00 5.00
POINTSOURCE		PARKING09	87.8	87.8	87.8	LW	87.8					0.0	5.00 a 5.00 a	6322853.02	2283201.16	5.00
POINTSOURCE		PARKING10	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6317088.03	2287367.86	5.00
POINTSOURCE		PARKING10	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6322768.60	2283119.99	5.00
POINTSOURCE		PARKING11	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6317128.29	2287449.67	5.00
POINTSOURCE		PARKING11	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6322581.91	2283222.26	5.00
POINTSOURCE		PARKING12	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6317168.55	2287535.39	5.00
POINTSOURCE		PARKING12	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6322679.32	2283308.30	5.00
POINTSOURCE		PARKING13	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a		2287488.64	5.00
POINTSOURCE		PARKING13	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6322763.73	2283395.96	5.00
POINTSOURCE POINTSOURCE		PARKING14 PARKING14		87.8 87.8	87.8 87.8	Lw	87.8 87.8					0.0	5.00 a 5.00 a	6317197.12 6322851.39	2287410.71 2283483.62	5.00
POINTSOURCE		PARKING14	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6317155.56	2287328.90	5.00
POINTSOURCE		PARKING15	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6322943.92	2283581.02	5.00
POINTSOURCE		PARKING16	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6317115.30	2287244.48	5.00
POINTSOURCE		PARKING16	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6323018.60	2283658.94	5.00
POINTSOURCE		PARKING17	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6317072.44	2287158.77	5.00
POINTSOURCE		PARKING17	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6323276.71	2283402.45	5.00
POINTSOURCE		PARKING18	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6317026.99	2287066.56	5.00
POINTSOURCE	_	PARKING18	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6323215.03	2283280.70	5.00
POINTSOURCE		PARKING19	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6316986.73	2286979.55	5.00
POINTSOURCE		PARKING19	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6323159.83	2283176.81	5.00
POINTSOURCE POINTSOURCE		PARKING20 PARKING20	87.8 87.8	87.8 87.8	87.8 87.8	Lw	87.8 87.8					0.0	5.00 a 5.00 a	6316941.27 6323062.43	2286889.94 2283077.78	5.00
POINTSOURCE		PARKING21	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6317343.87	2287396.43	5.00
POINTSOURCE		PARKING21	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6322961.78	2283020.96	5.00
POINTSOURCE		PARKING22	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6317303.61	2287325.00	5.00
POINTSOURCE		PARKING22	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6322851.17	2282989.96	5.00
POINTSOURCE		PARKING23	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6317258.15	2287245.78	5.00
POINTSOURCE		PARKING23	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6322697.17	2283053.43	5.00
POINTSOURCE		PARKING24	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6317210.10	2287157.47	5.00
POINTSOURCE		PARKING24	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6323174.44	2284123.22	5.00
POINTSOURCE		PARKING25	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6317163.35	2287073.05	5.00
POINTSOURCE	-	PARKING25	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6323127.36	2284048.55	5.00
POINTSOURCE		PARKING26	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6317117.90	2286989.94	5.00
POINTSOURCE	$\vdash$	PARKING26 PARKING27	87.8 87.8	87.8 87.8	87.8 87.8	Lw	87.8 87.8					0.0	5.00 a 5.00 a	6323077.04 6317075.04	2283969.01 2286910.72	5.00
POINTSOURCE		FARRING2/	87.8	87.8	87.8	Lw	87.8					0.0	3.00 a	031/0/5.04	2200310.72	5.00

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Name	M.	ID	R	esult. PW	'L		Lw / L	i	Ope	erating Ti	ime	ко	Height	C	oordinates	
			Day	Evening	Night	Туре	Value	norm.	Day	Special	Night			Х	Υ	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(dB)	(ft)	(ft)	(ft)	(ft)
POINTSOURCE		PARKING27	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6323232.88	2284087.51	5.00
POINTSOURCE		PARKING28	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6317091.92	2286775.65	5.00
POINTSOURCE		PARKING28	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6323286.45	2284035.56	5.00
POINTSOURCE		PARKING29	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6317147.77	2286744.49	5.00
POINTSOURCE		PARKING29	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6323382.23	2284079.39	5.00
POINTSOURCE		PARKING30	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6317952.95	2286301.63	5.00
POINTSOURCE		PARKING30	87.8	87.8	87.8	Lw .	87.8					0.0	5.00 a	6323310.80	2284141.08	5.00
POINTSOURCE		PARKING31	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6318006.20	2286271.76	5.00
POINTSOURCE		PARKING31	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6323219.90	2284201.15	5.00
POINTSOURCE		PARKING32	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6318050.36	2286115.92	5.00
POINTSOURCE		PARKING32	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6323150.09 6318091.91	2283954.40	5.00
POINTSOURCE		PARKING33 PARKING33	87.8 87.8	87.8	87.8 87.8	Lw	87.8 87.8					0.0	5.00 a 5.00 a	6323031.59	2286183.45 2283887.84	5.00
POINTSOURCE POINTSOURCE		PARKING33	87.8	87.8 87.8	87.8	LW	87.8					0.0	5.00 a 5.00 a	6318142.56	2286263.97	5.00
POINTSOURCE		PARKING34	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6318193.21	2286352.28	5.00
POINTSOURCE		PARKING35	87.8	87.8	87.8	LW	87.8					0.0	5.00 a	6318247.76	2286435.40	5.00
POINTSOURCE		PARKING37	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6318298.40	2286515.92	5.00
POINTSOURCE		PARKING37	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6318343.86	2286591.24	5.00
POINTSOURCE		PARKING39	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6318402.30	2286686.05	5.00
POINTSOURCE		PARKING40	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6318451.65	2286765.27	5.00
POINTSOURCE		PARKING40	87.8	87.8	87.8	LW	87.8					0.0	5.00 a	6318493.21	2286832.80	5.00
POINTSOURCE	$\vdash$	PARKING41	87.8	87.8	87.8	LW	87.8					0.0	5.00 a	6318382.82	2286904.23	5.00
POINTSOURCE		PARKING42	87.8	87.8	87.8	LW	87.8					0.0	5.00 a	6318317.89	2286936.69	5.00
POINTSOURCE		PARKING43	87.8	87.8	87.8	LW	87.8					0.0	5.00 a	6317502.31	2287386.04	5.00
POINTSOURCE		PARKING44	87.8	87.8	87.8	LW	87.8					0.0	5.00 a	6317442.57	2287422.40	5.00
POINTSOURCE		PARKING45	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6317386.72	2287530.19	5.00
POINTSOURCE		PARKING40	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6318917.99	2285535.55	5.00
POINTSOURCE		PARKING47	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6318961.82	2285606.98	5.00
POINTSOURCE		PARKING49	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6319005.65	2285686.52	5.00
POINTSOURCE		PARKING50	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6319059.22	2285764.44	5.00
POINTSOURCE		PARKING51	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6319109.54	2285848.86	5.00
POINTSOURCE		PARKING52	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6319421.23	2286111.84	5.00
POINTSOURCE		PARKING53	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6319382.27	2286022.56	5.00
POINTSOURCE		PARKING54	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6319343.31	2285936.52	5.00
POINTSOURCE		PARKING55	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6319301.10	2285847.23	5.00
POINTSOURCE		PARKING56	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6319263.76	2285759.57	5.00
POINTSOURCE		PARKING57	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6319219.93	2285667.04	5.00
POINTSOURCE		PARKING58	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6319179.35	2285576.13	5.00
POINTSOURCE		PARKING59	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6319583.57	2286296.91	5.00
POINTSOURCE		PARKING60	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6318833.57	2286782.29	5.00
POINTSOURCE		PARKING61	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6318908.25	2286738.46	5.00
POINTSOURCE		PARKING62	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6318987.79	2286686.51	5.00
POINTSOURCE		PARKING63	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6319067.34	2286634.57	5.00
POINTSOURCE		PARKING64	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6319150.13	2286584.24	5.00
POINTSOURCE		PARKING65	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6319236.17	2286527.42	5.00
POINTSOURCE		PARKING66	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6320586.80	2284947.89	5.00
POINTSOURCE		PARKING67	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6320632.26	2285046.92	5.00
POINTSOURCE		PARKING68	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6320669.59	2285131.33	5.00
POINTSOURCE		PARKING69	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6320708.55	2285217.37	5.00
POINTSOURCE		PARKING70	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6320749.14	2285306.66	5.00
POINTSOURCE		PARKING71	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6320786.48	2285394.32	5.00
POINTSOURCE	_	PARKING72	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6320825.44	2285490.10	_
POINTSOURCE	_	PARKING73	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6320861.15	2285561.52	
POINTSOURCE	_	PARKING74	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6321012.12	2285475.48	
POINTSOURCE	_	PARKING75	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6320976.41	2285395.94	
POINTSOURCE	_	PARKING76	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6320930.96	2285311.53	5.00
POINTSOURCE	_	PARKING77	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6320882.25	2285222.24	_
POINTSOURCE	_	PARKING78	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6320836.80	2285141.07	5.00
POINTSOURCE	_	PARKING79	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6320791.35	2285048.54	
POINTSOURCE	_	PARKING80	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6320745.89	2284970.62	5.00
POINTSOURCE	_	PARKING81	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6320700.44	2284881.33	5.00
POINTSOURCE	_	PARKING82	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6320659.85	2284798.54	
POINTSOURCE POINTSOURCE	_	PARKING83 PARKING84	87.8 87.8	87.8 87.8	87.8 87.8	Lw	87.8 87.8					0.0	5.00 a 5.00 a	6321109.53 6321065.69	2285412.17 2285339.12	5.00
POINTSOURCE	_	PARKING84 PARKING85	87.8	87.8	87.8	LW	87.8					0.0	5.00 a	6321065.69	2285339.12	5.00
POINTSOURCE		PARKING85	87.8	87.8	87.8	LW	87.8					0.0	5.00 a	6321020.24	2285256.33	
POINTSOURCE	_	PARKING86	87.8	87.8	87.8	LW	87.8					0.0	5.00 a	6320965.05	2285098.87	5.00
POINTSOURCE	_	PARKING87	87.8	87.8	87.8	LW	87.8					0.0	5.00 a	6320870.89	2285027.44	
POINTSOURCE	_	PARKING88	87.8	87.8	87.8	LW	87.8					0.0	5.00 a	6320814.07	2284939.78	
POINTSOURCE	_	PARKING89	87.8	87.8	87.8	LW	87.8					0.0	5.00 a	6323029.96	2284139.46	
POINTSOURCE	_	PARKING90	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6322974.77	2284053.42	5.00
POINTSOURCE	_	PARKING91	87.8	87.8	87.8	LW	87.8					0.0	5.00 a	6322927.69	2283973.88	5.00
POINTSOURCE	_	PARKING92	87.8	87.8	87.8	LW	87.8					0.0	5.00 a	6322877.37	2283892.71	5.00
POINTSOURCE	_	PARKING93	87.8	87.8	87.8	LW	87.8					0.0	5.00 a	6322822.17	2283892.71	
POINTSOURCE	_	PARKING95	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6322773.47	2283727.12	5.00
POINTSOURCE	_	PARKING96	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6323338.40	2283856.99	5.00
POINTSOURCE		PARKING90	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a		2283780.70	
	_		57.5	37.0	٥,.٥	_***	07.0					0.0	3.00 a	3323370.36		5.00

Urban Crossroads, Inc.

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Name	M.	ID	R	esult. PW	′L		Lw/L	i	Ор	erating Ti	me	КО	Height	C	oordinates	
			Day	Evening	Night	Туре	Value	norm.	Day	Special	Night			Х	Υ	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(dB)	(ft)	(ft)	(ft)	(ft)
POINTSOURCE		PARKING98	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6323559.18	2283972.25	5.00
POINTSOURCE		PARKING99	87.8	87.8	87.8	Lw	87.8					0.0	5.00 a	6323617.62	2283894.33	5.00
POINTSOURCE		TRASH01	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00 a	6315664.07	2288449.10	5.00
POINTSOURCE		TRASH02	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00 a	6317042.69	2287741.37	5.00
POINTSOURCE		TRASH03	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00 a	6315223.38	2287549.31	5.00
POINTSOURCE		TRASH04	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00 a	6318067.35	2286066.39	5.00
POINTSOURCE		TRASH05	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00 a	6318530.00	2286813.13	5.00
POINTSOURCE		TRASH06	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00 a	6319341.68	2286313.14	5.00
POINTSOURCE		TRASH07	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00 a	6318877.40	2285564.77	5.00
POINTSOURCE		TRASH08	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00 a	6319664.73	2286267.69	5.00
POINTSOURCE		TRASH09	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00 a	6320778.36	2285762.82	5.00
POINTSOURCE		TRASH10	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00 a	6320364.40	2284845.62	5.00
POINTSOURCE		TRASH11	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00 a	6319252.40	2285342.37	5.00
POINTSOURCE		TRASH12	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00 a	6320815.70	2284628.09	5.00
POINTSOURCE		TRASH13	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00 a	6322491.01	2283590.76	5.00
POINTSOURCE		TRASH14	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00 a	6322984.51	2284439.78	5.00
POINTSOURCE		TRASH15	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00 a	6321336.80	2285465.74	5.00
POINTSOURCE		TRASH16	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00 a	6317591.07	2287442.58	5.00
POINTSOURCE		TRASH17	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00 a	6318303.53	2287044.78	5.00
POINTSOURCE		TRASH18	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00 a	6317880.47	2286287.06	5.00
POINTSOURCE		TRASH19	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00 a	6317173.27	2286677.50	5.00
POINTSOURCE		DT01	84.0	84.0	84.0	Lw	84					0.0	3.00 a	6323204.45	2283025.26	3.00
POINTSOURCE		DT02	84.0	84.0	84.0	Lw	84					0.0	3.00 a	6323300.00	2283161.97	3.00
POINTSOURCE		DT03	84.0	84.0	84.0	Lw	84					0.0	3.00 a	6323391.14	2283361.89	3.00
POINTSOURCE		DT04	84.0	84.0	84.0	Lw	84					0.0	3.00 a	6323436.71	2283517.72	3.00

Line Source(s)

Name	M.	ID	R	esult. PW	'L	R	esult. PW	L'		Lw/L	i	Ор	erating Ti	me		Moving	Pt. Src		Height
			Day	Evening	Night	Day	Evening	Night	Туре	Value	norm.	Day	Special	Night		Number		Speed	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	Day	Evening	Night	(mph)	(ft)
LINESOURCE		DWY01	93.2	93.2	93.2	67.8	67.8	67.8	Lw	93.2									8
LINESOURCE		DWY02	93.2	93.2	93.2	75.8	75.8	75.8	Lw	93.2									8
LINESOURCE		DWY03	93.2	93.2	93.2	70.6	70.6	70.6	Lw	93.2									8
LINESOURCE		DWY04	93.2	93.2	93.2	69.0	69.0	69.0	Lw	93.2									8
LINESOURCE		DWY05	93.2	93.2	93.2	78.6	78.6	78.6	Lw	93.2									8
LINESOURCE		DWY06	93.2	93.2	93.2	74.2	74.2	74.2	Lw	93.2									8
LINESOURCE		DWY07	93.2	93.2	93.2	71.5	71.5	71.5	Lw	93.2									8
LINESOURCE		DWY08	93.2	93.2	93.2	68.6	68.6	68.6	Lw	93.2									8
LINESOURCE		DWY09	93.2	93.2	93.2	75.4	75.4	75.4	Lw	93.2									8
LINESOURCE		DWY10	93.2	93.2	93.2	71.2	71.2	71.2	Lw	93.2									8
LINESOURCE		DWY11	93.2	93.2	93.2	68.1	68.1	68.1	Lw	93.2									8
LINESOURCE		DWY12	93.2	93.2	93.2	74.2	74.2	74.2	Lw	93.2									8
LINESOURCE		DWY13	93.2	93.2	93.2	72.4	72.4	72.4	Lw	93.2									8
LINESOURCE		DWY14	93.2	93.2	93.2	70.5	70.5	70.5	Lw	93.2									8
LINESOURCE		DWY15	93.2	93.2	93.2	68.5	68.5	68.5	Lw	93.2									8
LINESOURCE		DWY16	93.2	93.2	93.2	75.1	75.1	75.1	Lw	93.2									8
LINESOURCE		DWY17	93.2	93.2	93.2	74.8	74.8	74.8	Lw	93.2									8
LINESOURCE		DWY18	93.2	93.2	93.2	68.7	68.7	68.7	Lw	93.2									8
LINESOURCE		DWY19	93.2	93.2	93.2	75.0	75.0	75.0	Lw	93.2									8

Name	ŀ	lei	ght		Coordinat	es	
	Begin		End	х	у	Z	Ground
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
LINESOURCE	8.00	а		6315625.28	2288405.42	8.00	0.00
				6315494.37	2288466.20	8.00	0.00
				6315441.75	2288453.04	8.00	0.00
				6315039.21	2287619.03	8.00	0.00
LINESOURCE	8.00	а		6315238.54	2287616.13	8.00	0.00
				6315074.23	2287691.58	8.00	0.00
LINESOURCE	8.00	а		6317038.73	2287698.59	8.00	0.00
				6317301.84	2287563.78	8.00	0.00
				6317409.71	2287463.80	8.00	0.00
				6317549.15	2287384.87	8.00	0.00
LINESOURCE	8.00	а		6317301.84	2287563.78	8.00	0.00
				6316911.15	2286790.27	8.00	0.00
LINESOURCE	8.00	а		6316814.00	2286904.23	8.00	0.00
				6316841.28	2286875.65	8.00	0.00
				6316829.59	2286822.41	8.00	0.00
LINESOURCE	8.00	а		6316982.83	2286756.17	8.00	0.00
				6317021.79	2286812.02	8.00	0.00
				6317055.56	2286818.51	8.00	0.00
				6317197.12	2286743.19	8.00	0.00
LINESOURCE	8.00	а		6318280.22	2286978.25	8.00	0.00
				6318462.04	2286884.74	8.00	0.00
				6318534.77	2286901.63	8.00	0.00
				6318642.56	2286858.77	8.00	0.00

Name	ŀ	lei	ght		Coordinat	es	
	Begin		End	x	у	z	Ground
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
				6318595.80	2286783.45	8.00	0.00
LINESOURCE	8.00	а		6318504.33	2286894.56	8.00	0.00
				6317999.71	2286087.35	8.00	0.00
LINESOURCE	8.00	а		6317926.85	2286340.48	8.00	0.00
				6318096.25	2286241.78	8.00	0.00
LINESOURCE	8.00	а		6319284.08	2286357.05	8.00	0.00
				6319348.18	2286452.75	8.00	0.00
				6319450.45	2286381.32	8.00	0.00
				6319458.57	2286308.27	8.00	0.00
				6319497.53	2286262.82	8.00	0.00
				6319627.95	2286205.66	8.00	0.00
LINESOURCE	8.00	а		6319458.57	2286308.27	8.00	0.00
				6318960.19	2285369.97	8.00	0.00
LINESOURCE	8.00	а		6319273.29	2285413.89	8.00	0.00
				6319155.00	2285460.87	8.00	0.00
				6319027.06	2285495.86	8.00	0.00
LINESOURCE	8.00	а		6318808.90	2285595.06	8.00	0.00
				6318739.42	2285473.86	8.00	0.00
				6318815.72	2285443.02	8.00	0.00
		П		6318939.09	2285418.67	8.00	0.00
				6318983.23	2285413.33	8.00	0.00
LINESOURCE	8.00	а		6320757.15	2285696.92	8.00	0.00
		П		6321005.63	2285585.87	8.00	0.00
				6321296.21	2285408.93	8.00	0.00
LINESOURCE	8.00	а		6321005.63	2285585.87	8.00	0.00
		П		6320542.97	2284730.36	8.00	0.00
LINESOURCE	8.00	а		6320405.74	2284906.45	8.00	0.00
				6320512.13	2284842.37	8.00	0.00
				6320478.04	2284759.58	8.00	0.00
LINESOURCE	8.00	а		6320844.92	2284688.15	8.00	0.00
		П		6320732.91	2284749.84	8.00	0.00
		П		6320676.09	2284670.30	8.00	0.00
LINESOURCE	8.00	а		6323061.45	2284274.81	8.00	0.00
		П		6323159.83	2284215.76	8.00	0.00
		П		6322728.02	2283542.06	8.00	0.00
LINESOURCE	8.00	а		6322538.51	2283640.83	8.00	0.00
		П		6322719.90	2283524.20	8.00	0.00

## Area Source(s)

Name	M.	ID	R	esult. PW	L	Re	esult. PW	L"		Lw/L	i	Op	erating Ti	me	Height
			Day	Evening	Night	Day	Evening	Night	Туре	Value	norm.	Day	Special	Night	(ft)
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	
AREASOURCE		DOCK01	103.4	103.4	103.4	59.1	59.1	59.1	Lw	103.4					8
AREASOURCE		DOCK02	103.4	103.4	103.4	58.8	58.8	58.8	Lw	103.4					8
AREASOURCE		DOCK03	103.4	103.4	103.4	61.8	61.8	61.8	Lw	103.4					8
AREASOURCE		DOCK04	103.4	103.4	103.4	61.8	61.8	61.8	Lw	103.4					8
AREASOURCE		DOCK05	103.4	103.4	103.4	61.5	61.5	61.5	Lw	103.4					8
AREASOURCE		DOCK06	103.4	103.4	103.4	61.6	61.6	61.6	Lw	103.4					8
AREASOURCE		DOCK07	103.4	103.4	103.4	60.1	60.1	60.1	Lw	103.4					8
AREASOURCE		DOCK08	103.4	103.4	103.4	60.1	60.1	60.1	Lw	103.4					8
AREASOURCE		DOCK09	103.4	103.4	103.4	57.9	57.9	57.9	Lw	103.4					8
AREASOURCE		DOCK10	103.4	103.4	103.4	58.0	58.0	58.0	Lw	103.4					8
AREASOURCE		DOCK11	103.4	103.4	103.4	74.0	74.0	74.0	Lw	103.4					8

Name	ŀ	lei	ght		Coordinates							
	Begin End		х	у	z	Ground						
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)				
AREASOURCE	8.00	а			6315602.03	2288356.70	8.00	0.00				
					6315656.18	2288470.14	8.00	0.00				
					6316504.66	2288055.77	8.00	0.00				
					6317059.80	2287742.68	8.00	0.00				
					6316993.00	2287602.88	8.00	0.00				
					6315573.82	2288301.57	8.00	0.00				
AREASOURCE	8.00	а			6315286.65	2287713.13	8.00	0.00				
					6316831.47	2286942.64	8.00	0.00				
					6316787.49	2286853.42	8.00	0.00				
					6316529.66	2286896.83	8.00	0.00				
					6316479.67	2286915.24	8.00	0.00				
					6315203.65	2287542.73	8.00	0.00				
					6315258.45	2287658.00	8.00	0.00				
AREASOURCE	8.00	а			6317525.13	2287343.09	8.00	0.00				
					6317585.42	2287456.17	8.00	0.00				
					6318316.59	2287047.08	8.00	0.00				
					6318258.96	2286936.56	8.00	0.00				
					6318231.61	2286885.63	8.00	0.00				
					6317495.89	2287290.27	8.00	0.00				

Name	ŀ	lei	ght	Coordinates							
	Begin		End	х	у	z	Ground				
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)				
AREASOURCE	8.00	а		6317245.93	2286840.35	8.00	0.00				
				6317976.94	2286433.82	8.00	0.00				
				6317949.58	2286382.89	8.00	0.00				
				6317889.32	2286270.46	8.00	0.00				
				6317156.86	2286676.95	8.00	0.00				
				6317216.69	2286786.59	8.00	0.00				
AREASOURCE	8.00	а		6318684.05	2286731.85	8.00	0.00				
				6318207.96	2285966.07	8.00	0.00				
				6318052.74	2286068.01	8.00	0.00				
				6318528.38	2286826.12	8.00	0.00				
				6318638.71	2286760.82	8.00	0.00				
AREASOURCE	8.00	а		6319196.67	2286411.94	8.00	0.00				
				6319351.42	2286314.76	8.00	0.00				
				6318877.40	2285555.03	8.00	0.00				
		Ш		6318719.32	2285647.42	8.00	0.00				
AREASOURCE	8.00	а		6319583.75	2286109.46	8.00	0.00				
				6319605.25	2286158.19	8.00	0.00				
				6319661.49	2286275.80	8.00	0.00				
				6319820.58	2286204.37	8.00	0.00				
				6320786.48	2285769.31	8.00	0.00				
				6320737.34	2285648.03	8.00	0.00				
				6320714.42	2285599.30	8.00	0.00				
AREASOURCE	8.00	а		6320446.44	2284998.86	8.00	0.00				
				6320372.52	2284831.01	8.00	0.00				
				6319241.04	2285339.12	8.00	0.00				
				6319314.34	2285509.02	8.00	0.00				
AREASOURCE	8.00	а		6321232.87	2285322.36	8.00	0.00				
				6321267.12	2285374.64	8.00	0.00				
				6321331.93	2285480.36	8.00	0.00				
				6322989.38	2284454.39	8.00	0.00				
				6323010.48	2284404.07	8.00	0.00				
				6323023.47	2284368.35	8.00	0.00				
				6323047.82	2284342.38	8.00	0.00				
				6323088.40	2284318.03	8.00	0.00				
				6323024.54	2284215.63	8.00	0.00				
AREASOURCE	8.00	а		6320895.80	2284783.42	8.00	0.00				
				6322591.95	2283732.57	8.00	0.00				
				6322564.91	2283683.90	8.00	0.00				
		Ш		6322495.88	2283571.28	8.00	0.00				
		Ц		6320802.71	2284624.84	8.00	0.00				
				6320870.57	2284732.95	8.00	0.00				
AREASOURCE	8.00	а		6323758.85	2282964.14	8.00	0.00				
		LÌ		6323750.73	2282790.45	8.00	0.00				
				6323700.41	2282790.45	8.00	0.00				
		Π	T	6323703.66	2282969.01	8.00	0.00				

Building(s)

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates				
						Begin		х	x y z			
						(ft)		(ft)	(ft)	(ft)	(ft)	
BUILDING		BLDG01	х	0		45.00	а	6315467.42	2288422.08	45.00	0.00	
								6315602.03	2288356.70	45.00	0.00	
								6315573.82	2288301.57	45.00	0.00	
								6316993.00	2287602.88	45.00	0.00	
								6317019.93	2287656.72	45.00	0.00	
								6317150.69	2287591.34	45.00	0.00	
								6316831.47	2286942.64	45.00	0.00	
								6315286.65	2287713.13	45.00	0.00	
								6315258.45	2287658.00	45.00	0.00	
								6315123.84	2287724.67	45.00	0.00	
BUILDING		BLDG02	х	0		45.00	а	6317399.68	2287412.89	45.00	0.00	
								6317525.13	2287343.09	45.00	0.00	
								6317495.89	2287290.27	45.00	0.00	
								6318231.61	2286885.63	45.00	0.00	
								6318258.96	2286936.56	45.00	0.00	
								6318383.47	2286868.65	45.00	0.00	
								6318076.92	2286312.14	45.00	0.00	
								6317949.58	2286382.89	45.00	0.00	
								6317976.94	2286433.82	45.00	0.00	
								6317245.93	2286840.35	45.00	0.00	
								6317216.69	2286786.59	45.00	0.00	
								6317091.24	2286858.27	45.00	0.00	
BUILDING		BLDG03	х	0		45.00	a	6318682.79	2286832.61	45.00	0.00	
								6319289.87	2286462.32	45.00	0.00	
								6319243.27	2286382.97	45.00	0.00	
								6319196.67	2286411.94	45.00	0.00	

Name	M.	ID	RB	Residents Absorption	n Heigh	t		Coordinat	es	
					Begin		х	У	z	Ground
					(ft)		(ft)	(ft)	(ft)	(ft)
						H		2285647.42	45.00	0.00
						H	6318765.92 6318707.98	2285618.45 2285525.24	45.00 45.00	0.00
						H	6318102.16		45.00	0.00
						t	6318162.62	2285993.78	45.00	0.00
						T	6318207.96	2285966.07	45.00	0.00
						T	6318684.05		45.00	0.00
						Г	6318638.71	2286760.82	45.00	0.00
BUILDING		BLDG04	х	0	45.00	а	6319503.50	2286204.04	45.00	0.00
							6319605.25	2286158.19	45.00	0.00
							6319583.75	2286109.46	45.00	0.00
							6320714.42	2285599.30	45.00	0.00
						L	6320737.34	2285648.03	45.00	0.00
						L	6320839.09	2285605.03	45.00	0.00
						L	6320526.69		45.00	0.00
						┡	6320423.51	2284950.14	45.00	0.00
						L	6320446.44	2284998.86	45.00	0.00
						┞	6319314.34	2285509.02	45.00	0.00
						H	6319288.54	2285457.43	45.00	0.00
DI III DING		DI DCOF			45.00	L	6319189.67		45.00	0.00
BUILDING		BLDG05	Х	0	45.00	a			45.00 45.00	0.00
					+	$\vdash$	6321232.87	2285374.64 2285322.36	45.00	0.00
						$\vdash$		2285322.36	45.00	0.00
						+	6322658.64		45.00	0.00
						$\vdash$		2283683.90	45.00	0.00
			$\vdash$			$\vdash$	6322591.95	2283732.57	45.00	0.00
						H	6320895.80		45.00	0.00
						H	6320870.57	2284732.95	45.00	0.00
						T	6320775.04	2284796.04	45.00	0.00
BUILDING		BLDG06	х	0	20.00	a	6323489.37		20.00	0.00
						T	6323601.39		20.00	0.00
						Г	6323544.57	2283671.93	20.00	0.00
						Г	6323435.80	2283874.85	20.00	0.00
BUILDING		BLDG07	х	0	20.00	a	6323557.55	2283585.89	20.00	0.00
							6323752.36	2283582.65	20.00	0.00
							6323758.85	2282964.14	20.00	0.00
							6323703.66	2282969.01	20.00	0.00
							6323693.92	2282759.60	20.00	0.00
						L	6323450.41	2282759.60	20.00	0.00
						L	6323453.66		20.00	0.00
							6323354.63		20.00	0.00
						┡	6323353.01		20.00	0.00
						L	6323518.59	2283017.72	20.00	0.00
						L	6323546.19		20.00	0.00
						┞	6323554.31		20.00	0.00
						┞	6323563.51	2283077.71	20.00	0.00
						$\vdash$		2283109.07	20.00	0.00
						⊬		2283140.87	20.00	0.00
					+	$\vdash$		2283172.91 2283205.03	20.00	0.00
					+	$\vdash$	6323576.95		20.00	0.00
					+	+		2283237.04	20.00	0.00
						H	6323562.14		20.00	0.00
						H	6323552.55		20.00	0.00
					+	+	6323540.72		20.00	0.00
						t		2283389.47	20.00	0.00
						$\vdash$		2283457.65	20.00	0.00
						t		2283459.27	20.00	0.00
BUILDING		BLDG08	х	0	20.00	a		2283506.35	20.00	0.00
						T		2283488.49	20.00	0.00
						T		2283381.35	20.00	0.00
							6323374.11	2283391.09	20.00	0.00
BUILDING		BLDG09	х	0	20.00	а	6323361.13		20.00	0.00
							6323406.58	2283334.27	20.00	0.00
							6323372.49	2283228.75	20.00	0.00
							6323317.30	2283249.86	20.00	0.00
BUILDING		BLDG10	х	0	20.00	a	6323270.22	2283158.95	20.00	0.00
			Ĺ			Ĺ	6323310.80	2283128.10	20.00	0.00
							6323255.61	2283038.82	20.00	0.00
						L		2283069.66	20.00	0.00
BUILDING		BLDG11	х	0	20.00	a		2283033.95	20.00	0.00
						L		2282991.74	20.00	0.00
						$\vdash$		2282926.81	20.00	0.00
L						1		2282965.77	20.00	0.00
BUILDING		BLDG12	х	0	20.00	a		2283105.38	20.00	0.00
						L	6323393.59	2283081.03	20.00	0.00

Name	M.	ID	RB	Residents	Absorption	Height	:	Coordinates					
						Begin		х	у	z	Ground		
						(ft)		(ft)	(ft)	(ft)	(ft)		
								6323333.53	2282982.00	20.00	0.00		
								6323296.19	2283007.98	20.00	0.00		
BUILDING		BLDG13	х	0		20.00	а	6323265.35	2282933.30	20.00	0.00		
								6323314.05	2282879.73	20.00	0.00		
								6323296.19	2282866.74	20.00	0.00		
								6323305.93	2282858.63	20.00	0.00		
								6323307.56	2282757.98	20.00	0.00		
								6323106.26	2282757.98	20.00	0.00		
								6323112.75	2282811.55	20.00	0.00		
								6323215.03	2282884.60	20.00	0.00		
								6323210.15	2282895.96	20.00	0.00		

Urban Crossroads, Inc.

# **APPENDIX 10.1:**

**CADNAA CONSTRUCTION NOISE MODEL INPUTS** 



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## 12398 - Beaumont Pointe

CadnaA Noise Prediction Model: 12398\_15\_Construction.cna

Date: 23.06.22 Analyst: B. Lawson

**Calculation Configuration** 

Calculation Configurat	
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	······································
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
5	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	
,	1

#### **Receiver Noise Levels**

Name	M.	ID		Level Lr		Lir	nit. Val	ue	Land Use H		Height	ht Coordinates				
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Υ	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	61.2	61.2	67.8	55.0	45.0	0.0				5.00	а	6318806.11	2292331.15	5.00
RECEIVERS		R2	62.3	62.3	68.9	55.0	45.0	0.0				5.00	а	6321134.99	2290808.09	5.00
RECEIVERS		R3	64.7	64.7	71.3	55.0	45.0	0.0				5.00	а	6323538.75	2288028.01	5.00
RECEIVERS		R4	68.7	68.7	75.4	55.0	45.0	0.0				5.00	а	6324208.60	2285233.27	5.00
RECEIVERS		R5	75.5	75.5	82.2	55.0	45.0	0.0				5.00	а	6322668.83	2282431.69	5.00
RECEIVERS		xBIO-1	74.4	74.4	81.1	0.0	0.0	0.0		х	Total	5.00	а	6315486.52	2289104.40	5.00
RECEIVERS		xBIO-2	75.2	75.2	81.8	0.0	0.0	0.0		х	Total	5.00	а	6317292.24	2288261.01	5.00
RECEIVERS		xBIO-3	77.7	77.7	84.4	0.0	0.0	0.0		х	Total	5.00	а	6317222.84	2286292.08	5.00

## Area Source(s)

Name	M.	ID	R	esult. PW	'L	Re	esult. PWI	L"		Lw/L	i	Op	erating Ti	me	Height
			Day	Evening	Night	Day	Evening	Night	Туре	Value	norm.	Day	Special	Night	(ft)
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	
SITEBOUNDARY		SITEBOUNDARY00001	142.4	142.4	142.4	79.0	79.0	79.0	Lw"	79					8

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Name	-	lei	ght			Coordinat	es	
	Begin		End		x	V	7	Ground
	(ft)	П	(ft)	_	(ft)	(ft)	(ft)	(ft)
CITEDOLINDADY	. ,	H	(11)	_	. ,	. ,	_ ` '	
SITEBOUNDARY	8.00	а			6313356.36		8.00	0.00
				_	6315362.74		8.00	0.00
					6315532.04	2288939.05	8.00	0.00
					6315701.95	2288933.85	8.00	0.00

Name	He	ight	Coordinates							
	Begin	End	x	у	Z	Ground				
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)				
			6315869.86	2288907.05	8.00	0.00				
			6316032.96	2288859.15	8.00	0.00				
			6316188.66	2288790.84	8.00	0.00				
			6316334.47	2288703.34	8.00	0.00				
			6317974.42	2287587.41	8.00	0.00				
			6318662.24	2287201.80	8.00	0.00				
			6319222.36	2286971.29	8.00	0.00				
			6320152.38	2286395.44	8.00	0.00				
			6320146.12	2286501.03	8.00	0.00				
			6321258.55	2285817.95	8.00	0.00				
			6322134.25	2285280.24	8.00	0.00				
			6323490.59	2284442.31	8.00	0.00				
			6323668.60	2284254.31	8.00	0.00				
			6323628.60	2284169.31	8.00	0.00				
			6323653.60	2284152.31	8.00	0.00				
			6323709.79	2284091.56	8.00	0.00				
			6323748.20	2284076.50	8.00	0.00				
			6323809.27	2284038.31	8.00	0.00				
			6323808.23	2283814.49	8.00	0.00				
			6323802.42	2282522.19	8.00	0.00				
			6322527.01	2282524.31	8.00	0.00				
			6322514.74	2282700.79	8.00	0.00				
			6321870.89	2282690.98	8.00	0.00				
			6321866.55	2282759.62	8.00	0.00				
			6321231.53	2282760.23	8.00	0.00				
			6321240.52	2283771.35	8.00	0.00				
			6318670.64	2283728.18	8.00	0.00				
			6318667.29	2285128.28	8.00	0.00				
			6317313.41	2285137.40	8.00	0.00				
			6317300.30	2286479.74	8.00	0.00				
			6314685.22	2286514.56	8.00	0.00				
			6314664.32	2287810.45	8.00	0.00				
			6313381.18	2287837.03	8.00	0.00				

# **APPENDIX 10.2:**

**NIGHTTIME CONCRETE POUR CALCULATIONS** 



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## 12398 - Beaumont Pointe

CadnaA Noise Prediction Model: 12398\_18\_Concrete.cna

Date: 16.11.22 Analyst: B. Lawson

**Calculation Configuration** 

Calculation Configurat	ion
Configurat	ion
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

## **Receiver Noise Levels**

Name	М.	ID		Level Lr		Lir	nit. Val	ue		Land	Use	Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Υ	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	26.8	26.8	33.5	55.0	45.0	0.0				5.00	а	6318806.11	2292331.15	5.00
RECEIVERS		R2	28.5	28.5	35.2	55.0	45.0	0.0				5.00	а	6321134.99	2290808.09	5.00
RECEIVERS		R3	33.9	33.9	40.5	55.0	45.0	0.0				5.00	а	6323538.75	2288028.01	5.00
RECEIVERS		R4	40.9	40.9	47.6	55.0	45.0	0.0				5.00	а	6324208.60	2285233.27	5.00
RECEIVERS		R5	45.4	45.4	52.0	55.0	45.0	0.0				5.00	а	6322668.83	2282431.69	5.00
RECEIVERS		xBIO-1	36.3	36.3	43.0	0.0	0.0	0.0		х	Total	5.00	а	6315486.52	2289104.40	5.00
RECEIVERS		xBIO-2	39.8	39.8	46.5	0.0	0.0	0.0		х	Total	5.00	а	6317292.24	2288261.01	5.00
RECEIVERS		xBIO-3	42.9	42.9	49.5	0.0	0.0	0.0		х	Total	5.00	a	6317222.84	2286292.08	5.00

# Area Source(s)

Name	M.	ID	R	esult. PW	'L	Re	esult. PW	L"		Lw/L	i	Operating Time		me	Height
			Day	Evening	Night	Day	Evening	Night	Туре	Value	norm.	Day	Special	Night	(ft)
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	
CONCRETE		CONS01	100.3	100.3	100.3	48.9	48.9	48.9	Lw	100.3					8
CONCRETE		CONS02	100.3	100.3	100.3	52.1	52.1	52.1	Lw	100.3					8
CONCRETE		CONS03	100.3	100.3	100.3	51.7	51.7	51.7	Lw	100.3					8
CONCRETE		CONS04	100.3	100.3	100.3	50.1	50.1	50.1	Lw	100.3					8
CONCRETE		CONS05	100.3	100.3	100.3	48.4	48.4	48.4	Lw	100.3					8
CONCRETE		CONS06	100.3	100.3	100.3	69.2	69.2	69.2	Lw	100.3					8
CONCRETE		CONS07	100.3	100.3	100.3	72.6	72.6	72.6	Lw	100.3					8
CONCRETE		CONS08	100.3	100.3	100.3	72.8	72.8	72.8	Lw	100.3					8
CONCRETE		CONS09	100.3	100.3	100.3	73.0	73.0	73.0	Lw	100.3					8

Name	M.	ID	Result. PWL			Result. PWL"			Lw / Li			Operating Time			Height
			Day	Evening	Night	Day	Evening	Night	Туре	Value	norm.	Day	Special	Night	(ft)
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	
CONCRETE		CONS10	100.3	100.3	100.3	73.1	73.1	73.1	Lw	100.3					8
CONCRETE		CONS11	100.3	100.3	100.3	67.0	67.0	67.0	Lw	100.3					8
CONCRETE		CONS12	100.3	100.3	100.3	57.6	57.6	57.6	Lw	100.3					8

G316803.17   2286870.87   8.00   0.00     G315258.45   2287658.00   8.00   0.00     G315258.45   2287658.00   8.00   0.00     G315258.45   2287412.89   8.00   0.00     G318073.47   2286686.65   8.00   0.00     G318073.47   2286686.65   8.00   0.00     G318073.47   2286683.61   8.00   0.00     G318073.49   228642.32   8.00   0.00     G318073.89   228642.32   8.00   0.00     G318073.80   2286240.43   8.00   0.00     G318073.80   2286240.40   8.00   0.00     G318073.80   2286240.40   8.00   0.00     G318073.80   2286204.04   8.00   0.00     G3193.90   2285605.03   8.00   0.00     G3193.90   2285605.03   8.00   0.00     G3193.90   2285605.03   8.00   0.00     G3193.90   2285605.03   8.00   0.00     G3193.70   22852305.13   8.00   0.00     G320526.69   2284901.41   8.00   0.00     G320526.69   2284901.41   8.00   0.00     G320526.69   228470.89   8.00   0.00     G320526.69   228470.89   8.00   0.00     G322658.64   228362.61   8.00   0.00     G322658.64   228362.61   8.00   0.00     G322658.64   228362.61   8.00   0.00     G322658.64   228362.61   8.00   0.00     G323489.37   2283679.90   8.00   0.00     G323489.37   2283679.90   8.00   0.00     G323454.57   2283671.93   8.00   0.00     G323454.57   2283671.93   8.00   0.00     G323451.31   2283354.85   8.00   0.00     G323430.39   2283381.35   8.00   0.00     G323430.39   2283848.49   8.00   0.00     G323374.11   2283350.31   8.00   0.00     G323374.12   228328.77   8.00   0.00     G323374.13   2283381.35   8.00   0.00     G323374.13   2283381.35   8.00   0.00     G323374.13   2283381.35   8.00   0.00     G323374.13   22838391.09   8.00   0.00     G323374.10   228378.89   8.00   0.00     G323374.10   228378.89   8.00   0.00     G323374.10   228378.80   8.00   0.00     G323374.10   228378.79   8.00   0.00     G323374.10   228378.79   8.00   0.00     G323374.10   228378.79   8.00   0.00     G323374.10   2283895.79   8.00   0.00     G323374.10   2283895.79   8.00   0.00     G32355.11   2283895.79   8.00   0.00     G323554.11   2283895.79   8.00   0.00     G323554.11						'		
Begin	Name	ŀ	lei	ght		Coordinat	es	
(ft)			Ė					Ground
CONCRETE 8.00 a 6315467.42 2288422.08 8.00 0.00 63168147 2286942.46 8.00 0.00 6316810317 2286970.87 8.00 0.00 6316810317 2286970.87 8.00 0.00 631515134 2287574.67 8.00 0.00 CONCRETE 8.00 a 63151934 2286686.55 8.00 0.00 631681037 2286682.79 8.00 0.00 CONCRETE 8.00 a 6317901.44 2286688.57 8.00 0.00 631691034 2286682.79 2286312.44 8.00 0.00 CONCRETE 8.00 a 631807098 228742.89 8.00 0.00 631807098 2286532.61 8.00 0.00 631807098 2286532.61 8.00 0.00 CONCRETE 8.00 a 63180839.99 2286602.38 8.00 0.00 CONCRETE 8.00 a 6320839.99 2286500.33 8.00 0.00 CONCRETE 8.00 a 6320839.99 2286500.34 8.00 0.00 CONCRETE 8.00 a 63218389.97 2285032.39 8.00 0.00 CONCRETE 8.00 a 6321839.99 2286462.32 8.00 0.00 CONCRETE 8.00 a 6321839.39 2286460.44 8.00 0.00 CONCRETE 8.00 a 6321839.99 2286500.03 8.00 0.00 CONCRETE 8.00 a 6321839.99 2286400.44 8.00 0.00 CONCRETE 8.00 a 6321839.39 2286200.44 8.00 0.00 CONCRETE 8.00 a 6321839.39 2286200.44 8.00 0.00 CONCRETE 8.00 a 6321839.39 228840.51 8.00 0.00 CONCRETE 8.00 a 6323631.39 228839.90 0.00 CONCRETE 8.00 a 632363.39 228839.90 0.00 CONCRETE 8.00 a 632363.39 228839.90 0.00 CONCRETE 8.00 a 632363.39 2283697.90 8.00 0.00 CONCRETE 8.00 a 632363.39 2283697.90 8.00 0.00 CONCRETE 8.00 a 6323401.71 2283503.39 8.00 0.00 CONCRETE 8.00 a 6323430.31 228352.33 8.00 0.00 CONCRETE 8.00 a 6323430.39 2283899.20 8.00 0.00 CONCRETE 8.00 a 6323430.39 2283899.20 8.00 0.00 CONCRETE 8.00 a 6323401.71 2283506.35 8.00 0.00 CONCRETE 8.00 a 6323430.39 2283899.00 8.00 0.00 CONCRETE 8.00 a 6323430.39 228380.39 8.00 0.00 CONCRETE 8.00 a 6323361.33 2283352.33 8.00 0.00 CONCRETE 8.00 a 6323361.33 2283352.33 8.00 0.00 CONCRETE 8.00 a 6323361.31 2283352.33 8.00 0.00 CONCRETE 8.00 a 6323555.51 22833333.31 8.00 0.00 CONCRETE 8.00 a 6323361.31 2283362.3			Г					
G317150.69   2287591.34   8.00   0.00			L	(11)				
G316831.47   2286942.64   8.00   0.00	CONCRETE	8.00	а					
G316803.17   2286870.87   8.00   0.00     G315258.45   2287658.00   8.00   0.00     G315258.45   2287658.00   8.00   0.00     G315258.45   2287412.89   8.00   0.00     G318073.47   2286686.65   8.00   0.00     G318073.47   2286686.65   8.00   0.00     G318073.47   2286683.61   8.00   0.00     G318073.49   228642.32   8.00   0.00     G318073.89   228642.32   8.00   0.00     G318073.80   2286240.43   8.00   0.00     G318073.80   2286240.40   8.00   0.00     G318073.80   2286240.40   8.00   0.00     G318073.80   2286204.04   8.00   0.00     G3193.90   2285605.03   8.00   0.00     G3193.90   2285605.03   8.00   0.00     G3193.90   2285605.03   8.00   0.00     G3193.90   2285605.03   8.00   0.00     G3193.70   22852305.13   8.00   0.00     G320526.69   2284901.41   8.00   0.00     G320526.69   2284901.41   8.00   0.00     G320526.69   228470.89   8.00   0.00     G320526.69   228470.89   8.00   0.00     G322658.64   228362.61   8.00   0.00     G322658.64   228362.61   8.00   0.00     G322658.64   228362.61   8.00   0.00     G322658.64   228362.61   8.00   0.00     G323489.37   2283679.90   8.00   0.00     G323489.37   2283679.90   8.00   0.00     G323454.57   2283671.93   8.00   0.00     G323454.57   2283671.93   8.00   0.00     G323451.31   2283354.85   8.00   0.00     G323430.39   2283381.35   8.00   0.00     G323430.39   2283848.49   8.00   0.00     G323374.11   2283350.31   8.00   0.00     G323374.12   228328.77   8.00   0.00     G323374.13   2283381.35   8.00   0.00     G323374.13   2283381.35   8.00   0.00     G323374.13   2283381.35   8.00   0.00     G323374.13   22838391.09   8.00   0.00     G323374.10   228378.89   8.00   0.00     G323374.10   228378.89   8.00   0.00     G323374.10   228378.80   8.00   0.00     G323374.10   228378.79   8.00   0.00     G323374.10   228378.79   8.00   0.00     G323374.10   228378.79   8.00   0.00     G323374.10   2283895.79   8.00   0.00     G323374.10   2283895.79   8.00   0.00     G32355.11   2283895.79   8.00   0.00     G323554.11   2283895.79   8.00   0.00     G323554.11					6317150.69	2287591.34	8.00	0.00
G315258.45   2287658.00   8.00   0.					6316831.47	2286942.64	8.00	0.00
CONCRETE 8.00 a 6315123.84 2287724.67 8.00 0.00 CONCRETE 8.00 a 6317399.68 228612.14 8.00 0.00 CONCRETE 8.00 a 631863.47 2286868.65 8.00 0.00 CONCRETE 8.00 a 631863.27 2286312.14 8.00 0.00 CONCRETE 8.00 a 631863.27 2286312.14 8.00 0.00 CONCRETE 8.00 a 631863.27 228632.61 8.00 0.00 CONCRETE 8.00 a 631863.27 228632.61 8.00 0.00 CONCRETE 8.00 a 631863.20 228599.32 8.00 0.00 CONCRETE 8.00 a 6320526.69 2284901.41 8.00 0.00 CONCRETE 8.00 a 632163.28 2285401.41 8.00 0.00 CONCRETE 8.00 a 6322167.98 2285401.41 8.00 0.00 CONCRETE 8.00 a 6322167.98 2285401.41 8.00 0.00 CONCRETE 8.00 a 6322167.98 2285401.41 8.00 0.00 CONCRETE 8.00 a 632361.39 2285470.89 8.00 0.00 CONCRETE 8.00 a 632361.39 2285470.89 8.00 0.00 CONCRETE 8.00 a 632361.39 2283697.90 8.00 0.00 CONCRETE 8.00 a 6323452.04 2283489.47 8.00 0.00 CONCRETE 8.00 a 6323452.04 2283488.49 8.00 0.00 CONCRETE 8.00 a 6323561.31 228352.13 8.00 0.00 CONCRETE 8.00 a 6323561.31 228352.13 8.00 0.00 CONCRETE 8.00 a 6323561.31 228352.13 8.00 0.00 CONCRETE 8.00 a 6323561.31 228352.31 8.00 0.00 CONCRETE 8.00 a 6323562.31 228356.31 8.00 0.00 CONCRETE 8.00 a 6323562.31 228356.31 8.00 0.00 CONCRETE 8.00 a 6323562.31 228369.30 8.00 0.00 CONCRETE					6316803.17	2286870.87	8.00	0.00
CONCRETE 8.00 a 6317399.68 2287412.89 8.00 0.00 6318383.47 228668.65 8.00 0.00 6318076.92 2286312.14 8.00 0.00 6318076.92 2286312.14 8.00 0.00 6318076.92 2286312.14 8.00 0.00 6318079.98 2286462.32 8.00 0.00 6318079.98 2285525.24 8.00 0.00 6318102.16 2285899.32 8.00 0.00 CONCRETE 8.00 a 6319503.50 2286204.04 8.00 0.00 6319189.67 2285503.29 8.00 0.00 6319189.67 2285503.29 8.00 0.00 CONCRETE 8.00 a 6321679.98 228540.51 8.00 0.00 632265.69 2284901.41 8.00 0.00 632265.80 2284901.41 8.00 0.00 632265.80 2284901.41 8.00 0.00 632265.80 2284901.41 8.00 0.00 632265.80 2284901.41 8.00 0.00 632265.80 2284901.41 8.00 0.00 632265.80 2284901.41 8.00 0.00 6322658.60 2284901.41 8.00 0.00 6322658.60 2284901.41 8.00 0.00 6322658.60 2284901.41 8.00 0.00 6322658.60 2284901.41 8.00 0.00 6322658.60 2284901.41 8.00 0.00 6322658.60 2284901.41 8.00 0.00 6322658.60 2284901.41 8.00 0.00 6322658.60 2284901.41 8.00 0.00 6322658.60 2284901.41 8.00 0.00 6322658.60 2284901.41 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 632374.11 2283391.09 8.00 0.00 6323374.11 2283391.09 8.00 0.00 6323374.11 2283391.09 8.00 0.00 6323374.12 228328.75 8.00 0.00 6323374.12 228328.80 8.00 0.00 6323374.12 228328.75 8.00 0.00 6323374.10 2283895.13 8.00 0.00 6323374.10 2283895.13 8.00 0.00 6323374.10 2283895.13 8.00 0.00 6323374.10 2283895.13 8.00 0.00 6323374.10 2283895.13 8.00 0.00 6323374.10 2283895.13 8.00 0.00 6323374.90 228328.75 8.00 0.00 6323374.90 228328.75 8.00 0.00 6323374.90 228360.90 8.00 0.00 6323374.90 228360.90 8.00 0.00 6323575.10 228360.90 8.00 0.00 6323575.10 228360.90 8.00 0.00 6323575.10 228360.90 8.00 0.00 6323570.11 2283899.71 8.00 0.00 6323570.11 2283899.71 8.00 0.00 6323570.11 2283890.71 8.00 0.00 63					6315258.45	2287658.00	8.00	0.00
CONCRETE 8.00 a 6317399.68 2287412.89 8.00 0.00 6318383.47 228668.65 8.00 0.00 6318076.92 2286312.14 8.00 0.00 6318076.92 2286312.14 8.00 0.00 6318076.92 2286312.14 8.00 0.00 6318079.98 2286462.32 8.00 0.00 6318079.98 2285525.24 8.00 0.00 6318102.16 2285899.32 8.00 0.00 CONCRETE 8.00 a 6319503.50 2286204.04 8.00 0.00 6319189.67 2285503.29 8.00 0.00 6319189.67 2285503.29 8.00 0.00 CONCRETE 8.00 a 6321679.98 228540.51 8.00 0.00 632265.69 2284901.41 8.00 0.00 632265.80 2284901.41 8.00 0.00 632265.80 2284901.41 8.00 0.00 632265.80 2284901.41 8.00 0.00 632265.80 2284901.41 8.00 0.00 632265.80 2284901.41 8.00 0.00 632265.80 2284901.41 8.00 0.00 6322658.60 2284901.41 8.00 0.00 6322658.60 2284901.41 8.00 0.00 6322658.60 2284901.41 8.00 0.00 6322658.60 2284901.41 8.00 0.00 6322658.60 2284901.41 8.00 0.00 6322658.60 2284901.41 8.00 0.00 6322658.60 2284901.41 8.00 0.00 6322658.60 2284901.41 8.00 0.00 6322658.60 2284901.41 8.00 0.00 6322658.60 2284901.41 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 6323601.39 2285602.39 8.00 0.00 632374.11 2283391.09 8.00 0.00 6323374.11 2283391.09 8.00 0.00 6323374.11 2283391.09 8.00 0.00 6323374.12 228328.75 8.00 0.00 6323374.12 228328.80 8.00 0.00 6323374.12 228328.75 8.00 0.00 6323374.10 2283895.13 8.00 0.00 6323374.10 2283895.13 8.00 0.00 6323374.10 2283895.13 8.00 0.00 6323374.10 2283895.13 8.00 0.00 6323374.10 2283895.13 8.00 0.00 6323374.10 2283895.13 8.00 0.00 6323374.90 228328.75 8.00 0.00 6323374.90 228328.75 8.00 0.00 6323374.90 228360.90 8.00 0.00 6323374.90 228360.90 8.00 0.00 6323575.10 228360.90 8.00 0.00 6323575.10 228360.90 8.00 0.00 6323575.10 228360.90 8.00 0.00 6323570.11 2283899.71 8.00 0.00 6323570.11 2283899.71 8.00 0.00 6323570.11 2283890.71 8.00 0.00 63			Т		6315123.84	2287724.67	8.00	0.00
G318938.47   2286868.65   8.00   0.00   G318076.92   228683.27   8.00   0.00   0.00   G317091.24   228688.27   8.00   0.00   0.00   G31802.79   228683.27   8.00   0.00   G31802.16   8.00   0.00   G31802.16   8.00   0.00   G31802.16   2285899.32   8.00   0.00   G319189.67   2285605.03   8.00   0.00   G319189.67   2285605.03   8.00   0.00   G319189.67   2285603.29   8.00   0.00   G319189.67   2285603.29   8.00   0.00   G319189.67   2285603.29   8.00   0.00   G32658.64   2283622.61   8.00   0.00   G32564.67   2283671.93   8.00   0.00   G32564.67   2283671.93   8.00   0.00   G32564.67   2283671.93   8.00   0.00   G32564.67   2283671.93   8.00   0.00   G323641.71   228356.33   8.00   0.00   G323435.80   2283671.93   8.00   0.00   G323435.80   2283671.93   8.00   0.00   G323435.80   2283671.93   8.00   0.00   G323435.80   228374.11   2283391.93   8.00   0.00   G323430.93   2283381.35   8.00   0.00   G323452.04   2283488.49   8.00   0.00   G323452.04   2283488.49   8.00   0.00   G323452.04   2283488.49   8.00   0.00   G323372.49   228328.85   8.00   0.00   G323372.49   228328.80   0.00   0.00   G323372.49   2283288.60   0.00   0.00   G3233572.49   2283288.60   0.00   0.00	CONCRETE	8 00	a					
G318976.92   2286312.14   8.00   0.	CONCILETE	0.00	u		-			
CONCRETE 8.00 a 6318682.79 2286832.61 8.00 0.00 6318682.79 2286462.32 8.00 0.00 0.00 631870.98 228552.52 8.00 0.00 0.00 631870.98 228552.52 8.00 0.00 0.00 0.00 631870.98 228552.52 8.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0			L					
CONCRETE 8.00 a 6318682.79 2286832.61 8.00 0.00 6319289.87 2285525.24 8.00 0.00 0.00 6318707.98 2285525.24 8.00 0.00 0.00 6318707.98 2285525.24 8.00 0.00 0.00 6318707.98 2285525.24 8.00 0.00 0.00 6318707.98 2285525.24 8.00 0.00 0.00 6318707.98 2285525.24 8.00 0.00 0.00 6319503.50 2285605.03 8.00 0.00 0.00 6320526.69 2284901.41 8.00 0.00 0.00 6319189.67 2285503.29 8.00 0.00 0.00 0.00 6319189.67 2285503.29 8.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0					6318076.92	2286312.14	8.00	0.00
G319289.87   2286462.32   8.00   0.00					6317091.24	2286858.27	8.00	0.00
G318707.98   228552.24   8.00   0.00	CONCRETE	8.00	а		6318682.79	2286832.61	8.00	0.00
CONCRETE 8.00 a 6318102.16 2285899.32 8.00 0.00  CONCRETE 8.00 a 6319503.50 2285004.04 8.00 0.00  GONCRETE 8.00 a 632039.09 2285605.33 8.00 0.00  CONCRETE 8.00 a 6321167.98 2285490.141 8.00 0.00  CONCRETE 8.00 a 6321167.98 228490.41 8.00 0.00  GONCRETE 8.00 a 632167.98 228490.40 8.00 0.00  CONCRETE 8.00 a 632363.72 2284270.89 8.00 0.00  CONCRETE 8.00 a 632349.37 228399.20 8.00 0.00  CONCRETE 8.00 a 632349.37 228399.20 8.00 0.00  CONCRETE 8.00 a 632344.57 2283697.90 8.00 0.00  CONCRETE 8.00 a 632341.71 2283506.35 8.00 0.00  CONCRETE 8.00 a 6323452.04 2283488.49 8.00 0.00  CONCRETE 8.00 a 6323452.04 2283488.49 8.00 0.00  CONCRETE 8.00 a 6323374.11 2283391.09 8.00 0.00  CONCRETE 8.00 a 6323372.49 2283287.5 8.00 0.00  CONCRETE 8.00 a 6323372.49 228328.51 8.00 0.00  CONCRETE 8.00 a 6323372.49 228328.55 8.00 0.00  CONCRETE 8.00 a 6323375.60 228339.55 8.00 0.00  CONCRETE 8.00 a 6323317.30 2283249.86 8.00 0.00  CONCRETE 8.00 a 6323317.50 2283295.50 8.00 0.00  CONCRETE 8.00 a 6323317.70 2283295.81 8.00 0.00  GONCRETE 8.00 a 6323317.70 2283295.80 8.00 0.00  GONCRETE 8.00 a 6323317.70 2283295.80 8.00 0.00  GONCRETE 8.00 a 6323317.70 2283295.80 8.00 0.00  GONCRETE 8.00 a 6323317.70 228297.73 8.00 0.00  GONCRETE 8.00 a 6323317.70 228297.73 8.00 0.00  GONCRETE 8.00 a 6323317.70 228297.79 8.00 0.00  GONCRETE 8.00 a 6323317.70 228297.79 8.00 0.00  GONCRETE 8.00 a 632355.51 228393.90 8.00 0.00  GONCRETE 8.00 a 632355.51 228393.70 8.00 0.00  GONCRETE 8.00 a 632355.51 228393.70 8.00 0.00  GONCRETE 8.00 a 632355.51 228393.70 8.00 0.00  GONCRETE 8.00 a 632355.61 228297.73 8.00 0.00  GONCRETE 8.00 a 632355.61 228297.73 8.00 0.00  GONCRETE 8.00 a 632355.61 228297.73 8.00 0.00  GONCRETE 8.00 a 632355.61 228297.79 8.00 0.00  GONCRETE 8.00 a 6323550.71 2					6319289.87	2286462.32	8.00	0.00
CONCRETE 8.00 a 6318102.16 2285899.32 8.00 0.00 CONCRETE 8.00 a 6319503.50 2286204.04 8.00 0.00 CONCRETE 8.00 a 632039.09 2285605.33 8.00 0.00 CONCRETE 8.00 a 6321167.98 2285490.141 8.00 0.00 CONCRETE 8.00 a 6321167.98 228430.51 8.00 0.00 CONCRETE 8.00 a 632167.94 2284796.04 8.00 0.00 CONCRETE 8.00 a 6323489.37 228497.04 8.00 0.00 CONCRETE 8.00 a 6323489.37 228399.20 8.00 0.00 CONCRETE 8.00 a 6323489.37 2283897.90 8.00 0.00 CONCRETE 8.00 a 632345.00 228374.85 8.00 0.00 CONCRETE 8.00 a 632345.00 228374.85 8.00 0.00 CONCRETE 8.00 a 632345.00 2283488.49 8.00 0.00 CONCRETE 8.00 a 632345.20 2283488.49 8.00 0.00 CONCRETE 8.00 a 6323374.11 2283391.09 8.00 0.00 CONCRETE 8.00 a 6323374.11 2283391.09 8.00 0.00 CONCRETE 8.00 a 6323372.49 228328.53 8.00 0.00 CONCRETE 8.00 a 6323372.49 228328.59 8.00 0.00 CONCRETE 8.00 a 6323317.30 228329.86 8.00 0.00 CONCRETE 8.00 a 6323372.49 228328.59 8.00 0.00 CONCRETE 8.00 a 6323372.49 228328.59 8.00 0.00 CONCRETE 8.00 a 6323317.50 228329.55 8.00 0.00 CONCRETE 8.00 a 6323317.50 228329.55 8.00 0.00 CONCRETE 8.00 a 6323317.50 228329.55 8.00 0.00 CONCRETE 8.00 a 6323317.70 228329.59 8.00 0.00 CONCRETE 8.00 a 6323317.70 228329.59 8.00 0.00 CONCRETE 8.00 a 6323177.69 2283033.95 8.00 0.00 CONCRETE 8.00 a 6323177.70 2283033.95 8.00 0.00 CONCRETE 8.00 a 632355.51 228393.30 8.00 0.00 CONCRETE 8.00 a 6					6318707.98	2285525.24	8.00	0.00
CONCRETE 8.00 a 632939.09 2285605.03 8.00 0.00 6320839.09 2285605.03 8.00 0.00 6320839.09 2285605.03 8.00 0.00 6319189.67 2285503.29 8.00 0.00 632167.98 2285430.51 8.00 0.00 6322075.04 2284796.04 8.00 0.00 6322075.04 2284796.04 8.00 0.00 6322075.04 2284796.04 8.00 0.00 6323075.04 2284796.04 8.00 0.00 6323075.04 228379.90 8.00 0.00 632345.87 228367.93 8.00 0.00 632345.87 228367.93 8.00 0.00 632345.87 228367.93 8.00 0.00 632345.04 2283488.49 8.00 0.00 632345.04 2283488.49 8.00 0.00 632345.04 2283488.49 8.00 0.00 632345.04 2283488.49 8.00 0.00 632345.04 2283488.49 8.00 0.00 632345.04 2283488.49 8.00 0.00 632345.04 2283488.49 8.00 0.00 632345.04 2283488.49 8.00 0.00 6323374.11 2283391.09 8.00 0.00 6323374.11 2283391.09 8.00 0.00 6323372.49 2283228.75 8.00 0.00 6323317.30 2283249.86 8.00 0.00 6323317.30 2283339.3 8.00 0.00 6323317.30 2283339.3 8.00 0.00 6323317.30 2283339.3 8.00 0.00 6323317.30 2283339.3 8.00 0.00 6323317.30 2283339.3 8.00 0.00 6323317.30 228339.3 8.00 0.00 6323317.30 228339.3 8.00 0.00 6323317.30 228339.3 8.00 0.00 6323317.30 228339.3 8.00 0.00 6323317.30 228339.3 8.00 0.00 6323317.30 228339.3 8.00 0.00 6323317.30 2283339.3 8.00 0.00 6323310.50 228275.3 8.00 0.00 6323310.50 228275.3 8.00 0.00 6323310.50 228275.3 8.00 0.00 6323350.5 228275.3 8.00 0.00 6323350.5 228275.3 8.00 0.00 6323350.5 2282350.5 8.00 0.00 6323550.5 2283330.7 8.00 0.00 6323550.5 2283330.7 8.00 0.00 632					+			
G320839.09   2285605.03   8.00   0.00	CONCRETE	9.00	_					
G320526.69   2284901.41   8.00   0.00	CONCRETE	8.00	d		-			
CONCRETE 8.00 a 632363.7.1 228350.3.29 8.00 0.00  CONCRETE 8.00 a 632167.98 2284270.89 8.00 0.00  GONCRETE 8.00 a 6322658.64 2283622.61 8.00 0.00  GONCRETE 8.00 a 632369.37 2283899.20 8.00 0.00  GONCRETE 8.00 a 63236489.37 2283899.20 8.00 0.00  GONCRETE 8.00 a 63236489.37 2283899.20 8.00 0.00  GONCRETE 8.00 a 632364.77 2283671.93 8.00 0.00  GONCRETE 8.00 a 6323440.71 2283506.35 8.00 0.00  GONCRETE 8.00 a 6323401.71 2283506.35 8.00 0.00  GONCRETE 8.00 a 6323401.71 2283506.35 8.00 0.00  GONCRETE 8.00 a 6323374.11 2283391.09 8.00 0.00  GONCRETE 8.00 a 6323374.11 2283391.09 8.00 0.00  GONCRETE 8.00 a 6323374.12 2283391.09 8.00 0.00  GONCRETE 8.00 a 6323374.12 2283391.09 8.00 0.00  GONCRETE 8.00 a 6323372.22 2283158.95 8.00 0.00  GONCRETE 8.00 a 6323270.22 2283158.95 8.00 0.00  GONCRETE 8.00 a 632317.69 2283038.2 8.00 0.00  GONCRETE 8.00 a 632317.69 228303.95 8.00 0.00  GONCRETE 8.00 a 632317.69 228303.95 8.00 0.00  GONCRETE 8.00 a 632317.69 228303.95 8.00 0.00  GONCRETE 8.00 a 632317.79 228303.95 8.00 0.00  GONCRETE 8.00 a 632317.70 2282895.77 8.00 0.00  GONCRETE 8.00 a 632317.70 2282895.77 8.00 0.00  GONCRETE 8.00 a 6323503.00 0.00  GONCRETE 8.00 a			L		6320839.09	2285605.03	8.00	0.00
CONCRETE 8.00 a 632167.98 2285430.51 8.00 0.00 6322658.64 2283622.61 8.00 0.00 6322658.64 2283622.61 8.00 0.00 632275.04 2284796.04 8.00 0.00 CONCRETE 8.00 a 6323493.7 2283899.20 8.00 0.00 6323544.57 2283697.90 8.00 0.00 6323544.57 2283671.93 8.00 0.00 6323549.71 2283506.35 8.00 0.00 6323491.71 2283506.35 8.00 0.00 6323430.93 2283874.85 8.00 0.00 6323430.93 2283874.85 8.00 0.00 6323430.93 2283884.49 8.00 0.00 6323430.93 2283381.35 8.00 0.00 6323430.93 2283381.35 8.00 0.00 6323430.93 2283381.35 8.00 0.00 6323372.11 22833352.13 8.00 0.00 6323372.49 2283228.75 8.00 0.00 6323372.49 2283228.75 8.00 0.00 6323372.49 2283228.75 8.00 0.00 6323372.20 2283158.95 8.00 0.00 6323372.20 2283158.95 8.00 0.00 6323372.20 2283158.95 8.00 0.00 6323317.30 2283249.86 8.00 0.00 6323210.80 2283128.10 8.00 0.00 6323210.80 228312.80 0.00 0.00 6323210.80 228312.80 0.00 0.00 6323210.80 228328.80 0.00 0.00 6323210.80 228328.80 0.00 0.00 6323210.80 228328.80 0.00 0.00 6323210.80 228328.80 0.00 0.00 6323210.80 228328.80 0.00 0.00 6323210.80 2282889.90 0.00 0.00 6323210.80 2282889.90 0.00 0.00 6323210.80 2282889.90 0.00 0.00 6323210.80 2282889.90 0.00 0.00 6323210.80 2282889.90 0.00 0.00 6323250.30 2282889.90 0.00 0.00 6323570.40 2283377.91 8.00 0.00 6323570.40 2283377.91 8.00 0.00 6323570.41 2283300.05 8.00 0.00 6323570.42 2283360.77 8.00 0.00 6323570.42 2283360.77 8.00 0.00 6323570.42 2283360.77 8.00 0.00 6323570.42 2283360.77 8.00 0.00 6323570					6320526.69	2284901.41	8.00	0.00
632363.72   2284270.89   8.00   0.00     6322658.64   2283622.61   8.00   0.00     6320775.04   2284796.04   8.00   0.00     6323489.37   2283697.90   8.00   0.00     6323445.70   2283671.93   8.00   0.00     632345.80   2283874.85   8.00   0.00     632345.80   2283874.85   8.00   0.00     632345.80   2283488.49   8.00   0.00     632345.04   2283488.49   8.00   0.00     632345.04   2283488.49   8.00   0.00     632345.04   2283381.35   8.00   0.00     632345.04   2283381.35   8.00   0.00     6323372.11   2283391.09   8.00   0.00     6323372.11   2283391.09   8.00   0.00     6323372.49   2283228.75   8.00   0.00     6323372.49   2283228.75   8.00   0.00     6323372.20   2283188.95   8.00   0.00     6323372.20   2283188.95   8.00   0.00     6323373.00   2283249.86   8.00   0.00     6323373.00   2283249.86   8.00   0.00     6323373.00   228328.82   8.00   0.00     6323373.00   228328.82   8.00   0.00     6323373.00   228328.82   8.00   0.00     6323373.00   228328.82   8.00   0.00     6323373.00   228328.82   8.00   0.00     6323373.00   228338.82   8.00   0.00     6323375.61   2283038.82   8.00   0.00     6323208.53   2283069.66   8.00   0.00     6323210.80   2282965.77   8.00   0.00     6323210.80   2282965.77   8.00   0.00     6323210.80   2282995.96   8.00   0.00     6323210.80   2282995.96   8.00   0.00     6323210.80   2282895.96   8.00   0.00     6323314.05   2282895.96   8.00   0.00     6323314.05   2282895.96   8.00   0.00     6323314.05   2282897.73   8.00   0.00     6323365.35   2282897.73   8.00   0.00     6323563.51   228307.71   8.00   0.00     6323576.41   228307.71   8.00   0.00     6323570.41   228310.77   8.00   0.00     6323570.41   228310.77   8.00   0.00     6323570.41   228310.77   8.00   0.00     6323570.42   2283360.77   8.00   0.00     6323570.43   2283358.97   228305.97   8.00   0.00     6323570.41   2283307.71   8.00   0.00     6323570.42   2283360.57   8.00   0.00     6323570.42   2283360.57   8.00   0.00     6323570.42   2283360.57   8.00   0.00     6323570.42   2283360.57   8.00   0.					6319189.67	2285503.29	8.00	0.00
632363.72   2284270.89   8.00   0.00     6322658.64   2283622.61   8.00   0.00     6320775.04   2284796.04   8.00   0.00     6323489.37   2283697.90   8.00   0.00     6323445.70   2283671.93   8.00   0.00     632345.80   2283874.85   8.00   0.00     632345.80   2283874.85   8.00   0.00     632345.80   2283488.49   8.00   0.00     632345.04   2283488.49   8.00   0.00     632345.04   2283488.49   8.00   0.00     632345.04   2283381.35   8.00   0.00     632345.04   2283381.35   8.00   0.00     6323372.11   2283391.09   8.00   0.00     6323372.11   2283391.09   8.00   0.00     6323372.49   2283228.75   8.00   0.00     6323372.49   2283228.75   8.00   0.00     6323372.20   2283188.95   8.00   0.00     6323372.20   2283188.95   8.00   0.00     6323373.00   2283249.86   8.00   0.00     6323373.00   2283249.86   8.00   0.00     6323373.00   228328.82   8.00   0.00     6323373.00   228328.82   8.00   0.00     6323373.00   228328.82   8.00   0.00     6323373.00   228328.82   8.00   0.00     6323373.00   228328.82   8.00   0.00     6323373.00   228338.82   8.00   0.00     6323375.61   2283038.82   8.00   0.00     6323208.53   2283069.66   8.00   0.00     6323210.80   2282965.77   8.00   0.00     6323210.80   2282965.77   8.00   0.00     6323210.80   2282995.96   8.00   0.00     6323210.80   2282995.96   8.00   0.00     6323210.80   2282895.96   8.00   0.00     6323314.05   2282895.96   8.00   0.00     6323314.05   2282895.96   8.00   0.00     6323314.05   2282897.73   8.00   0.00     6323365.35   2282897.73   8.00   0.00     6323563.51   228307.71   8.00   0.00     6323576.41   228307.71   8.00   0.00     6323570.41   228310.77   8.00   0.00     6323570.41   228310.77   8.00   0.00     6323570.41   228310.77   8.00   0.00     6323570.42   2283360.77   8.00   0.00     6323570.43   2283358.97   228305.97   8.00   0.00     6323570.41   2283307.71   8.00   0.00     6323570.42   2283360.57   8.00   0.00     6323570.42   2283360.57   8.00   0.00     6323570.42   2283360.57   8.00   0.00     6323570.42   2283360.57   8.00   0.	CONCRETE	8.00	а		6321167.98	2285430.51	8.00	0.00
G322458.64   2283622.61   8.00   0.00			Г					
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6323454.57   2283697.90   8.00   0.00     63234558.05   2283874.85   8.00   0.00     6323452.04   2283488.49   8.00   0.00     6323452.04   2283488.49   8.00   0.00     6323452.04   2283488.49   8.00   0.00     632347.11   2283591.35   8.00   0.00     632347.11   2283391.99   8.00   0.00     6323406.58   2283333.21   8.00   0.00     632347.49   2283228.75   8.00   0.00     6323372.49   2283228.75   8.00   0.00     6323372.49   2283228.75   8.00   0.00     6323317.30   2283249.86   8.00   0.00     6323317.30   2283249.86   8.00   0.00     6323317.80   2283128.10   8.00   0.00     6323357.61   2283338.82   8.00   0.00     632357.49   2283228.75   8.00   0.00     632357.69   2283038.82   8.00   0.00     632308.53   2283069.66   8.00   0.00     632310.80   2283128.10   8.00   0.00     6323211.78   2282995.77   8.00   0.00     632321.78   2282926.81   8.00   0.00     632321.08   228383.55   2282985.77   8.00   0.00     632321.08   2282885.77   8.00   0.00     632321.08   2282881.55   8.00   0.00     632321.09   2282881.50   8.00   0.00     632321.09   2282885.77   8.00   0.00     632321.09   2282885.77   8.00   0.00     632321.00   2282879.73   8.00   0.00     632321.00   2282879.73   8.00   0.00     632321.00   22828879.73   8.00   0.00     6323314.05   2282875.98   8.00   0.00     6323314.05   2282875.98   8.00   0.00     6323354.51   2282895.77   8.00   0.00     6323554.51   2282895.77   8.00   0.00     6323554.51   2282895.77   8.00   0.00     6323574.10   2282895.77   8.00   0.00     6323574.11   228307.77   8.00   0.00     6323574.12   228307.77   8.00   0.00     6323574.13   228307.77   8.00   0.00     6323574.14   228307.77   8.00   0.00     6323574.15   228307.77   8.00   0.00     6323574.17   228307.77   8.00   0.00     6323574.17   228307.77   8.00   0.00     6323574.17   228307.77   8.00   0.00     6323574.17   228307.77   8.00   0.00     6323574.17   2283377.14   228307.77   8.00   0.00     6323574.17   2283307.71   8.00   0.00     6323575.17   2283337.71   8.00   0.00     6323576.95   2283367.77   8.			$\vdash$	$\vdash$				
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G323452.04   2283488.49   8.00   0.00					6323435.80	2283874.85	8.00	0.00
G323452.04   2283488.49   8.00   0.00	CONCRETE	8.00	а		6323401 71	2283506 35	8.00	0.00
G323430.99   2283381.35   8.00   0.00	CONTONETE	0.00	Ĕ					
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6323406.58   2283334.27   8.00   0.00     6323372.49   2283228.75   8.00   0.00     6323373.30   2283249.86   8.00   0.00     6323370.80   2283128.95   8.00   0.00     6323370.80   2283128.10   8.00   0.00     6323255.61   2283038.82   8.00   0.00     6323208.53   2283069.66   8.00   0.00     6323211.78   2283033.95   8.00   0.00     6323211.78   228291.74   8.00   0.00     6323212.87   2282926.81   8.00   0.00     6323212.87   228296.81   8.00   0.00     6323212.87   228296.81   8.00   0.00     6323212.87   228284.60   8.00   0.00     6323215.03   228284.60   8.00   0.00     6323210.15   2282895.96   8.00   0.00     6323314.05   2282895.96   8.00   0.00     6323314.05   2282879.73   8.00   0.00     6323309.66   2282757.98   8.00   0.00     6323309.66   2282757.98   8.00   0.00     6323309.66   2282757.98   8.00   0.00     632336.61   2282899.27   8.00   0.00     632356.31   228289.27   8.00   0.00     632356.31   228289.27   8.00   0.00     6323574.91   2283017.72   8.00   0.00     6323574.91   2283017.71   8.00   0.00     6323574.91   228310.97   8.00   0.00     6323574.91   228310.97   8.00   0.00     6323574.91   228310.97   8.00   0.00     6323574.91   228310.97   8.00   0.00     6323574.91   228310.97   8.00   0.00     6323574.92   228310.87   8.00   0.00     6323574.91   228310.97   8.00   0.00     6323574.91   228310.97   8.00   0.00     6323574.91   228310.97   8.00   0.00     6323574.92   228310.87   8.00   0.00     6323574.91   228310.97   8.00   0.00     6323574.92   228310.87   8.00   0.00     6323574.93   228330.71   8.00   0.00     6323574.94   228310.97   8.00   0.00     6323574.95   2283330.71   8.00   0.00     6323574.97   2283380.97   8.00   0.00     6323576.91   2283380.97   8.00   0.00     6323556.71   2283389.97   8.00   0.00     6323562.42   2283365.76   8.00   0.00     6323556.71   2283385.89   8.00   0.00     6323557.55   2283385.89   8.00   0.00								
G323312.49   2283228.75   8.00   0.00	CONCRETE	8.00	а		6323361.13	2283352.13	8.00	0.00
G32311.30   C283249.86   8.00   0.00					6323406.58	2283334.27	8.00	0.00
CONCRETE 8.00 a 6323270.22 2283158.95 8.00 0.00 6323310.80 2283128.10 8.00 0.00 6323255.61 2283038.82 8.00 0.00 6323275.61 2283038.95 8.00 0.00 CONCRETE 8.00 a 6323177.69 2283033.95 8.00 0.00 6323211.78 2282991.74 8.00 0.00 6323211.75 2282965.77 8.00 0.00 CONCRETE 8.00 a 6323112.75 2282811.55 8.00 0.00 6323210.81 2282895.96 8.00 0.00 6323210.15 2282895.96 8.00 0.00 6323210.15 2282895.96 8.00 0.00 6323210.15 2282895.96 8.00 0.00 6323210.15 2282895.96 8.00 0.00 6323265.35 2282933.30 8.00 0.00 6323265.35 2282933.30 8.00 0.00 6323265.35 2282933.30 8.00 0.00 6323265.35 228279.38 8.00 0.00 6323266.19 2282866.74 8.00 0.00 6323310.62 2282757.98 8.00 0.00 6323310.62 2282757.98 8.00 0.00 6323310.2282892.72 8.00 0.00 632356.19 2283017.72 8.00 0.00 632356.19 2283017.72 8.00 0.00 6323570.41 228310.77 8.00 0.00 6323570.41 228310.97 8.00 0.00 6323570.41 228330.05 8.00 0.00 6323570.42 2283360.57 8.00 0.00					6323372.49	2283228.75	8.00	0.00
CONCRETE 8.00 a 6323270.22 2283158.95 8.00 0.00 6323310.80 2283128.10 8.00 0.00 6323255.61 2283038.82 8.00 0.00 6323275.61 2283038.95 8.00 0.00 CONCRETE 8.00 a 6323177.69 2283033.95 8.00 0.00 6323211.78 2282991.74 8.00 0.00 6323211.75 2282965.77 8.00 0.00 CONCRETE 8.00 a 6323112.75 2282811.55 8.00 0.00 6323210.81 2282895.96 8.00 0.00 6323210.15 2282895.96 8.00 0.00 6323210.15 2282895.96 8.00 0.00 6323210.15 2282895.96 8.00 0.00 6323210.15 2282895.96 8.00 0.00 6323265.35 2282933.30 8.00 0.00 6323265.35 2282933.30 8.00 0.00 6323265.35 2282933.30 8.00 0.00 6323265.35 228279.38 8.00 0.00 6323266.19 2282866.74 8.00 0.00 6323310.62 2282757.98 8.00 0.00 6323310.62 2282757.98 8.00 0.00 6323310.2282892.72 8.00 0.00 632356.19 2283017.72 8.00 0.00 632356.19 2283017.72 8.00 0.00 6323570.41 228310.77 8.00 0.00 6323570.41 228310.97 8.00 0.00 6323570.41 228330.05 8.00 0.00 6323570.42 2283360.57 8.00 0.00			Т		6323317.30	2283249.86	8.00	0.00
632310.80   2283128.10   8.00   0.00     6323255.61   2283038.82   8.00   0.00     6323277.69   2283033.95   8.00   0.00     6323177.69   2283033.95   8.00   0.00     632317.76   2283033.95   8.00   0.00     6323120.87   2282926.81   8.00   0.00     6323120.87   2282965.77   8.00   0.00     6323120.87   2282965.77   8.00   0.00     6323120.87   228284.60   8.00   0.00     632325.30   228284.60   8.00   0.00     632325.31   2282895.96   8.00   0.00     632325.31   2282893.30   8.00   0.00     632326.31   2282893.30   8.00   0.00     632326.31   22828979.73   8.00   0.00     6323307.56   2282757.98   8.00   0.00     6323307.56   2282757.98   8.00   0.00     6323354.63   2282793.69   8.00   0.00     6323554.31   2283017.72   8.00   0.00     6323554.31   2283017.72   8.00   0.00     6323570.41   228310.907   8.00   0.00     6323570.41   228310.907   8.00   0.00     6323574.37   2283172.91   8.00   0.00     6323574.37   2283123.04   8.00   0.00     6323556.34   228330.05   8.00   0.00     6323576.95   228330.071   8.00   0.00     6323576.95   228330.071   8.00   0.00     6323576.97   2283380.77   8.00   0.00     6323576.97   2283360.57   8.00   0.00     6323576.97   2283360.57   8.00   0.00     6323562.14   228330.05   8.00   0.00     6323550.71   2283389.77   8.00   0.00     6323550.71   2283389.77   8.00   0.00     6323580.71   2283389.77   8.00   0.00     6323570.71   2283380.77   8.00   0.00     6323570.71   2283380.77   8.00   0.00     6323576.97   2283360.57   8.00   0.00     6323576.97   2283360.57   8.00   0.00     6323562.71   2283389.77   8.00   0.00     6323550.71   2283389.77   8.00   0.00     6323550.72   2283389.77   8.00   0.00     6323550.75   2283360.57   8.00   0.00     6323550.75   2283355.89   8.00   0.00	CONCRETE	8 00	а		-			
G323255.61   2283038.82   8.00   0.00	CONCRETE	8.00	а		+			
G323208.55   2283069.66   8.00   0.00			L					
CONCRETE 8.00 a 6323177.69 2283033.95 8.00 0.00 6323211.78 2282991.74 8.00 0.00 6323211.78 228296.81 8.00 0.00 6323091.65 2282965.77 8.00 0.00 CONCRETE 8.00 a 6323112.57 2282811.55 8.00 0.00 6323210.15 2282895.96 8.00 0.00 6323210.15 2282895.96 8.00 0.00 6323210.15 2282895.96 8.00 0.00 6323210.15 2282895.96 8.00 0.00 6323265.35 2282933.30 8.00 0.00 6323314.05 2282879.73 8.00 0.00 6323316.26 2282757.98 8.00 0.00 6323307.56 2282757.98 8.00 0.00 6323356.62 2282757.98 8.00 0.00 6323354.63 2282793.69 8.00 0.00 6323354.61 2282899.72 8.00 0.00 6323546.19 2283017.72 8.00 0.00 6323554.31 2283017.72 8.00 0.00 6323554.31 2283017.72 8.00 0.00 6323574.91 2283109.07 8.00 0.00 6323574.91 2283109.07 8.00 0.00 6323574.96 2283140.87 8.00 0.00 6323574.96 2283140.87 8.00 0.00 6323574.96 2283172.91 8.00 0.00 6323574.96 2283172.91 8.00 0.00 6323574.97 2283310.87 8.00 0.00 6323574.97 228330.71 8.00 0.00 6323574.97 2283330.71 8.00 0.00 6323574.97 2283330.71 8.00 0.00 6323574.97 2283330.71 8.00 0.00 6323574.97 2283330.71 8.00 0.00 6323574.97 2283330.71 8.00 0.00 6323574.97 2283330.71 8.00 0.00 6323574.97 2283330.71 8.00 0.00 6323574.97 2283330.71 8.00 0.00 6323574.97 2283330.71 8.00 0.00 6323574.97 2283330.71 8.00 0.00 6323574.97 2283330.71 8.00 0.00 6323574.97 2283330.71 8.00 0.00					1			
632311.78   2282991.74   8.00   0.00     6323120.87   2282926.81   8.00   0.00     6323120.87   2282965.77   8.00   0.00     6323121.75   2282811.55   8.00   0.00     6323210.15   2282846.00   8.00   0.00     6323210.15   2282895.96   8.00   0.00     6323210.15   2282895.96   8.00   0.00     6323214.05   2282879.73   8.00   0.00     6323314.05   2282879.73   8.00   0.00     6323307.56   2282757.98   8.00   0.00     6323307.56   2282757.98   8.00   0.00     632336.30   2282879.36   8.00   0.00     632336.31   2282892.72   8.00   0.00     6323546.19   2283017.72   8.00   0.00     6323554.31   2283017.72   8.00   0.00     6323570.41   2283109.07   8.00   0.00     6323570.42   228317.71   8.00   0.00     6323570.43   2283107.71   8.00   0.00     6323570.44   2283109.07   8.00   0.00     6323570.44   2283172.91   8.00   0.00     6323570.45   2283172.91   8.00   0.00     6323570.45   228305.73   8.00   0.00     6323570.45   2283300.57   8.00   0.00     6323552.14   2283300.55   8.00   0.00     6323554.71   2283300.75   8.00   0.00     6323554.72   2283330.71   8.00   0.00     6323554.72   2283330.71   8.00   0.00     6323554.72   2283330.71   8.00   0.00     6323554.72   2283330.71   8.00   0.00     6323554.72   2283330.71   8.00   0.00     6323554.72   2283330.71   8.00   0.00     6323554.72   2283330.71   8.00   0.00     6323554.72   2283330.71   8.00   0.00     6323554.72   2283330.71   8.00   0.00     6323554.72   2283330.71   8.00   0.00     6323554.72   2283330.71   8.00   0.00     6323554.72   2283330.71   8.00   0.00     6323554.72   2283365.76   8.00   0.00     6323554.72   2283365.76   8.00   0.00     6323554.72   2283365.76   8.00   0.00     6323554.72   2283365.76   8.00   0.00     6323554.73   2283457.65   8.00   0.00     6323554.74   2283457.65   8.00   0.00     6323556.74   2283457.65   8.00   0.00					6323208.53	2283069.66	8.00	0.00
G323120.87   2282926.81   8.00   0.00	CONCRETE	8.00	а		6323177.69	2283033.95	8.00	0.00
G32391.65   2282965.77   8.00   0.00					6323211.78	2282991.74	8.00	0.00
G32391.65   2282965.77   8.00   0.00					6323120.87	2282926.81	8.00	0.00
CONCRETE 8.00 a 6323112.75 2282811.55 8.00 0.00 6323215.03 2282884.60 8.00 0.00 6323210.15 2282895.96 8.00 0.00 6323265.35 2282933.30 8.00 0.00 6323314.05 2282879.73 8.00 0.00 6323307.56 2282757.98 8.00 0.00 6323307.56 2282757.98 8.00 0.00 6323106.26 2282757.98 8.00 0.00 6323353.01 2282892.72 8.00 0.00 6323353.01 2282892.72 8.00 0.00 6323546.19 2283017.72 8.00 0.00 6323546.19 2283017.72 8.00 0.00 6323554.31 2283046.94 8.00 0.00 6323570.41 228319.07 8.00 0.00 6323570.41 228317.91 8.00 0.00 6323574.37 2283257.04 8.00 0.00 6323574.37 2283237.04 8.00 0.00 6323556.21 228330.05 8.00 0.00 6323552.51 228330.01 8.00 0.00 6323552.71 2283380.71 8.00 0.00 6323552.71 2283380.71 8.00 0.00 6323552.71 2283380.71 8.00 0.00 6323552.71 2283380.71 8.00 0.00 6323552.71 2283380.71 8.00 0.00 6323552.71 2283380.71 8.00 0.00 6323552.71 2283380.71 8.00 0.00 6323552.71 2283380.71 8.00 0.00 6323552.71 2283380.71 8.00 0.00			H					
632315.03 2282884.60 8.00 0.00	CONCRETE	9 00	_					
632310.15 2282895.96 8.00 0.00 6323265.35 2282933.30 8.00 0.00 6323314.05 2282879.73 8.00 0.00 6323316.56 2282757.98 8.00 0.00 6323306.56 2282757.98 8.00 0.00 6323316.26 2282757.98 8.00 0.00 6323354.63 2282793.69 8.00 0.00 6323546.61 2282793.69 8.00 0.00 6323546.19 2283017.72 8.00 0.00 6323546.19 2283017.72 8.00 0.00 6323554.31 2283046.94 8.00 0.00 6323554.31 2283046.94 8.00 0.00 6323574.96 2283109.07 8.00 0.00 6323574.96 2283140.87 8.00 0.00 6323574.96 2283140.87 8.00 0.00 6323574.96 2283140.87 8.00 0.00 6323576.95 228327.04 8.00 0.00 6323576.95 228327.04 8.00 0.00 6323574.37 2283237.04 8.00 0.00 6323552.14 228330.05 8.00 0.00 6323552.14 228330.05 8.00 0.00 6323552.14 2283330.71 8.00 0.00 632356.71 2283330.71 8.00 0.00 632356.72 2283360.57 8.00 0.00 632356.72 2283360.57 8.00 0.00 632356.71 2283389.47 8.00 0.00 632356.71 2283389.47 8.00 0.00 632356.71 2283389.47 8.00 0.00 632356.71 2283389.47 8.00 0.00 632356.71 2283389.47 8.00 0.00	CONCRETE	8.00	d		-			
632356.35   2282933.30   8.00   0.00     632314.05   2282879.73   8.00   0.00     6323307.56   2282757.98   8.00   0.00     6323307.56   2282757.98   8.00   0.00     6323354.63   2282793.69   8.00   0.00     6323554.63   2282793.69   8.00   0.00     6323546.19   2283017.72   8.00   0.00     6323546.19   2283017.72   8.00   0.00     6323554.31   2283017.72   8.00   0.00     6323554.31   2283046.94   8.00   0.00     6323574.91   228307.71   8.00   0.00     6323574.91   2283109.07   8.00   0.00     6323574.10   2283109.07   8.00   0.00     6323574.10   2283109.07   8.00   0.00     6323574.10   2283172.91   8.00   0.00     6323574.37   2283237.04   8.00   0.00     6323574.37   2283237.04   8.00   0.00     632356.14   228330.05   8.00   0.00     6323556.14   228330.07   8.00   0.00     6323556.17   2283330.71   8.00   0.00     6323556.71   2283389.77   8.00   0.00     6323556.71   2283389.77   8.00   0.00     6323562.42   2283457.65   8.00   0.00     6323586.42   2283457.65   8.00   0.00     6323556.42   2283457.65   8.00   0.00								
6323314.05   2282879.73   8.00   0.00     6323296.19   2282866.74   8.00   0.00     6323307.56   2282757.98   8.00   0.00     6323106.26   2282757.98   8.00   0.00     632316.26   2282757.98   8.00   0.00     632356.30   2282892.72   8.00   0.00     632356.31   2282892.72   8.00   0.00     6323546.19   2283017.72   8.00   0.00     6323554.31   2283017.72   8.00   0.00     6323554.31   2283046.94   8.00   0.00     6323570.41   2283109.07   8.00   0.00     6323570.42   2283140.87   8.00   0.00     6323576.95   2283172.91   8.00   0.00     6323576.95   2283205.03   8.00   0.00     6323574.37   2283237.04   8.00   0.00     6323569.42   2283268.77   8.00   0.00     6323552.55   2283330.71   8.00   0.00     6323552.55   2283330.71   8.00   0.00     6323552.71   2283389.77   8.00   0.00     6323552.71   2283389.77   8.00   0.00     6323580.72   2283389.77   8.00   0.00     6323580.72   2283389.77   8.00   0.00     6323580.72   2283389.77   8.00   0.00     6323580.72   2283457.65   8.00   0.00     6323580.72   2283457.65   8.00   0.00					6323210.15	2282895.96	8.00	0.00
632356.19 2282866.74 8.00 0.00 6323307.56 2282757.98 8.00 0.00 6323106.26 2282757.98 8.00 0.00 CONCRETE 8.00 a 6323354.63 2282793.69 8.00 0.00 6323518.59 2283017.72 8.00 0.00 6323546.19 2283017.72 8.00 0.00 6323554.31 2283046.94 8.00 0.00 6323570.41 2283109.07 8.00 0.00 6323570.41 2283109.07 8.00 0.00 6323577.42 2283140.87 8.00 0.00 6323577.43 2283140.87 8.00 0.00 6323577.44 2283109.07 8.00 0.00 6323576.95 2283205.03 8.00 0.00 6323576.95 2283205.03 8.00 0.00 6323576.95 2283205.03 8.00 0.00 6323576.95 2283205.03 8.00 0.00 6323576.95 22832305.03 8.00 0.00 6323576.97 2283330.05 8.00 0.00 6323550.14 2283300.05 8.00 0.00 6323550.12 2283380.71 8.00 0.00 6323550.71 2283380.71 8.00 0.00 6323550.71 2283380.71 8.00 0.00 6323550.72 2283380.77 8.00 0.00 6323550.72 2283380.77 8.00 0.00			L		6323265.35	2282933.30	8.00	0.00
6323307.56   2282757.98   8.00   0.00     6323106.26   2282757.98   8.00   0.00     6323354.63   2282793.69   8.00   0.00     6323518.59   2283017.72   8.00   0.00     6323546.19   2283017.72   8.00   0.00     6323554.31   2283046.94   8.00   0.00     6323554.31   2283046.94   8.00   0.00     6323570.41   2283109.07   8.00   0.00     6323570.42   2283140.87   8.00   0.00     6323577.43   2283140.87   8.00   0.00     6323576.95   2283205.03   8.00   0.00     6323576.95   2283237.04   8.00   0.00     6323576.94   2283160.87   8.00   0.00     6323576.95   22832305.03   8.00   0.00     6323569.42   2283268.77   8.00   0.00     6323562.14   2283300.05   8.00   0.00     6323562.17   2283389.47   8.00   0.00     6323562.19   2283389.47   8.00   0.00     6323562.10   2283389.47   8.00   0.00     6323562.10   2283389.71   8.00   0.00     6323562.10   2283457.65   8.00   0.00     6323562.42   2283457.65   8.00   0.00			Γ		6323314.05	2282879.73	8.00	0.00
6323307.56   2282757.98   8.00   0.00     6323106.26   2282757.98   8.00   0.00     6323354.63   2282793.69   8.00   0.00     6323518.59   2283017.72   8.00   0.00     6323546.19   2283017.72   8.00   0.00     6323554.31   2283046.94   8.00   0.00     6323554.31   2283046.94   8.00   0.00     6323570.41   2283109.07   8.00   0.00     6323570.42   2283140.87   8.00   0.00     6323577.43   2283140.87   8.00   0.00     6323576.95   2283205.03   8.00   0.00     6323576.95   2283237.04   8.00   0.00     6323576.94   2283160.87   8.00   0.00     6323576.95   22832305.03   8.00   0.00     6323569.42   2283268.77   8.00   0.00     6323562.14   2283300.05   8.00   0.00     6323562.17   2283389.47   8.00   0.00     6323562.19   2283389.47   8.00   0.00     6323562.10   2283389.47   8.00   0.00     6323562.10   2283389.71   8.00   0.00     6323562.10   2283457.65   8.00   0.00     6323562.42   2283457.65   8.00   0.00			Г		6323296.19	2282866.74	8.00	0.00
6323106.26   2282757.98   8.00   0.00			T					
CONCRETE 8.00 a 632354.63 2282793.69 8.00 0.00 632353.01 2282892.72 8.00 0.00 6323546.19 2283017.72 8.00 0.00 6323554.31 2283046.94 8.00 0.00 6323570.41 2283109.07 8.00 0.00 6323574.96 2283140.87 8.00 0.00 6323574.96 2283140.87 8.00 0.00 6323574.96 2283140.87 8.00 0.00 6323574.96 2283140.87 8.00 0.00 6323574.96 2283140.87 8.00 0.00 6323574.96 2283140.87 8.00 0.00 6323574.96 228325.03 8.00 0.00 6323574.97 2283268.77 8.00 0.00 6323552.55 228330.71 8.00 0.00 6323552.55 2283330.71 8.00 0.00 6323526.71 2283389.47 8.00 0.00 6323526.71 2283389.47 8.00 0.00 6323526.71 2283389.47 8.00 0.00 6323526.71 2283389.47 8.00 0.00 6323526.71 2283389.47 8.00 0.00			H					
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6323518.59 2283017.72 8.00 0.00 6323546.19 2283017.72 8.00 0.00 6323554.31 2283046.94 8.00 0.00 6323554.31 2283046.94 8.00 0.00 6323574.91 2283190.07 8.00 0.00 6323574.96 2283140.87 8.00 0.00 6323577.14 2283172.91 8.00 0.00 6323576.95 2283205.03 8.00 0.00 6323574.37 2283237.04 8.00 0.00 6323574.37 2283237.04 8.00 0.00 6323569.42 2283268.77 8.00 0.00 6323562.14 2283300.05 8.00 0.00 6323550.72 2283330.71 8.00 0.00 6323526.71 2283389.47 8.00 0.00 6323526.71 2283389.47 8.00 0.00 6323526.71 2283389.47 8.00 0.00 6323526.71 2283389.47 8.00 0.00 6323526.71 2283389.77 8.00 0.00 6323526.71 2283389.77 8.00 0.00 6323526.71 2283389.77 8.00 0.00	CONCRETE	8.00	а					
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					6323562.42	2283459.27	8.00	0.00
		1			6323557.55	2283585.89	8.00	0.00
			Г		6323752.36	2283582.65	8.00	0.00

Urban Crossroads, Inc.

Name	Н	leight		Coordinates							
	Begin	End		х	у	Z	Ground				
	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)				
			Γ	6323756.43	2282757.87	8.00	0.00				
				6323450.41	2282759.60	8.00	0.00				
			Γ	6323453.66	2282795.32	8.00	0.00				

Urban Crossroads, Inc.

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**APPENDIX 10.3:** 

**BLASTING CALCULATIONS** 



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#### **Scaled Distance**

Source: ISEE's Blaster's Handbook, 2018 Edition.

#### **Square Root Scaled Distance**

$$SD_2 = R / W^{1/2}$$

R = 9384 feet Distance from blast to a point of intereste (meters or feet)

W = 25 lbs Maximum charge-weigh detonated within any 8-millisecond period (kilograms or pounds)

 $SD_2 = 1876.80 \text{ ft/lbs}^{1/2}$ 

## **Peak Particle Velocity**

A = 160 "Best Fit" 160 per blasting contractor guidance based on site conditions.

 $SD_2 = 1876.80$  All blasts will be designed on-site by the blasting contractor to remain below 0.5 in/sec PPV

B = 1.6 Slope of the line (note that the slope is **negative** in the equation)

Vibrat	Vibration Amplitude Equations For Various Blasting Industries											
Industry	Metric Equations mm/sec.	U.S. Equations in./sec.	Confidence level	Source								
General	PPV = 1,140(SD <sub>2</sub> )-1.6	$PPV = 160(SD_2)^{-1.6}$	Best Fit	DuPont								
Construction	$PPV = 173(SD_2)^{-1.6}$	$PPV = 24.2(SD_2)^{-1.6}$	Lower Bound	Oriard								
Construction	PPV = 1,730(SD <sub>2</sub> )-1.6	$PPV = 242(SD_2)^{-1.6}$	Upper Bound	Oriard (2005)								
Construction	PPV = 4,320(SD <sub>2</sub> ) <sup>-1.6</sup>	$PPV = 605(SD_2)^{-1.6}$	Upper Bound - High Confinement	Oriard (2005)								
Construction	$PPV = 53(SD_2)^{-1.09}$	$PPV = 5(SD_2)^{-1.09}$	Best Fit	USBM RI 8507								
Quarries	$PPV = 1,090(SD_2)^{-1.82}$	$PPV = 182(SD_2)^{-1.82}$	Best Fit	USBM Bulletin 656								
Coal Mines	$PPV = 905(SD_2)^{-1.52}$	$PPV = 119(SD_2)^{-1.52}$	Best Fit	USBM RI 8507								
Coal Mines	$PPV = 3,330(SD_2)^{-1.52}$	$PPV = 438(SD_2)^{-1.52}$	Upper bound	USBM RI 8507								
Coal - Low Frequency sites	PPV = 1,252(SD <sub>2</sub> )-1.31	PPV = 138(SD <sub>2</sub> )-1.31	Best Fit	USBM RI 9226								

## Air Overpressure/Airblast

#### **Cubed Root Scaled Distance**

$$SD_3 = R / W^{1/3}$$

R = 9384 feet Distance from blast to a point of intereste (meters or feet)

W = 25 lbs Maximum charge-weigh detonated within any 8-millisecond period (kilograms or pounds)

 $SD_3 = 3209.28 \text{ ft/lbs}^{1/3}$ 



A =	0.5
SD <sub>3</sub> =	3209.28

Partially confined.

1.1

Slope of the line (note that the slope is negative)

Air Overpressure Prediction Equations						
Blasting	Metric Equations mb	U.S. Equations psi	Statistical Type	Source		
Open air (no confinement)	$P = 3589 \times SD_3^{-1.38}$	$P = 187 \times SD_3^{-1.38}$	Best Fit	Perkins		
Coal mines (parting)	$P = 2596 \times SD_3^{-1.62}$	$P = 169 \times SD_3^{-1.62}$	Best Fit	USBM RI 8485		
Coal mines (highwall)	$P = 5.37 \times SD_3^{-0.79}$	$P = 0.162 \times SD_3^{-0.79}$	Best Fit	USBM RI 8485		
Quarry face	$P = 37.1 \times SD_3^{-0.97}$	$P = 1.32 \times SD_3^{-0.97}$	Best Fit	USBM RI 8485		
Metal Mine	$P = 14.3 \times SD_3^{-0.71}$	$P = 0.401 \times SD_3^{-0.71}$	Best Fit	USBM RI 8485		
Construction (average)	$P = 24.8 \times SD_3^{-1.1}$	$P = 1 \times SD_3^{-1.1}$	Best Fit	Oriard (2005)		
Construction (highly confined)	$P = 2.48 \times SD_3^{-1.1}$	$P = 0.1 \times SD_3^{-1.1}$	Best Fit	Oriard (2005)		
Buried (total confinement)	$P = 1.73 \times SD_{3}^{-0.96}$	$P = 0.061 \times SD_3^{-0.96}$	Best Fit	USBM RI 8485		

## **Decibels (Linear)**

## $P_s = 20 * log(P / P_0)$

$$P_0 = 2.9E-09$$
 pascals

Reference value: 2.9 \* 10<sup>-9</sup> lbs/inch<sup>2</sup>



#### **Scaled Distance**

Source: ISEE's Blaster's Handbook, 2018 Edition.

#### **Square Root Scaled Distance**

$$SD_2 = R / W^{1/2}$$

R = 7310 feet Distance from blast to a point of intereste (meters or feet)

W = 25 lbs Maximum charge-weigh detonated within any 8-millisecond period (kilograms or pounds)

 $SD_2 = \frac{1462.00}{\text{ft/lbs}^{1/2}}$ 

## **Peak Particle Velocity**

A = 160 "Best Fit" 160 per blasting contractor guidance based on site conditions.

 $SD_2 = 1462.00$  All blasts will be designed on-site by the blasting contractor to remain below 0.5 in/sec PPV

3 = 1.6 Slope of the line (note that the slope is **negative** in the equation)

Vibration Amplitude Equations For Various Blasting Industries				
Industry	Metric Equations mm/sec.	U.S. Equations in./sec.	Confidence level	Source
General	PPV = 1,140(SD <sub>2</sub> )-1.6	$PPV = 160(SD_2)^{-1.6}$	Best Fit	DuPont
Construction	$PPV = 173(SD_2)^{-1.6}$	$PPV = 24.2(SD_2)^{-1.6}$	Lower Bound	Oriard
Construction	PPV = 1,730(SD <sub>2</sub> )-1.6	$PPV = 242(SD_2)^{-1.6}$	Upper Bound	Oriard (2005)
Construction	$PPV = 4,320(SD_2)^{-1.6}$	$PPV = 605(SD_2)^{-1.6}$	Upper Bound - High Confinement	Oriard (2005)
Construction	$PPV = 53(SD_2)^{-1.09}$	$PPV = 5(SD_2)^{-1.09}$	Best Fit	USBM RI 8507
Quarries	$PPV = 1,090(SD_2)^{-1.82}$	$PPV = 182(SD_2)^{-1.82}$	Best Fit	USBM Bulletin 656
Coal Mines	$PPV = 905(SD_2)^{-1.52}$	$PPV = 119(SD_2)^{-1.52}$	Best Fit	USBM RI 8507
Coal Mines	$PPV = 3,330(SD_2)^{-1.52}$	$PPV = 438(SD_2)^{-1.52}$	Upper bound	USBM RI 8507
Coal - Low Frequency sites	PPV = 1,252(SD <sub>2</sub> )-1.31	PPV = 138(SD <sub>2</sub> )-1.31	Best Fit	USBM RI 9226

## Air Overpressure/Airblast

#### **Cubed Root Scaled Distance**

$$SD_3 = R / W^{1/3}$$

R = 7310 feet Distance from blast to a point of intereste (meters or feet)

W = 25 lbs Maximum charge-weigh detonated within any 8-millisecond period (kilograms or pounds)

 $SD_3 = 2499.98 \text{ ft/lbs}^{1/3}$ 



A = 0.5  $SD_3 = 2499.98$ 

Partially confined.

B = 1.1

Slope of the line (note that the slope is negative)

P = 0.0001 psi

Air Overpressure Prediction Equations						
Blasting	Metric Equations mb	U.S. Equations psi	Statistical Type	Source		
Open air (no confinement)	$P = 3589 \times SD_3^{-1.38}$	$P = 187 \times SD_3^{-1.38}$	Best Fit	Perkins		
Coal mines (parting)	$P = 2596 \times SD_3^{-1.62}$	$P = 169 \times SD_3^{-1.62}$	Best Fit	USBM RI 8485		
Coal mines (highwall)	$P = 5.37 \times SD_3^{-0.79}$	$P = 0.162 \times SD_3^{-0.79}$	Best Fit	USBM RI 8485		
Quarry face	$P = 37.1 \times SD_3^{-0.97}$	$P = 1.32 \times SD_3^{-0.97}$	Best Fit	USBM RI 8485		
Metal Mine	$P = 14.3 \times SD_3^{-0.71}$	$P = 0.401 \times SD_3^{-0.71}$	Best Fit	USBM RI 8485		
Construction (average)	$P = 24.8 \times SD_3^{-1.1}$	$P = 1 \times SD_3^{-1.1}$	Best Fit	Oriard (2005)		
Construction (highly confined)	$P = 2.48 \times SD_3^{-1.1}$	$P = 0.1 \times SD_3^{-1.1}$	Best Fit	Oriard (2005)		
Buried (total confinement)	$P = 1.73 \times SD_3^{-0.96}$	$P = 0.061 \times SD_3^{-0.96}$	Best Fit	USBM RI 8485		

## **Decibels (Linear)**

 $P_s = 20 * log(P / P_0)$ 

 $P_0 = 2.9E-09$  pascals Reference value: 2.9 \*  $10^{-9}$  lbs/inch<sup>2</sup>

P<sub>s</sub> = 89.98 dB



#### **Scaled Distance**

Source: ISEE's Blaster's Handbook, 2018 Edition.

#### **Square Root Scaled Distance**

$$SD_2 = R / W^{1/2}$$

R = 4422 feet Distance from blast to a point of intereste (meters or feet)

W = 25 lbs Maximum charge-weigh detonated within any 8-millisecond period (kilograms or pounds)

$$SD_2 = 884.40$$
 ft/lbs<sup>1/2</sup>

## **Peak Particle Velocity**

A = 160 "Best Fit" 160 per blasting contractor guidance based on site conditions.

SD<sub>2</sub> = 884.40 All blasts will be designed on-site by the blasting contractor to remain below 0.5 in/sec PPV

B = 1.6 Slope of the line (note that the slope is **negative** in the equation)

Vibration Amplitude Equations For Various Blasting Industries				
Industry	Metric Equations mm/sec.	U.S. Equations in./sec.	Confidence level	Source
General	PPV = 1,140(SD <sub>2</sub> )-1.6	$PPV = 160(SD_2)^{-1.6}$	Best Fit	DuPont
Construction	$PPV = 173(SD_2)^{-1.6}$	$PPV = 24.2(SD_2)^{-1.6}$	Lower Bound	Oriard
Construction	PPV = 1,730(SD <sub>2</sub> )-1.6	$PPV = 242(SD_2)^{-1.6}$	Upper Bound	Oriard (2005)
Construction	$PPV = 4,320(SD_2)^{-1.6}$	$PPV = 605(SD_2)^{-1.6}$	Upper Bound - High Confinement	Oriard (2005)
Construction	$PPV = 53(SD_2)^{-1.09}$	$PPV = 5(SD_2)^{-1.09}$	Best Fit	USBM RI 8507
Quarries	$PPV = 1,090(SD_2)^{-1.82}$	$PPV = 182(SD_2)^{-1.82}$	Best Fit	USBM Bulletin 656
Coal Mines	$PPV = 905(SD_2)^{-1.52}$	$PPV = 119(SD_2)^{-1.52}$	Best Fit	USBM RI 8507
Coal Mines	$PPV = 3,330(SD_2)^{-1.52}$	$PPV = 438(SD_2)^{-1.52}$	Upper bound	USBM RI 8507
Coal - Low Frequency sites	PPV = 1,252(SD <sub>2</sub> )-1.31	PPV = 138(SD <sub>2</sub> )-1.31	Best Fit	USBM RI 9226

## Air Overpressure/Airblast

#### **Cubed Root Scaled Distance**

$$SD_3 = R / W^{1/3}$$

R = 4422 feet Distance from blast to a point of intereste (meters or feet)

W = 25 lbs Maximum charge-weigh detonated within any 8-millisecond period (kilograms or pounds)

 $SD_3 = 1512.30$  ft/lbs<sup>1/3</sup>



A = 0.5  $SD_3 = 1512.30$ 

Partially confined.

B = 1512.30 B = 1.1

Slope of the line (note that the slope is negative)

P = 0.0002 psi

Air Overpressure Prediction Equations						
Blasting	Metric Equations mb	U.S. Equations psi	Statistical Type	Source		
Open air (no confinement)	$P = 3589 \times SD_3^{-1.38}$	$P = 187 \times SD_3^{-1.38}$	Best Fit	Perkins		
Coal mines (parting)	$P = 2596 \times SD_3^{-1.62}$	$P = 169 \times SD_3^{-1.62}$	Best Fit	USBM RI 8485		
Coal mines (highwall)	$P = 5.37 \times SD_3^{-0.79}$	$P = 0.162 \times SD_3^{-0.79}$	Best Fit	USBM RI 8485		
Quarry face	$P = 37.1 \times SD_3^{-0.97}$	$P = 1.32 \times SD_3^{-0.97}$	Best Fit	USBM RI 8485		
Metal Mine	$P = 14.3 \times SD_3^{-0.71}$	$P = 0.401 \times SD_3^{-0.71}$	Best Fit	USBM RI 8485		
Construction (average)	$P = 24.8 \times SD_3^{-1.1}$	$P = 1 \times SD_3^{-1.1}$	Best Fit	Oriard (2005)		
Construction (highly confined)	$P = 2.48 \times SD_3^{-1.1}$	$P = 0.1 \times SD_3^{-1.1}$	Best Fit	Oriard (2005)		
Buried (total confinement)	$P = 1.73 \times SD_3^{-0.96}$	$P = 0.061 \times SD_3^{-0.96}$	Best Fit	USBM RI 8485		

## **Decibels (Linear)**

 $P_s = 20 * log(P / P_0)$ 

 $P_0 = 2.9E-09$  pascals

Reference value: 2.9 \* 10<sup>-9</sup> lbs/inch<sup>2</sup>



#### **Scaled Distance**

Source: ISEE's Blaster's Handbook, 2018 Edition.

#### **Square Root Scaled Distance**

$$SD_2 = R / W^{1/2}$$

R = 2254 feet Distance from blast to a point of intereste (meters or feet)

W = 25 lbs Maximum charge-weigh detonated within any 8-millisecond period (kilograms or pounds)

 $SD_2 = \frac{450.80}{\text{ft/lbs}^{1/2}}$ 

## **Peak Particle Velocity**

A = 160 "Best Fit" 160 per blasting contractor guidance based on site conditions.

SD<sub>2</sub> = 450.80 All blasts will be designed on-site by the blasting contractor to remain below 0.5 in/sec PPV

B = 1.6 Slope of the line (note that the slope is **negative** in the equation)

Vibration Amplitude Equations For Various Blasting Industries				
Industry	Metric Equations mm/sec.	U.S. Equations in./sec.	Confidence level	Source
General	PPV = 1,140(SD <sub>2</sub> )-1.6	$PPV = 160(SD_2)^{-1.6}$	Best Fit	DuPont
Construction	$PPV = 173(SD_2)^{-1.6}$	$PPV = 24.2(SD_2)^{-1.6}$	Lower Bound	Oriard
Construction	PPV = 1,730(SD <sub>2</sub> )-1.6	$PPV = 242(SD_2)^{-1.6}$	Upper Bound	Oriard (2005)
Construction	PPV = 4,320(SD <sub>2</sub> ) <sup>-1.6</sup>	$PPV = 605(SD_2)^{-1.6}$	Upper Bound - High Confinement	Oriard (2005)
Construction	$PPV = 53(SD_2)^{-1.09}$	$PPV = 5(SD_2)^{-1.09}$	Best Fit	USBM RI 8507
Quarries	$PPV = 1,090(SD_2)^{-1.82}$	$PPV = 182(SD_2)^{-1.82}$	Best Fit	USBM Bulletin 656
Coal Mines	$PPV = 905(SD_2)^{-1.52}$	$PPV = 119(SD_2)^{-1.52}$	Best Fit	USBM RI 8507
Coal Mines	$PPV = 3,330(SD_2)^{-1.52}$	$PPV = 438(SD_2)^{-1.52}$	Upper bound	USBM RI 8507
Coal - Low Frequency sites	PPV = 1,252(SD <sub>2</sub> )-1.31	PPV = 138(SD <sub>2</sub> ) <sup>-1.31</sup>	Best Fit	USBM RI 9226

## Air Overpressure/Airblast

#### **Cubed Root Scaled Distance**

$$SD_3 = R / W^{1/3}$$

R = 2254 feet Distance from blast to a point of intereste (meters or feet)

W = 25 lbs Maximum charge-weigh detonated within any 8-millisecond period (kilograms or pounds)

 $SD_3 = \frac{770.86}{\text{ft/lbs}^{1/3}}$ 



A = 0.5  $SD_3 = 770.86$ 

Partially confined.

B = 1.1

Slope of the line (note that the slope is negative)

P = 0.0003 psi

Air Overpressure Prediction Equations						
Blasting	Metric Equations mb	U.S. Equations psi	Statistical Type	Source		
Open air (no confinement)	$P = 3589 \times SD_3^{-1.38}$	$P = 187 \times SD_3^{-1.38}$	Best Fit	Perkins		
Coal mines (parting)	$P = 2596 \times SD_3^{-1.62}$	$P = 169 \times SD_3^{-1.62}$	Best Fit	USBM RI 8485		
Coal mines (highwall)	$P = 5.37 \times SD_3^{-0.79}$	$P = 0.162 \times SD_3^{-0.79}$	Best Fit	USBM RI 8485		
Quarry face	$P = 37.1 \times SD_3^{-0.97}$	$P = 1.32 \times SD_3^{-0.97}$	Best Fit	USBM RI 8485		
Metal Mine	$P = 14.3 \times SD_3^{-0.71}$	$P = 0.401 \times SD_3^{-0.71}$	Best Fit	USBM RI 8485		
Construction (average)	$P = 24.8 \times SD_3^{-1.1}$	$P = 1 \times SD_3^{-1.1}$	Best Fit	Oriard (2005)		
Construction (highly confined)	$P = 2.48 \times SD_3^{-1.1}$	$P = 0.1 \times SD_3^{-1.1}$	Best Fit	Oriard (2005)		
Buried (total confinement)	$P = 1.73 \times SD_3^{-0.96}$	$P = 0.061 \times SD_3^{-0.96}$	Best Fit	USBM RI 8485		

## **Decibels (Linear)**

 $P_s = 20 * log(P / P_0)$ 

 $P_0 = 2.9E-09$  pascals

Reference value: 2.9 \* 10<sup>-9</sup> lbs/inch<sup>2</sup>



#### **Scaled Distance**

Source: ISEE's Blaster's Handbook, 2018 Edition.

#### **Square Root Scaled Distance**

$$SD_2 = R / W^{1/2}$$

R = 796 feet Distance from blast to a point of intereste (meters or feet)

W = 25 lbs Maximum charge-weigh detonated within any 8-millisecond period (kilograms or pounds)

 $SD_2 = \frac{159.20}{\text{ft/lbs}^{1/2}}$ 

## **Peak Particle Velocity**

A = 160 "Best Fit" 160 per blasting contractor guidance based on site conditions.

 $SD_2 = 159.20$  All blasts will be designed on-site by the blasting contractor to remain below 0.5 in/sec PPV

B = 1.6 Slope of the line (note that the slope is **negative** in the equation)

Vibration Amplitude Equations For Various Blasting Industries				
Industry	Metric Equations mm/sec.	U.S. Equations in./sec.	Confidence level	Source
General	PPV = 1,140(SD <sub>2</sub> )-1.6	$PPV = 160(SD_2)^{-1.6}$	Best Fit	DuPont
Construction	$PPV = 173(SD_2)^{-1.6}$	$PPV = 24.2(SD_2)^{-1.6}$	Lower Bound	Oriard
Construction	PPV = 1,730(SD <sub>2</sub> )-1.6	$PPV = 242(SD_2)^{-1.6}$	Upper Bound	Oriard (2005)
Construction	PPV = 4,320(SD <sub>2</sub> ) <sup>-1.6</sup>	$PPV = 605(SD_2)^{-1.6}$	Upper Bound - High Confinement	Oriard (2005)
Construction	$PPV = 53(SD_2)^{-1.09}$	$PPV = 5(SD_2)^{-1.09}$	Best Fit	USBM RI 8507
Quarries	$PPV = 1,090(SD_2)^{-1.82}$	$PPV = 182(SD_2)^{-1.82}$	Best Fit	USBM Bulletin 656
Coal Mines	$PPV = 905(SD_2)^{-1.52}$	$PPV = 119(SD_2)^{-1.52}$	Best Fit	USBM RI 8507
Coal Mines	$PPV = 3,330(SD_2)^{-1.52}$	$PPV = 438(SD_2)^{-1.52}$	Upper bound	USBM RI 8507
Coal - Low Frequency sites	PPV = 1,252(SD <sub>2</sub> )-1.31	PPV = 138(SD <sub>2</sub> ) <sup>-1.31</sup>	Best Fit	USBM RI 9226

## Air Overpressure/Airblast

#### **Cubed Root Scaled Distance**

$$SD_3 = R / W^{1/3}$$

R = 796 feet Distance from blast to a point of intereste (meters or feet)

W = 25 lbs Maximum charge-weigh detonated within any 8-millisecond period (kilograms or pounds)

 $SD_3 = \frac{272.23}{\text{ft/lbs}^{1/3}}$ 



A = 0.5  $SD_3 = 272.23$ 

Partially confined.

B = 2/2.23 B = 1.1

Slope of the line (note that the slope is negative)

P = 0.0010 psi

Air Overpressure Prediction Equations						
Blasting	Metric Equations mb	U.S. Equations psi	Statistical Type	Source		
Open air (no confinement)	$P = 3589 \times SD_3^{-1.38}$	$P = 187 \times SD_3^{-1.38}$	Best Fit	Perkins		
Coal mines (parting)	$P = 2596 \times SD_3^{-1.62}$	$P = 169 \times SD_3^{-1.62}$	Best Fit	USBM RI 8485		
Coal mines (highwall)	$P = 5.37 \times SD_3^{-0.79}$	$P = 0.162 \times SD_3^{-0.79}$	Best Fit	USBM RI 8485		
Quarry face	$P = 37.1 \times SD_3^{-0.97}$	$P = 1.32 \times SD_3^{-0.97}$	Best Fit	USBM RI 8485		
Metal Mine	$P = 14.3 \times SD_3^{-0.71}$	$P = 0.401 \times SD_3^{-0.71}$	Best Fit	USBM RI 8485		
Construction (average)	$P = 24.8 \times SD_3^{-1.1}$	$P = 1 \times SD_3^{-1.1}$	Best Fit	Oriard (2005)		
Construction (highly confined)	$P = 2.48 \times SD_3^{-1.1}$	$P = 0.1 \times SD_3^{-1.1}$	Best Fit	Oriard (2005)		
Buried (total confinement)	$P = 1.73 \times SD_3^{-0.96}$	$P = 0.061 \times SD_3^{-0.96}$	Best Fit	USBM RI 8485		

## **Decibels (Linear)**

 $P_s = 20 * log(P / P_0)$ 

 $P_0 = 2.9E-09$  pascals

Reference value: 2.9 \* 10<sup>-9</sup> lbs/inch<sup>2</sup>

