



US Auctions

NOISE IMPACT ANALYSIS

CITY OF COLTON

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TABLE OF CONTENTS

TABLE OF CONTENTS	III
APPENDICES	IV
LIST OF EXHIBITS	IV
LIST OF TABLES	V
LIST OF ABBREVIATED TERMS	VI
EXECUTIVE SUMMARY	1
Off-Site Traffic Noise Analysis.....	1
Operational Noise Analysis.....	1
Construction Noise Analysis	1
Construction Vibration Analysis.....	2
1 INTRODUCTION	3
1.1 Site Location.....	3
1.2 Project Description.....	3
2 FUNDAMENTALS	7
2.1 Range of Noise	7
2.2 Noise Descriptors	8
2.3 Sound Propagation.....	8
2.4 Noise Control	9
2.5 Noise Barrier Attenuation.....	9
2.6 Land Use Compatibility With Noise	10
2.7 Community Response to Noise.....	10
2.8 Vibration	11
3 REGULATORY SETTING	13
3.1 State of California Noise Requirements.....	13
3.2 State of California Green Building Standards Code	13
3.3 City of Colton General Plan Public Health and Safety Element	13
3.4 Operational Noise Standards	14
3.5 Construction Noise Standards	16
3.6 Vibration Standards	17
4 EXISTING NOISE LEVEL MEASUREMENTS	19
4.1 Measurement Procedure and Criteria	19
4.2 Noise Measurement Locations	19
4.3 Noise Measurement Results	20
5 RECEIVER LOCATIONS	23
6 OPERATIONAL NOISE ANALYSIS	25
6.1 Operational Noise Sources.....	25
6.3 Reference Noise Levels	25
6.3 CadnaA Noise Prediction Model	28
6.4 Project Operational Noise Levels.....	29
6.5 Project Operational Noise Level Compliance.....	29
7 CONSTRUCTION ANALYSIS	31
7.1 Construction Noise Levels.....	31

7.2 Construction Reference Noise Levels 31

7.3 Typical Construction Noise Analysis..... 31

7.4 Construction Noise Level Compliance 33

7.2 Construction Vibration..... 34

8 REFERENCES..... 37

9 CERTIFICATIONS 39

APPENDICES

- APPENDIX 3.1: CITY OF COLTON MUNICIPAL CODE
- APPENDIX 3.2: COUNTY OF SAN BERNARDINO DEVELOPMENT CODE
- APPENDIX 4.1: STUDY AREA PHOTOS
- APPENDIX 4.2: NOISE LEVEL MEASUREMENT WORKSHEETS
- APPENDIX 6.1: REFERENCE NOISE MEASUREMENT PHOTOS
- APPENDIX 6.2: CADNAA OPERATIONAL NOISE MODEL INPUTS
- APPENDIX 7.1: CADNAA CONSTRUCTION NOISE MODEL INPUTS

LIST OF EXHIBITS

EXHIBIT 1-A: LOCATION MAP 4

EXHIBIT 1-B: SITE PLAN 5

EXHIBIT 2-A: TYPICAL NOISE LEVELS 7

EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION 11

EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION..... 12

EXHIBIT 3-A: LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS 15

EXHIBIT 4-A: NOISE MEASUREMENT LOCATIONS 22

EXHIBIT 5-A: RECEIVER LOCATIONS 24

EXHIBIT 6-A: OPERATIONAL NOISE SOURCE LOCATIONS 27

EXHIBIT 7-A: TYPICAL CONSTRUCTION NOISE SOURCE LOCATIONS 32

LIST OF TABLES

TABLE 3-1: OPERATIONAL NOISE LEVEL STANDARDS16
TABLE 3-2: PERMITTED HOURS OF CONSTRUCTION16
TABLE 4-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS21
TABLE 6-1: REFERENCE NOISE LEVEL MEASUREMENTS.....28
TABLE 6-2: DAYTIME PROJECT OPERATIONAL NOISE LEVELS.....29
TABLE 6-3: OPERATIONAL NOISE LEVEL COMPLIANCE.....29
TABLE 7-1: TYPICAL CONSTRUCTION REFERENCE NOISE LEVELS33
TABLE 7-2: TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY33
TABLE 7-3: TYPICAL CONSTRUCTION NOISE LEVEL COMPLIANCE34
TABLE 7-4: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT34
TABLE 7-5: PROJECT CONSTRUCTION VIBRATION LEVELS35

LIST OF ABBREVIATED TERMS

(1)	Reference
ANSI	American National Standards Institute
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
INCE	Institute of Noise Control Engineering
L_{eq}	Equivalent continuous (average) sound level
L_{max}	Maximum level measured over the time interval
L_{min}	Minimum level measured over the time interval
mph	Miles per hour
PPV	Peak Particle Velocity
Project	US Auctions
RMS	Root-mean-square
VdB	Vibration Decibels

EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the noise exposure and the necessary noise mitigation measures, if any, for the proposed US Auctions development (“Project”) located in the City of Colton. The proposed Project is to consist of a 5,509 square-foot two-story office, a 6,000 square-foot single-story warehouse/storage building, and an outdoor car storage yard. This study has been prepared consistent with applicable City of Colton noise standards, and significance criteria based on guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1)

OFF-SITE TRAFFIC NOISE ANALYSIS

Traffic generated by the operation of the proposed Project will influence the traffic noise levels in surrounding off-site areas. According to the May 7, 2020 U.S. Auctions Project Focused Traffic Analysis prepared by Ganddini Group, typical Project operations are expected to generate a total of 107 vehicle trips per day. (2) During auctions, the Project is forecasted to generate approximately 170 daily trips. According to the Traffic Analysis, five truck trips are expected per day during typical weekday operations. With normal business hours being between 8:00 AM to 5:00 PM, Monday to Friday, five (5) truck trips over a nine-hour time frame equates to one truck trip every one hour and 48 minutes. The expected Project traffic represents an incremental increase to the existing roadway volumes, which is not expected to generate a barely perceptible noise level increase of 3 dBA CNEL at nearby sensitive land uses adjacent to study area roadways, since a doubling of the existing traffic volumes would be required to generate a 3 dBA CNEL increase. (3) Due to the low traffic volumes generated by the Project, the off-site traffic noise levels generated by the Project are considered *less than significant* and no further analysis is required.

OPERATIONAL NOISE ANALYSIS

Using reference noise levels to represent the potential noise sources within US Auctions site, this analysis estimates the Project-related operational (stationary-source) noise levels at the nearby receiver locations. The Project-related operational noise sources are expected to include auction activity, receiving area activity, gate activity, roof-top air conditioning units and trash enclosures. The analysis shows that the Project-related operational noise levels will satisfy the City of Colton 65 dBA L_{eq} daytime exterior noise level standards at all the off-site noise-sensitive receiver locations. Project operational noise levels at all receiver locations, therefore, will result in *less than significant* noise impacts.

CONSTRUCTION NOISE ANALYSIS

Using sample reference noise levels to represent the planned construction activities of the US Auctions site, this analysis estimates the Project-related construction noise levels at nearby sensitive receiver locations. Since the City of Colton General Plan and Municipal Codes do not identify specific construction noise level thresholds, the Federal Transit Administration (FTA)

Transit Noise and Vibration Impact Assessment Manual hourly average 80 dBA L_{eq} as reasonable criteria for construction noise assessment. The Project-related short-term construction noise levels are expected to range from 68.8 to 76.5 dBA L_{eq} and will satisfy the daytime 80 dBA L_{eq} exterior noise level threshold identified by the FTA at all receiver locations. Therefore, based on the results of this analysis, all nearby sensitive receiver locations will experience *less than significant* impacts due to Project construction noise levels.

CONSTRUCTION VIBRATION ANALYSIS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. Based on this analysis it is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. The construction vibration levels account for the following project design features that will be included as a condition of approval.

- “Loaded trucks and all heavy mobile equipment greater than 80,000 pounds, and jack hammers are prohibited from use during Project construction activities within 60 feet of habitable residential structures. Instead, small rubber-tired or alternative equipment, as well as soil compaction equipment such as soil compaction stompers that do not produce high levels of vibration can be used within 60 feet of habitable residential structures during Project construction to reduce vibration effects on the structures and their occupants. The Project’s construction contractors shall be responsible for enforcing this requirement, which shall be specified in bid documents issued to prospective construction contractors. The Project construction contractors shall permit inspections by City of Colton to verify compliance with this measure.”

At distances ranging from 60 to 185 feet from Project construction activities, construction vibration levels are estimated to range from 60.9 to 75.6 VdB and will remain below the FTA Transit Noise and Vibration Impact Assessment maximum acceptable vibration criteria for daytime residential use of 78 VdB at all receiver locations. Therefore, the Project-related vibration impacts are considered *less than significant* during the construction activities at the Project site.

1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed US Auctions (“Project”). This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, sets out the local regulatory setting, 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 and short-term construction noise and vibration impacts.

1.1 SITE LOCATION

The proposed US Auctions Project is located at 1050 South 6th Street in the City of Colton, as shown on Exhibit 1-A. The Project Site occurs within the General Plan Land Use designation of Light Industrial (M-1) with a Sensitive Development Area Overlay Zone (SDA). According to Chapter 18.26 of the Colton Ordinance Code, M-1 is a variety of fabrication, manufacturing, assembly, distribution, and warehouse uses and, to a lesser degree, supporting commercial and office uses. The Light Industrial designation is intended for uses that are compatible with those in nearby commercial and residential districts, and do not produce substantial environmental nuisances (noise, odor, dust/smoke, glare, etc.). Uses may include low-intensity packing, assembly, storage, and similar uses that do not adversely affect surrounding residential, office, educational or commercial land uses. Light Industrial developments should be visually attractive, reflect high-quality development standards, provide adequate buffering from less-intensive land uses, and have adequate access to major transportation routes. The SDA Overlay Zone is intended to mitigate the impacts of industrial uses near or adjacent to residential neighborhoods. The SDA Overlay Zone allows the Planning Commission to review proposed industrial uses and impose conditions of approval to ensure compatibility between industrial and residential uses.

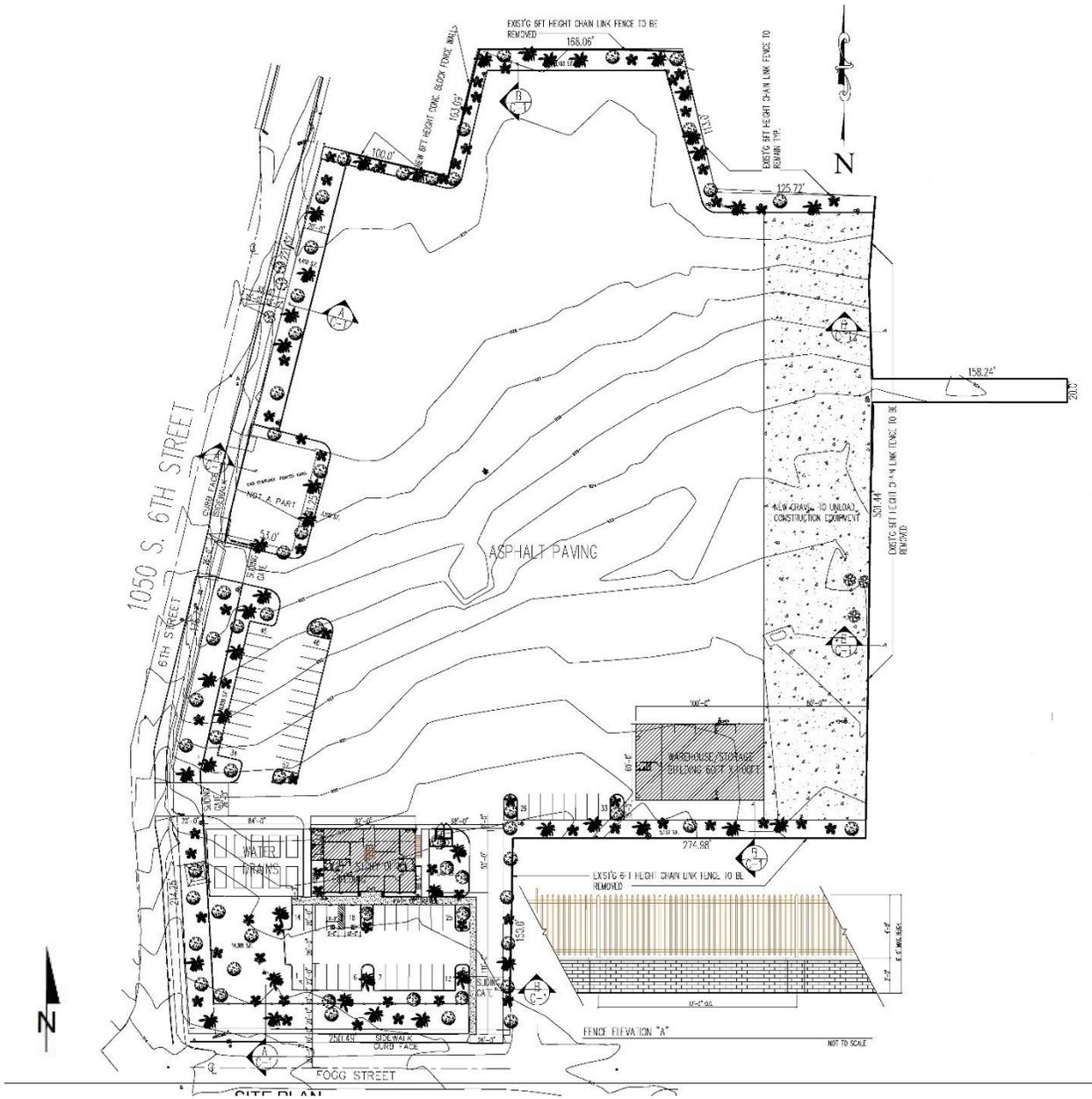
1.2 PROJECT DESCRIPTION

Exhibit 1-B illustrates the site plan for the Project. The proposed Project site will be occupied by US Auctions, a public auction company that conducts monthly auctions of Cars, Police Cars, Pickup Trucks, Vans, SUVs, Utility Trucks, Bucket Trucks, Stakebed Trucks, Stakebed and Flatbed Utility Trucks, Refuse Trucks, Construction Equipment and many more. (4) As shown on Exhibit 1-B, the proposed Project is to consist of a 5,550 square-foot two-story office, a 6,000 square-foot single-story warehouse/storage building, and an outdoor car storage yard. Site improvements will also include paved 33 parking spaces, lighting, landscaping, and a storm water retention basin. Operations of the Proposed Project include one auction per month. The auction will take place on Saturday mornings. Based on data provided by the Applicant’s similar operation in Ontario, California, there will be a maximum of approximately 10 deliveries of vehicles per week. For each scheduled event, approximately 200 – 250 units (trucks, cars, motorcycles, utility company equipment) are auctioned. Approximately 20 customers will complete vehicle inspections on Thursdays and Fridays before proposed Saturday auctions. An average of 50 to 65 customers will attend the auctions in person or on the internet. The vehicles auctioned off will be picked up by costumers the following week of auctions.

EXHIBIT 1-A: LOCATION MAP



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

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. (5) 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. (6) 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 commonly 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 “average” noise levels within the environment. The Project hourly average L_{eq} noise descriptor is used in this analysis to describe the stationary-source operational and construction noise levels.

Peak hour or average 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_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} 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 Colton 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. 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. (5)

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. (3)

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. (5)

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 FHWA does not consider the planting of vegetation to be a noise abatement measure. (3)

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. (3)

2.6 LAND USE COMPATIBILITY WITH NOISE

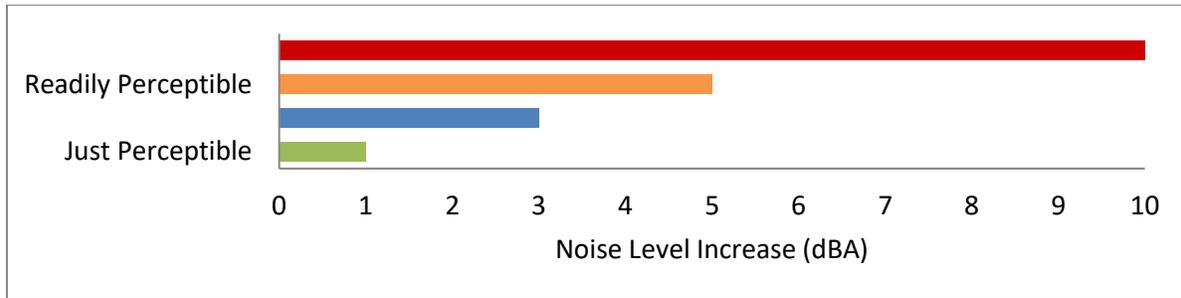
Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, 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. (7)

2.7 COMMUNITY RESPONSE TO NOISE

Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action, 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. (8) 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. (8) 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 are considered *barely perceptible*, and changes of 5 dBA are considered *readily perceptible*. (3)

EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION

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

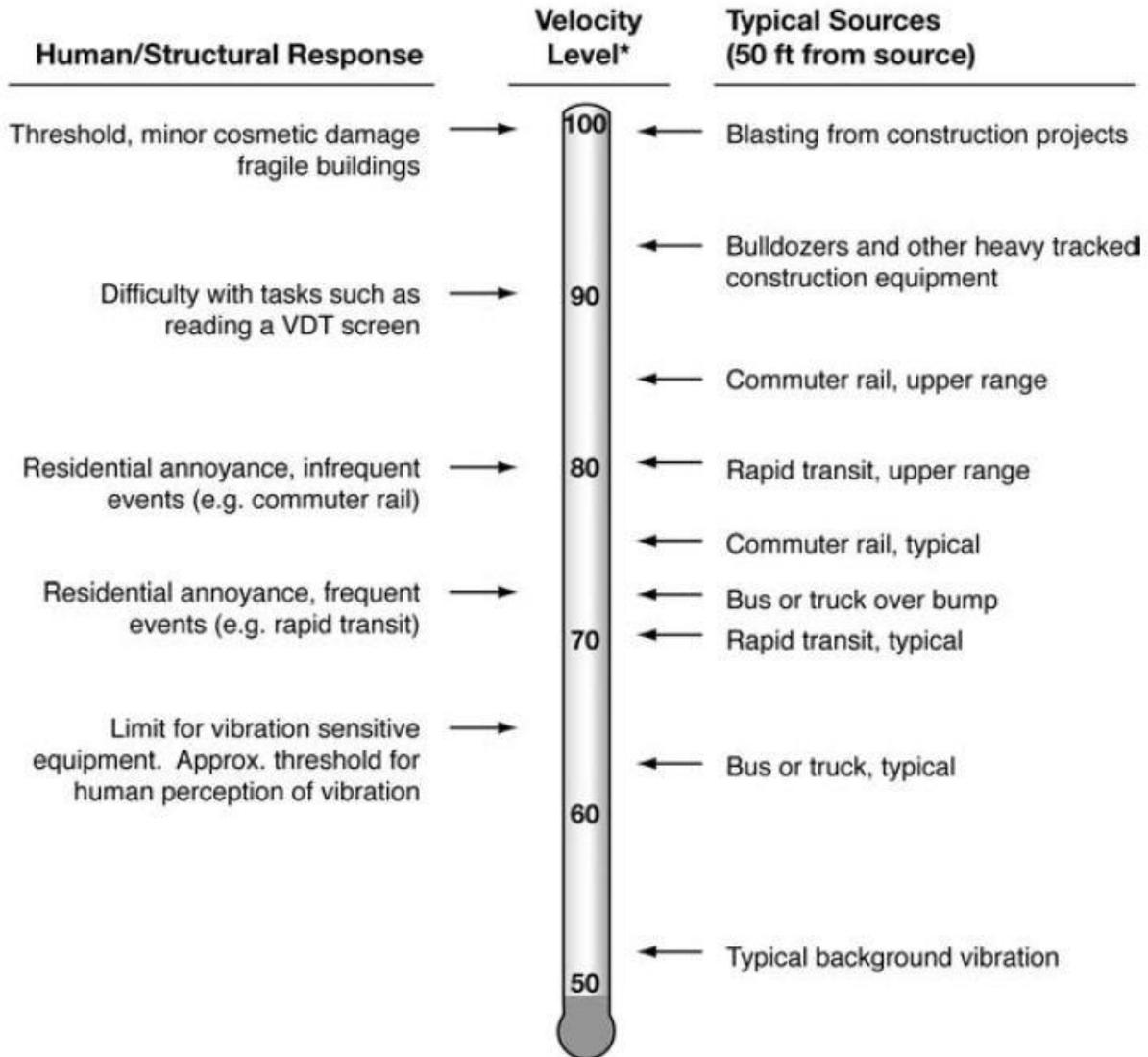
2.8 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise Impact and Vibration Assessment* (9), 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 Impact and Vibration Assessment.

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). (10) 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 STATE OF CALIFORNIA GREEN BUILDING STANDARDS CODE

The State of California's Green Building Standards Code contains mandatory measures for non-residential building construction in Section 5.507 on Environmental Comfort. (11) These noise standards are applied to new construction in California for controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when non-residential structures are developed in areas where the exterior noise levels exceed 65 dBA CNEL, such as within a noise contour of an airport, freeway, railroad, and other areas where noise contours are not readily available. If the development falls within an airport or freeway 65 dBA CNEL noise contour, the combined sound transmission class (STC) rating of the wall and roof-ceiling assemblies must be at least 50. For those developments in areas where noise contours are not readily available and the noise level exceeds 65 dBA L_{eq} for any hour of operation, a wall and roof-ceiling combined STC rating of 45, and exterior windows with a minimum STC rating of 40 are required (Section 5.507.4.1).

3.3 CITY OF COLTON GENERAL PLAN PUBLIC HEALTH AND SAFETY ELEMENT

The City of Colton has adopted a Noise Element of the *General Plan* which identifies principles and standards for existing and future development related to noise. The following principles are found in the City of Colton *General Plan Noise Element*: (12)

- Principle 1** *Establish criteria defining compatible land uses as a function of the level of noise exposure.*
- Principle 2** *Control noise exposure from future noise generators so the ambient environment will be kept within acceptable limits.*
- Principle 3** *Establish acceptable noise standards consistent with health and quality of life goals.*

The standards provided below are identified in the Noise Element to enforce these principles:

- Standard 1** *Residential structures should be constructed to maintain interior noise levels of not greater than 45 dBA CNEL, through the use of sound barrier improvements, building design, construction materials and/or insulating techniques.*
- Standard 2** *Residential growth in Community Noise Exposure Areas greater than 70 dBA CNEL should be discouraged, unless on-site noise levels can be reduced to 60 dBA or lower via on- and off-site noise alleviating improvements.*
- Standard 3** *Exterior noise levels should not exceed 65 dBA L_{eq} during the day or 55 dBA L_{eq} at night for commercial land uses, including general business and general merchandising.*
- Standard 4** *Exterior noise levels should not exceed 60 dBA L_{eq} at any time for such areas important to public need, and where the preservation of serenity and quietness is essential if the area is to continue to serve its intended purpose. Such areas could include parks, open spaces, amphitheaters, and other areas dedicated for activities requiring special qualities of serenity.*

Standards 1 to 2 identify the transportation-related exterior noise level standards for residential land use. Standards 3 and 4 describe the stationary source operational noise level criteria for non-residential land uses. The noise criteria identified in the City of Colton *General Plan Noise Element* (Table 5-1) are guidelines to evaluate the land use compatibility of transportation-related noise. The compatibility criteria, shown on Exhibit 3-A, provides the City with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels. The *Land Use Compatibility for Community Noise Environments* matrix indicates that industrial land uses within the project are considered *normally acceptable* with exterior noise levels below 75 dBA CNEL, and *conditionally acceptable* below 80 dBA CNEL. (12)

3.4 OPERATIONAL NOISE STANDARDS

The most effective method to control community noise impacts from non-transportation noise sources (such as auction activity, receiving area activity, gate activity, roof-top air conditioning units and trash enclosures, etc.) is through the application of a community noise ordinance. The noise regulations included in the City of Colton Municipal Code, Section 18.42.040, identify an exterior noise level limit of 65 dBA L_{eq} for determining and mitigating non-transportation or stationary-source noise impacts from operations at private properties. The operational noise level standards are shown on Table 3-1, and the City of Colton Municipal Code is included in Appendix 3.1.

EXHIBIT 3-A: LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS

LAND USE	dBA CNEL or L _{dn}					
	55	60	65	70	75	80
Residential - Single Family Dwellings, Duplex, Mobile Homes		Light Gray	Dark Gray	Black		
Residential - Multiple Family		Light Gray	Dark Gray	Black		
Transient Lodging: Hotels & Motels		Light Gray	Dark Gray	Black		
School Classrooms, Libraries, Churches, Hospitals, Nursing Homes, & Convalescent Hospitals		Light Gray	Dark Gray	Black		
Sports Arena, Outdoor Spectator Sports		Light Gray	Dark Gray	Black		
Playground, Neighborhood Parks		Light Gray	Dark Gray	Black		
Golf Courses, Riding Stables, Water Recreation, Cemeteries		Light Gray	Dark Gray	Black		
Office Buildings		Light Gray	Dark Gray	Black		
Industrial, Manufacturing, Utilities and Agriculture		Light Gray	Dark Gray	Black		

Normally Acceptable:	Conditionally Acceptable:	Normally Unacceptable:	Clearly Unacceptable:
Specified land uses is satisfactory based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation or requirements.	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. Outdoor environment will seem noisy.	New construction and development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made with needed noise insulation features included in the design. Outdoor areas must be shielded.	New construction or development should generally not be undertaken. Construction costs to make the indoor environment acceptable would be prohibitive and the outdoor environment would not be usable.

Source: City of Colton General Plan, Noise Element, Table 5-1.

TABLE 3-1: OPERATIONAL NOISE LEVEL STANDARDS

Jurisdiction	Exterior Noise Level Standards (dBA Leq) ¹
City of Colton	65

¹ Source: City of Colton Municipal Code, Section 18.42.040 (Appendix 3.1).

3.5 CONSTRUCTION NOISE STANDARDS

To analyze noise impacts originating from the construction of the US Auctions Project, noise from construction activities are typically limited to the hours of operation established under a City’s Municipal Code. However, the City of Colton Municipal Code does not identify specific construction noise level standards or permitted hours of construction activity, and therefore, this noise study uses the permitted hours found in the County of San Bernardino Development Code standards for Project construction. The County of San Bernardino Development Code, Section 83.01.080(g) indicates that construction noise levels are considered exempt if they occur between the hours of 7:00 a.m. to 7:00 p.m. Mondays to Fridays, with no activity allowed on Sundays and Federal holidays. (13) Table 3-2 shows the permitted hours by jurisdiction for construction, and the County of San Bernardino Development Code noise performance standards are included in Appendix 3.2.

TABLE 3-2: PERMITTED HOURS OF CONSTRUCTION

Jurisdiction	Permitted Hours of Construction Activity
City of Colton ¹	n/a
County of San Bernardino ²	7:00 a.m. to 7:00 p.m. Monday to Saturday; no activity on Sundays and Federal holidays.

¹ The City of Colton General Plan and Municipal Code do not contain specific construction noise standards.

² Source: County of San Bernardino Development Code, Section 83.01.080 (g) (Appendix 3.2).

While the County establishes limits to the hours during which construction activity may take place, neither the General Plan or Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers, which would allow for a quantified determination of what CEQA constitutes a *substantial temporary or periodic noise increase*. To evaluate whether the Project will generate potentially significant construction noise levels at off-site sensitive receiver locations, a construction-related noise level threshold is adopted from the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual*.

The FTA provides guidelines that can be considered reasonable criteria for construction noise assessment. The FTA considers a daytime exterior construction noise level of 80 dBA Leq and a nighttime level of 70 dBA Leq as a reasonable threshold for noise sensitive residential land use. (9 p. 179)

3.6 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. 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. (9) To analyze vibration impacts originating from the operation and construction of the US Auctions, vibration-generating activities are appropriately evaluated against standards established under a City's Municipal Code, if such standards exist. However, the City of Colton does not identify specific vibration level limits and instead relies on the Federal Transit Administration (FTA) methodology. The FTA *Transit Noise and Vibration Impact Assessment* methodology provides guidelines for the maximum-acceptable vibration criteria for different types of land uses. 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. (9 p. 131)

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4 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at four 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 4-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, May 27th, 2020. Appendix 4.1 includes study area photos.

4.1 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. (16)

4.2 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.* (5) 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.* (9)

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. (9) 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.

4.3 NOISE MEASUREMENT RESULTS

The noise measurements presented below focus on the average or equivalent 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 4-1 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. Appendix 4.2 provides a summary of the existing hourly ambient noise levels described below:

- Location L1 represents the noise levels north of the Project site on Congress Street near the existing single-family residential home at 250 West Congress Street. The noise levels at this location consist primarily of traffic noise from Congress Street and train noise on the AT&SF Railroad. The noise level measurements collected show an overall 24-hour exterior noise level of 62.6 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 56.4 dBA L_{eq} with an average nighttime noise level of 55.6 dBA L_{eq} .
- Location L2 represents the noise levels east of the Project site on Jefferson Lane near existing single-family residential home at 991 South Jefferson Lane. The ambient noise levels at this location account for traffic noise on Jefferson Lane. The noise level measurements collected show an overall 24-hour exterior noise level of 60.3 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 56.7 dBA L_{eq} with an average nighttime noise level of 52.8 dBA L_{eq} .
- Location L3 represents the noise levels south of the Project site on Fogg Street near the existing single-family residential home at 261 Fogg Street. The 24-hour CNEL indicates that the overall exterior noise level is 64.6 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 58.4 dBA L_{eq} with an average nighttime noise level of 57.7 dBA L_{eq} . Background traffic noise from Fogg Street and the AT&SF Railroad represents the primary source of noise at this location.
- Location L4 represents the noise levels near the western boundary of the Project site on South 6th Street near the AT&SF Railroad. The noise level measurements collected show an overall 24-hour exterior noise level of 72.3 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 63.6 dBA L_{eq} with an average nighttime noise level of 65.9 dBA L_{eq} . The noise levels at this location consist primarily of traffic noise from South 6th Street and trains on the AT&SF Railroad.

Table 4-1 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 4.2 provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L_1 , L_2 , L_5 , L_8 , L_{25} , L_{50} , L_{90} , L_{95} , and L_{99} percentile noise levels observed during the daytime and nighttime periods.

The background ambient noise levels in the Project study area are dominated by the transportation-related noise associated with the AT&SF railroad lines and surface streets. This includes the auto and heavy truck activities on study area roadway segments near the noise level measurement locations. The 24-hour existing noise level measurement results are shown on Table 4-1.

TABLE 4-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS

Location ¹	Description	Energy Average Noise Level (dBA Leq) ²		CNEL
		Daytime	Nighttime	
L1	Located north of the Project site on Congress Street near existing single-family residential home at 250 West Congress Street.	56.4	55.6	62.6
L2	Located east of the Project site on Jefferson Lane near existing single-family residential home at 991 South Jefferson Lane.	56.7	52.8	60.3
L3	Located south of the Project site on Fogg Street near existing single-family residential home at 261 Fogg Street.	58.4	57.7	64.6
L4	Located near the western boundary of the Project site on South 6th Street near the AT and SF Railroad.	63.6	65.9	72.3

¹ See Exhibit 4-A for the noise level measurement locations.

² Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 4.2.

"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

EXHIBIT 4-A: NOISE MEASUREMENT LOCATIONS



5 RECEIVER LOCATIONS

To assess the potential for long-term operational and short-term construction noise impacts, the following sensitive receiver locations, as shown on Exhibit 5-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, outpatient 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.

To describe the potential off-site Project noise levels, four receiver locations in the vicinity of the Project site were identified. 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. 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 4.2. 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.

- R1: Location R1 represents the existing noise sensitive residence at 250 West Congress Street, approximately 185 feet north of the Project site. R1 is placed at the private outdoor living area (backyard) 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 991 South Jefferson Lane, approximately 94 feet east of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R2 is placed at the residential building façade. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.
- R3: Location R3 represents the existing noise sensitive residence at 261 Fogg Street, approximately 50 feet south of the Project site. R3 is placed at the private outdoor living area (backyard) facing the Project site. 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 960 South 6th Street, approximately 20 feet north of the Project site. R4 is placed at the private outdoor living area (backyard) facing the Project site. A 24-hour noise measurement near this location, L4, is used to describe the existing ambient noise environment.

EXHIBIT 5-A: RECEIVER LOCATIONS



6 OPERATIONAL NOISE ANALYSIS

This section analyzes the potential stationary-source operational noise impacts at the nearby receiver locations, identified in Section 5, resulting from the operation of the proposed US Auctions Project. Exhibit 6-A identifies the noise source locations used to assess the operational noise levels.

6.1 OPERATIONAL NOISE SOURCES

This operational noise analysis is intended to describe the noise level impacts associated the planned uses at the Project site. Based on our visit to the existing US Auctions facility located at 1687 South Bon View Avenue in the City of Ontario and a review of the Project site plan, the on-site Project-related noise sources are expected to include auction activity, receiving area activity, gate activity, roof-top air conditioning units and trash enclosures.

6.3 REFERENCE NOISE LEVELS

To estimate the Project 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 detailed description of the reference noise level measurements shown on Table 6-1 used to estimate the Project operational noise impacts. It is important to note that the following projected noise levels assume the worst-case noise environment with the auction activity, receiving area activity, gate activity, roof-top air conditioning units and trash enclosures all operating simultaneously. These noise level impacts will likely vary throughout the day.

6.3.1 AUCTION ACTIVITY

To determine the noise level impacts associated with the outdoor auction activity within the project site, short-term reference noise level measurements were collected by Urban Crossroads, Inc. during peak auction activity at the existing US Auctions Ontario facility during a scheduled auction event on Saturday, June 13, 2020. The short-term reference noise level measurements describe the scheduled auction event where approximately 200 – 250 units (trucks, cars, motorcycles, utility company equipment) are auctioned. The auction activity consists of a large pickup truck with camper shell used to house the auctioneer with two external speakers mounted on the side of the truck camper shell approximately 10 feet above the ground. The mobile auction truck moves slowly throughout the site stopping at each lot or item for sale. While stopped by each item for sale, the mobile auction truck announces each lot and the auction begins until the bidding is complete. In addition to the auctioneer, other sources of noise include the bidders, support staff as well as approximately 50 to 65 guests attending the auction in person. The reference noise level measurements indicate that the auction activity generates noise levels of 64.6 dBA L_{eq} at 50 feet. Based on our observations the primary noise source activity is related to the auctioneer calling the auction on the two public address speakers mounted on the mobile auction truck.

The reference noise level measurements were paused during Ontario International Airport aircraft overflight activities and are not included in the reference noise level. While this operational noise analysis describes the continuous auction activity source noise throughout the auction activity area, in practice the mobile auction trucks moves throughout the site and is stationary only for a few minutes within any one location. Reference noise level measurement photos are included in Appendix 6.1.

6.3.2 RECEIVING AREA ACTIVITY

To assess the impacts created by receiving area activity, reference noise levels measurements were taken by Urban Crossroads, Inc. during the scheduled auction event on Saturday, June 13, 2020 at the existing US Auctions Ontario facility. The receiving area noise source activity includes vehicles maneuvering in the parking lot and guests registering for the event. All noise level measurements were stopped during Ontario International Airport aircraft overflights and the background car wash activity (pressure washer, generator, and vacuum). The reference noise level measurements suggest that at 50 feet, the receiving area generates a noise source level of 57.8 dBA L_{eq} .

6.3.3 GATE ACTIVITY

To determine the noise level impacts associated with gate activity within the project site reference noise level measurements were collected by Urban Crossroads, Inc. at an existing Copart Auto Auction facility located at 12167 Arrow Route in the City of Rancho Cucamonga. The reference noise level measurement indicates that the gate activity generates noise levels of 61.6 dBA L_{eq} at 50 feet. The gate activity reference noise level includes the movement of the gate as well as vehicles entering and exiting the gate.

6.3.4 ROOF-TOP AIR CONDITIONING UNITS

To assess the impacts created by the roof-top air conditioning units at the Project buildings, reference noise levels measurements were taken at the Santee Walmart. Located at 170 Town Center Parkway in the City of Santee, the noise level measurements describe a single mechanical roof-top air conditioning unit on the roof of an existing Walmart store. The reference noise level represents a Lennox SCA120 series 10-ton model packaged air conditioning unit. At 5 feet from the roof-top air conditioning unit, the exterior noise levels were measured at 77.2 dBA Leq. Using the uniform reference distance of 50 feet, the noise level is 57.2 dBA Leq. The operating conditions of the reference noise level measurement reflect peak summer cooling requirements with measured temperatures approaching 96 degrees Fahrenheit (°F) with average daytime temperatures of 82°F. The noise attenuation provided by a parapet wall is not reflected in this reference noise level measurement.

6.3.5 TRASH ENCLOSURE ACTIVITY

To describe the noise levels associated with a trash enclosure, 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, trash dropping into the metal dumpster. The reference noise levels describe trash enclosure noise activities when trash is dropped into an empty metal dumpster. The measured reference noise level at the uniform 50-foot reference distance is 56.8 dBA L_{eq} for the trash enclosure activity. Typical trash enclosure activities are estimated to occur for 5 minutes per hour.

EXHIBIT 6-A: OPERATIONAL NOISE SOURCE LOCATIONS

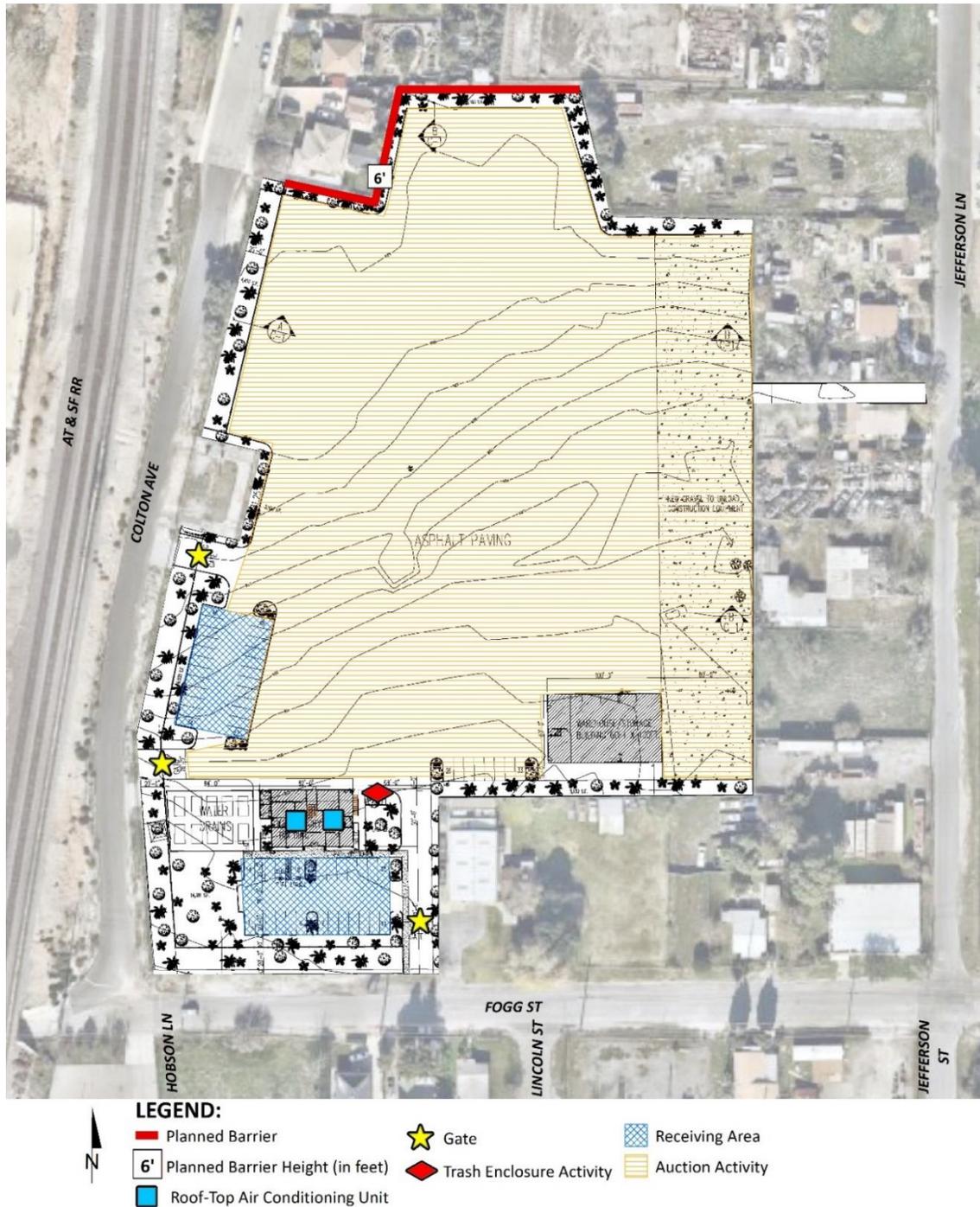


TABLE 6-1: REFERENCE NOISE LEVEL MEASUREMENTS

Noise Source	Duration (hh:mm:ss)	Ref. Distance (Feet)	Noise Source Height (Feet)	Min./Hour ⁵	Reference Noise Level (dBA L _{eq})	
					@ Ref. Dist.	@ 50 Feet
Auction Activity ¹	00:09:00	25'	10'	60	70.6	64.6
Receiving Area Activity ¹	00:19:00	25'	5'	60	63.8	57.8
Gate Activity ²	00:00:18	20'	5'	60	69.6	61.6
Air Conditioning Unit ³	96:00:00	5'	5'	39	77.2	57.2
Trash Enclosure Activity ⁴	00:00:32	8'	5'	5	72.7	56.8

¹ Reference noise level measurements were collected by Urban Crossroads, Inc. at the US Auctions Ontario facility.

² Reference noise level measurements were collected by Urban Crossroads, Inc. at the Copart Auto Auction facility.

³ As measured by Urban Crossroads, Inc. at the Santee Walmart located at 170 Town Center Parkway.

⁴ As measured by Urban Crossroads, Inc. at a commercial and office park trash enclosure in the City of Costa Mesa.

⁵ Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site.

6.3 CADNA NOISE PREDICTION MODEL

To fully describe the exterior 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 protocol, CadnaA will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, topography, 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 protocol, the CadnaA noise prediction model relies on the reference sound power level (PWL) 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 (PWL) 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. Sound power levels are calculated using the CadnaA noise model at the reference distance to the noise source and vary due to size differences between point and area noise sources. The 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. Hard site conditions are used in the operational noise analysis which result in noise levels that attenuate (or decrease) at a rate of 6 dBA for each doubling of distance from a point source. A default ground attenuation factor of 0.0 was used in the CadnaA noise analysis to account for hard site conditions. Appendix 6.2 includes the detailed noise model used to estimate the Project operational noise levels presented in this section.

6.4 PROJECT OPERATIONAL NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include auction activity, receiving area activity, gate activity, roof-top air conditioning units and trash enclosures, Urban Crossroads, Inc. calculated the operational source 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. Tables 6-2 shows the Project 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 54.2 to 63.9 dBA L_{eq} .

TABLE 6-2: DAYTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source ¹	Operational Noise Levels by Receiver Location (dBA Leq)			
	R1	R2	R3	R4
Auction Activity	53.9	61.8	62.2	61.3
Receiving Area Activity	36.7	43.3	52.9	40.0
Gate Activity	40.3	45.2	56.5	43.8
Air Conditioning Unit	30.7	36.4	45.9	33.2
Trash Enclosure Activity	30.9	38.8	49.6	33.8
Total (All Noise Sources)	54.2	62.0	63.9	61.4

¹ See Exhibit 6-A for the noise source locations. CadnaA noise model calculations are included in Appendix 6.2.

6.5 PROJECT OPERATIONAL NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level thresholds based on the City of Colton exterior noise level standards at nearby noise-sensitive receiver locations. Table 6-3 shows the operational noise levels associated with US Auctions Project will satisfy the City of Colton 65 dBA L_{eq} daytime exterior noise level standards at all nearby receiver locations. Therefore, the operational noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations.

TABLE 6-3: OPERATIONAL NOISE LEVEL COMPLIANCE

Receiver Location ¹	Project Operational Noise Levels (dBA Leq) ²	Noise Level Standards (dBA Leq) ³	Threshold Exceeded? ⁴
R1	54.2	65	No
R2	62.0	65	No
R3	63.9	65	No
R4	61.4	65	No

¹ See Exhibit 6-A for the noise source locations.

² Proposed Project operational noise levels as shown on Tables 6-2.

³ City of Colton exterior noise level standards for residential land use, as shown on Table 3-1.

⁴ Do the estimated Project operational noise source activities exceed the noise level standards?

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7 CONSTRUCTION ANALYSIS

This section analyzes potential impacts resulting from the short-term construction noise and vibration activities associated with the development of the Project. Exhibit 7-A shows the construction activity boundaries in relation to the nearby sensitive receiver locations.

7.1 CONSTRUCTION NOISE LEVELS

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that when combined can reach high levels. The number and mix of construction equipment is expected to occur in the following stages:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

This construction noise analysis was prepared using reference noise level measurements taken by Urban Crossroads, Inc. to describe the typical construction activity noise levels for each stage of Project construction. The construction reference noise level measurements represent a list of typical construction activity noise levels.

7.2 CONSTRUCTION REFERENCE NOISE LEVELS

To describe the Project construction noise levels, measurements were collected for similar activities at several construction sites. Table 7-1 provides a summary of the construction reference noise level measurements. Since the reference noise levels were collected at varying distances of 30 feet and 50 feet, all construction noise level measurements presented on Table 7-1 have been adjusted for consistency to describe a uniform reference distance of 50 feet.

7.3 TYPICAL 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 nearby sensitive receiver locations were completed. To assess the worst-case construction 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 7-2, the construction noise levels are expected to range from 68.8 to 76.5 dBA L_{eq} at the nearby receiver locations. Appendix 7.1 includes the detailed CadnaA construction noise model inputs.

EXHIBIT 7-A: TYPICAL CONSTRUCTION NOISE SOURCE LOCATIONS

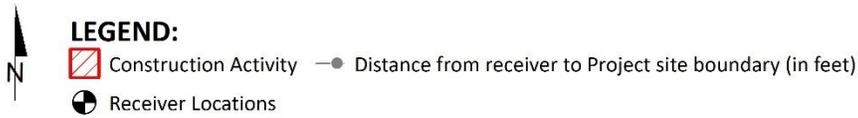


TABLE 7-1: TYPICAL CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})	Highest Reference Noise Level (dBA L _{eq})
Site Preparation	Scraper, Water Truck, & Dozer Activity	75.3	75.3
	Backhoe	64.2	
	Water Truck Pass-By & Backup Alarm	71.9	
Grading	Rough Grading Activities	73.5	73.5
	Water Truck Pass-By & Backup Alarm	71.9	
	Construction Vehicle Maintenance Activities	67.5	
Building Construction	Foundation Trenching	68.2	71.6
	Framing	62.3	
	Concrete Mixer Backup Alarms & Air Brakes	71.6	
Paving	Concrete Mixer Truck Movements	71.2	71.2
	Concrete Paver Activities	65.6	
	Concrete Mixer Pour & Paving Activities	65.9	
Architectural Coating	Air Compressors	65.2	65.2
	Generator	64.9	
	Crane	62.3	

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.

TABLE 7-2: TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location ¹	Construction Noise Levels (dBA L _{eq})					
	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels ²
R1	68.8	67.0	65.1	64.7	58.7	68.8
R2	74.3	72.5	70.6	70.2	64.2	74.3
R3	75.1	73.3	71.4	71.0	65.0	75.1
R4	76.5	74.7	72.8	72.4	66.4	76.5

¹ Noise receiver locations are shown on Exhibit 7-A.

² 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 7.1.

7.4 CONSTRUCTION NOISE LEVEL COMPLIANCE

To evaluate whether the Project will generate potentially significant short-term noise levels at nearby receiver locations, a construction-related noise level threshold of 80 dBA L_{eq} is used as a reasonable threshold to assess construction noise level impacts. The construction noise analysis shows that the nearby receiver locations will satisfy the 80 dBA L_{eq} significance threshold during Project construction activities as shown on Table 7-3. Therefore, the noise impacts due to Project construction are considered *less than significant* at all receiver locations.

TABLE 7-3: TYPICAL CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location ¹	Construction Noise Levels (dBA L _{eq})		
	Highest Construction Noise Levels ²	Threshold ³	Threshold Exceeded? ⁴
R1	68.8	80	No
R2	74.3	80	No
R3	75.1	80	No
R4	76.5	80	No

¹ Noise receiver locations are shown on Exhibit 7-A.

² Highest construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations as shown on Table 7-2.

³ FTA Transit Noise and Vibration Impact Assessment Manual construction noise level thresholds.

⁴ Do the estimated Project construction noise levels exceed the construction noise level threshold?

7.2 CONSTRUCTION VIBRATION

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. Ground-borne vibration levels resulting from construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration (FTA) (9). While vehicular traffic is rarely perceptible, construction has the potential to result in varying degrees of temporary ground vibration, depending on the specific construction activities and equipment used. Ground vibration levels associated with various types of construction equipment are summarized on Table 7-4. 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 7-4: 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

Using the vibration source level of construction equipment provided on Table 7-4 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project vibration impacts. Table 7-5 presents the expected Project related vibration levels at

the nearby receiver locations. The construction vibration levels account for the following project design features that will be included as a condition of approval.

- “Loaded trucks and all heavy mobile equipment greater than 80,000 pounds, and jack hammers are prohibited from use during Project construction activities within 60 feet of habitable residential structures. Instead, small rubber-tired or alternative equipment, as well as soil compaction equipment such as soil compaction stompers that do not produce high levels of vibration can be used within 60 feet of habitable residential structures during Project construction to reduce vibration effects on the structures and their occupants. The Project’s construction contractors shall be responsible for enforcing this requirement, which shall be specified in bid documents issued to prospective construction contractors. The Project construction contractors shall permit inspections by City of Colton to verify compliance with this measure.”

At distances ranging from 60 to 185 feet from Project construction activities, construction vibration levels are estimated to range from 60.9 to 75.6 VdB and will remain below the FTA Transit Noise and Vibration Impact Assessment maximum acceptable vibration criteria for daytime residential use of 78 VdB at all receiver locations. Therefore, the Project-related vibration impacts are considered *less than significant* during the construction activities at the Project site.

TABLE 7-5: PROJECT CONSTRUCTION VIBRATION LEVELS

Receiver Location ¹	Distance to Construction Activity (Feet)	Receiver Vibration Levels (VdB) ²					Threshold VdB ³	Threshold Exceeded? ⁴
		Small Bulldozer (<80k lbs)	Jack-hammer	Loaded Trucks	Large Bulldozer (>80k lbs)	Highest Vibration Levels		
R1	185'	31.9	52.9	59.9	60.9	60.9	78	No
R2	94'	40.7	61.7	68.7	69.7	69.7	78	No
R3	60'	46.6	67.6	74.6	75.6	75.6	78	No
R4	60'	46.6	67.6	74.6	75.6	75.6	78	No

¹ Noise receiver locations are shown on Exhibit 5-A.

² Based on the Vibration Source Levels of Construction Equipment included on Table 7-4.

³ Source: FTA Transit Noise and Vibration Impact Assessment maximum acceptable vibration criteria for daytime residential use.

⁴ Does the vibration level exceed the maximum acceptable vibration threshold?

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.

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8 REFERENCES

1. **State of California.** *California Environmental Quality Act, Environmental Checklist Form Appendix G.* 2019.
2. **Ganddini Group.** *U.S. Auctions Project Focused Traffic Analysis.* May 2020.
3. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch.** *Highway Traffic Noise Analysis and Abatement Policy and Guidance.* December 2011.
4. **Auctions, U.S.** [Online] 2018. <https://www.usauctions.net/>.
5. **California Department of Transportation Environmental Program.** *Technical Noise Supplement - A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA : s.n., September 2013.
6. **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.* March 1974. EPA/ONAC 550/9/74-004.
7. **U.S. Department of Transportation, Federal Highway Administration.** *Highway Traffic Noise in the United States, Problem and Response.* April 2000. p. 3.
8. **U.S. Environmental Protection Agency Office of Noise Abatement and Control.** *Noise Effects Handbook-A Desk Reference to Health and Welfare Effects of Noise.* October 1979 (revised July 1981). EPA 550/9/82/106.
9. **U.S. Department of Transportation, Federal Transit Administration.** *Transit Noise and Vibration Impact Assessment.* September 2018.
10. **Office of Planning and Research.** *State of California General Plan Guidelines.* October 2017.
11. **State of California.** *California Green Building Standards Code.* 2016.
12. **City of Colton.** *General Plan Noise Element.* 1987.
13. **County of San Bernardino.** *Development Code, Performance Standards, Section 83.01.080 Noise.*
14. **American National Standards Institute (ANSI).** *Specification for Sound Level Meters ANSI S1.4-2014/IEC 61672-1:2013.*

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9 CERTIFICATIONS

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed US Auctions 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) 336-5979.

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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 Orange • February, 2011
FHWA-NHI-142051 Highway Traffic Noise Certificate of Training • February, 2013

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APPENDIX 3.1:
CITY OF COLTON MUNICIPAL CODE

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Chapter 18.42 - PERFORMANCE STANDARDS

Sections:

18.42.010 - Purpose.

The purpose of this chapter is to protect Properties in all Residential Zones and the health and safety of Persons from environmental Nuisances and hazards and to provide a pleasing environment in keeping with the nature of the residential character. The Performance Standards set maximum tolerability limits on adverse environmental effects created by any Use or Development of land.

(Ord. 0-14-92 § 1 (Exh. A) (part), 1992)

18.42.020 - Fire and explosion hazards.

All activities involving, and all storage of, flammable and explosive Materials Shall be provided with adequate safety devices against hazards of fire and explosion by adequate firefighting and fire-suppression equipment and devices standard in Industry. Burning of waste Material in open fire is prohibited at any point.

(Ord. 0-14-92 § 1 (Exh. A) (part), 1992)

18.42.030 - Electrical Interference.

No operation or activity Shall transmit, generate or otherwise cause any electrical, magnetic or electromagnetic radiation disturbance that affects the operation of any Use, equipment or process employed by any Use beyond the boundary of the site.

(Ord. 0-14-92 § 1 (Exh. A) (part), 1992)

18.42.040 - Noise.

The maximum sound level radiated by any Use of Facility, when measured at the boundary line of the Property on which the sound is generated, Shall not be obnoxious by reason of its intensity, pitch or dynamic characteristics as determined by the City, and Shall not exceed 65 dBA.

(Ord. 0-14-92 § 1 (Exh. A) (part), 1992)

18.42.050 - Vibration.

All activities Shall be operated so as not to generate ground vibration by equipment other than motor Vehicles, trains or by temporary construction or Demolition, which is perceptible without instruments by the average Person at or beyond any Lot Line of the Lot containing the activities.

(Ord. 0-14-92 § 1 (Exh. A) (part), 1992)

18.42.060 - Smoke.

No operation or activity is Permitted to have operations which emit excessive Smoke, fumes or dust or which exceed the requirements, or levels, as specified by the South Coast Air Quality Management District (SCAQMD).

(Ord. 0-14-92 § 1 (Exh. A) (part), 1992)

18.42.070 - Odors.

All activities Shall be operated so as not to emit Matter causing unpleasant odors which are perceptible by the average Person at or beyond any Lot Line of the Lot containing the activities.

(Ord. 0-14-92 § 1 (Exh. A) (part), 1992)

18.42.080 - Air quality.

No operation or activity Shall cause the emission of any Smoke, fly ash, dust, fumes, vapors, Gases or other forms of air Pollution which can cause damage to health, animals, vegetation, or other forms of Property, or which can cause excessive soiling on any other Lot. No emission Shall be Permitted which exceeds the requirements of the SCAQMD or the requirements of any air quality plan adopted by the City.

(Ord. 0-14-92 § 1 (Exh. A) (part), 1992)

18.42.090 - Light.

Lighting where provided to illuminate Private Property Shall be so arranged as to reflect away from adjoining Property or any public way and to be arranged so as not to cause a Nuisance either to Highway traffic or to the living environment.

(Ord. 0-14-92 § 1 (Exh. A) (part), 1992)

18.42.100 - Glare.

No direct or reflected Glare, whether produced by Floodlight, high temperature processes such as combustion or welding, or other processes, so as to be visible from the boundary line of Property on which the same is produced, Shall be Permitted. Sky-reflected Glare from Buildings or portions thereof Shall be so controlled by such reasonable means as are practical to the end art), 1992)

18.42.110 - Fissionable or radioactive Materials.

No operation or activities Shall be Permitted which result at any time in the release or emission of any fissionable or radioactive Materials into the atmosphere, the ground or Sewage systems.

(Ord. 0-14-92 § 1 (Exh. A) (part), 1992)

18.42.120 - Liquid or solid waste.

No operation or action Shall Discharge at any point into any Public Street, Public Sewer, private Sewage disposal system, stream, body of water or into the ground, of any Materials of such nature or temperature as can contaminate any water supply, interfere with bacterial processes in Sewage treatment, or otherwise cause the emission of dangerous or offensive elements, except in accord with standards Approved by the California Department of Public Health or such other governmental agency as Shall have jurisdiction.

(Ord. 0-14-92 § 1 (Exh. A) (part), 1992)

18.42.130 - Heat or cold.

No operation or activity Shall emit heat or cold which would cause a temperature increase or decrease on any adjacent Property in excess of ten degrees Fahrenheit, whether the change is in the air, on the ground, or in any Structure.

(Ord. 0-14-92 § 1 (Exh. A) (part), 1992)

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APPENDIX 3.2:
COUNTY OF SAN BERNARDINO DEVELOPMENT CODE

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83.01.080 Noise

This Section establishes standards concerning acceptable noise levels for both noise-sensitive land uses and for noise-generating land uses.

(a) Noise measurement. Noise shall be measured:

- (1) At the property line of the nearest site that is occupied by, and/or zoned or designated to allow the development of noise-sensitive land uses;
- (2) With a sound level meter that meets the standards of the American National Standards Institute (ANSI Section SI4 1979, Type 1 or Type 2);
- (3) Using the "A" weighted sound pressure level scale in decibels (ref. pressure = 20 micronewtons per meter squared). The unit of measure shall be designated as dB(A).

(b) Noise impacted areas. Areas within the County shall be designated as “noise-impacted” if exposed to existing or projected future exterior noise levels from mobile or stationary sources exceeding the standards listed in Subsection (d) (Noise standards for stationary noise sources) and Subsection (e) (Noise standards for adjacent mobile noise sources), below. New development of residential or other noise-sensitive land uses shall not be allowed in noise-impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels to these standards. Noise-sensitive land uses shall include residential uses, schools, hospitals, nursing homes, religious institutions, libraries, and similar uses.

(c) Noise standards for stationary noise sources.

- (1) **Noise standards.** Table 83-2 (Noise Standards for Stationary Noise Sources) describes the noise standard for emanations from a stationary noise source, as it affects adjacent properties:

Table 83-2 Noise Standards for Stationary Noise Sources		
Affected Land Uses (Receiving Noise)	7 am-10 pm Leq	10 pm-7 am Leq
Residential	55 dB(A)	45 dB(A)
Professional Services	55 dB(A)	55 dB(A)
Other Commercial	60 dB(A)	60 dB(A)
Industrial	70 dB(A)	70 dB(A)

Leq = (Equivalent Energy Level). The sound level corresponding to a steady-state sound level containing the same total energy as a time-varying signal over a given sample period, typically 1, 8 or 24 hours.

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

Ldn = (Day-Night Noise Level). The average equivalent A-weighted sound level during a 24-hour day obtained by adding 10 decibels to the hourly noise levels measured during the night (from 10 pm to 7 am). In this way Ldn takes into account the lower tolerance of people for noise during nighttime periods.

- (2) **Noise limit categories.** No person shall operate or cause to be operated a source of sound at a location or allow the creation of noise on property owned, leased, occupied, or otherwise controlled by the person, which causes the noise level, when measured on another property, either incorporated or unincorporated, to exceed any one of the following:
- (A) The noise standard for the receiving land use as specified in Subsection B (Noise-impacted areas), above, for a cumulative period of more than 30 minutes in any hour.
 - (B) The noise standard plus 5 dB(A) for a cumulative period of more than 15 minutes in any hour.
 - (C) The noise standard plus 10 dB(A) for a cumulative period of more than five minutes in any hour.
 - (D) The noise standard plus 15 dB(A) for a cumulative period of more than one minute in any hour.
 - (E) The noise standard plus 20 dB(A) for any period of time.
- (c) **Noise standards for adjacent mobile noise sources.** Noise from mobile sources may affect adjacent properties adversely. When it does, the noise shall be mitigated for any new development to a level that shall not exceed the standards described in the following Table 83-3 (Noise Standards for Adjacent Mobile Noise Sources).

Table 83-3 Noise Standards for Adjacent Mobile Noise Sources			
Land Use		Ldn (or CNEL) dB(A)	
Categories	Uses	Interior ⁽¹⁾	Exterior ⁽²⁾
Residential	Single and multi-family, duplex, mobile homes	45	60 ⁽³⁾
Commercial	Hotel, motel, transient housing	45	60 ⁽³⁾
	Commercial retail, bank, restaurant	50	N/A
	Office building, research and development, professional offices	45	65
	Amphitheater, concert hall, auditorium, movie theater	45	N/A
Institutional/Public	Hospital, nursing home, school classroom, religious institution, library	45	65
Open Space	Park	N/A	65
Notes: (1) The indoor environment shall exclude bathrooms, kitchens, toilets, closets and corridors. (2) The outdoor environment shall be limited to: <ul style="list-style-type: none"> • Hospital/office building patios • Hotel and motel recreation areas • Mobile home parks • Multi-family private patios or balconies • Park picnic areas • Private yard of single-family dwellings • School playgrounds (3) An exterior noise level of up to 65 dB(A) (or CNEL) shall be allowed provided exterior noise levels have been substantially mitigated through a reasonable application of the best available noise reduction technology, and interior noise exposure does not exceed 45 dB(A) (or CNEL) with windows and doors closed. Requiring that windows and doors remain closed to achieve an acceptable interior noise level shall necessitate the use of air conditioning or mechanical ventilation.			
CNEL = (Community Noise Equivalent Level). The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7 p.m. to 10 p.m. and 10 decibels to sound levels in the night from 10 p.m. to 7 a.m.			

- (e) **Increases in allowable noise levels.** If the measured ambient level exceeds any of the first four noise limit categories in Subsection (d)(2), above, the allowable noise exposure standard shall be increased to reflect the ambient noise level. If the ambient noise level exceeds the fifth noise limit category in Subsection (d)(2), above, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level.
- (f) **Reductions in allowable noise levels.** If the alleged offense consists entirely of impact noise or simple tone noise, each of the noise levels in Table 83-2 (Noise Standards for Stationary Noise Sources) shall be reduced by 5 dB(A).
- (g) **Exempt noise.** The following sources of noise shall be exempt from the regulations of this Section:

- (1) Motor vehicles not under the control of the commercial or industrial use.

- (2) Emergency equipment, vehicles, and devices.
- (3) Temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays.
- (h) **Noise standards for other structures.** All other structures shall be sound attenuated against the combined input of all present and projected exterior noise to not exceed the criteria.

Typical Uses	12-Hour Equivalent Sound Level (Interior) in dBA Ldn
Educational, institutions, libraries, meeting facilities, etc.	45
General office, reception, etc.	50
Retail stores, restaurants, etc.	55
Other areas for manufacturing, assembly, testing, warehousing, etc.	65

In addition, the average of the maximum levels on the loudest of intrusive sounds occurring during a 24-hour period shall not exceed 65 dBA interior.

Adopted Ordinance 4011 (2007); Amended Ordinance 4067 (2009); Amended Ordinance 4245 (2014)

83.01.090 Vibration

- (a) **Vibration standard.** No ground vibration shall be allowed that can be felt without the aid of instruments at or beyond the lot line, nor shall any vibration be allowed which produces a particle velocity greater than or equal to two-tenths (0.2) inches per second measured at or beyond the lot line.
- (b) **Vibration measurement.** Vibration velocity shall be measured with a seismograph or other instrument capable of measuring and recording displacement and frequency, particle velocity, or acceleration. Readings shall be made at points of maximum vibration along any lot line next to a parcel within a residential, commercial and industrial land use zoning district.
- (c) **Exempt vibrations.** The following sources of vibration shall be exempt from the regulations of this Section.
- (1) Motor vehicles not under the control of the subject use.

- (2) Temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays.

Adopted Ordinance 4011 (2007); Amended Ordinance 4067 (2009)

83.01.100 Waste Disposal

- (a) **Liquid waste disposal and runoff control.** No liquids of any kind shall be discharged into a public or private sewage or drainage system, watercourse, body of water, or into the ground, except in compliance with applicable regulations of the County Code, Title 23 (Waters) of the California Code of Regulations, the California Water Code, and related Federal regulations.
- (b) **Hazardous waste.** Refer to Chapter 84.11 (Hazardous Waste Facilities) for regulations relative to hazardous waste facilities.
- (c) **Solid waste disposal.** Refer to Chapter 84.24 (Solid Waste/Recyclable Materials Storage) for regulations relative to solid waste disposal.

Adopted Ordinance 4011 (2007); Amended Ordinance 4067 (2009)

83.01.110 External Commercial or Industrial Activity on Private Property.

There shall be no unpermitted external commercial or industrial activity on properties subject to the County's jurisdiction between the hours of 9 p.m. and 7 a.m. that shall at any time impair the quiet enjoyment of neighboring property owners or residents or in any manner disturb the public peace.

Adopted Ordinance 4245 (2014)

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APPENDIX 4.1:
STUDY AREA PHOTOS

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JN:12882 Study Area Photos



L1_E

34, 3' 21.01000", 117, 19' 38.83000"



L1_N

34, 3' 21.01000", 117, 19' 38.83000"



L1_S

34, 3' 21.01000", 117, 19' 38.83000"



L1_W

34, 3' 21.01000", 117, 19' 38.81000"



L2_E

34, 3' 14.44000", 117, 19' 35.89000"



L2_N

34, 3' 17.77000", 117, 19' 36.44000"

JN:12882 Study Area Photos



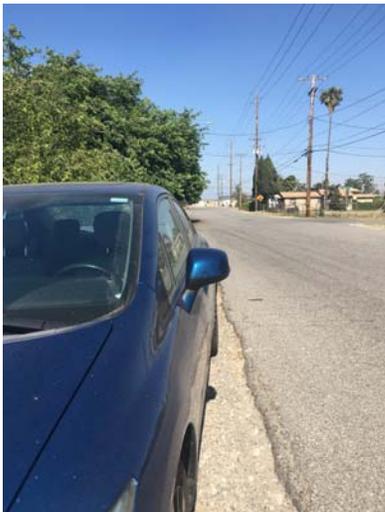
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L2_W

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L3_E

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L3_N

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L3_S

34, 3' 10.12000", 117, 19' 41.800000"



L3_W

34, 3' 10.19000", 117, 19' 41.770000"

JN:12882 Study Area Photos



L4_E

34, 3' 16.090000", 117, 19' 43.640000"



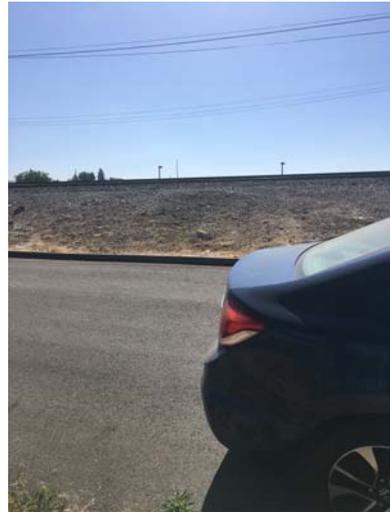
L4_N

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L4_S

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L4_W

34, 3' 16.000000", 117, 19' 43.780000"

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APPENDIX 4.2:
NOISE LEVEL MEASUREMENT WORKSHEETS

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24-Hour Noise Level Measurement Summary

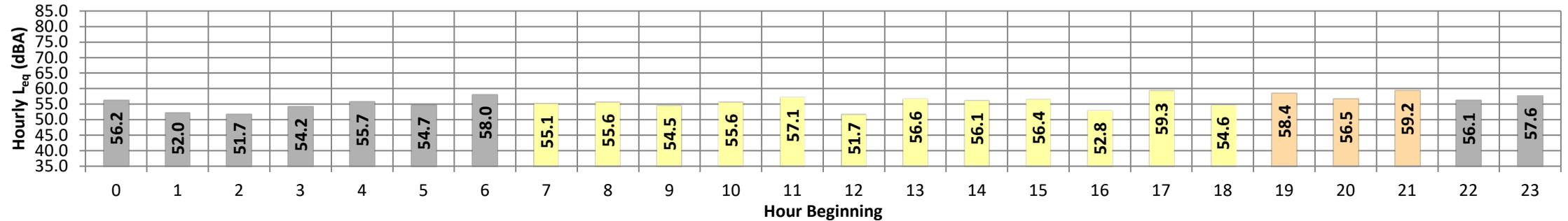
Date: Wednesday, May 27, 2020
Project: US Auctions

Location: L1 - Located north of the Project site on Congress Street near existing single-family residential home at 250 West Congress Street.

Meter: Piccolo II

JN: 12882
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
Night	0	56.2	63.7	49.4	63.4	63.1	62.3	61.3	56.5	53.2	50.3	49.9	49.6	56.2	10.0	66.2
	1	52.0	59.5	47.6	59.3	58.8	57.1	55.9	52.1	50.0	48.3	48.0	47.7	52.0	10.0	62.0
	2	51.7	57.9	46.3	57.7	57.4	56.1	55.4	52.7	50.2	47.3	47.0	46.5	51.7	10.0	61.7
	3	54.2	60.9	48.7	60.6	60.2	59.4	58.7	54.9	52.0	49.3	49.1	48.9	54.2	10.0	64.2
	4	55.7	61.2	52.2	60.9	60.5	59.3	58.5	56.4	54.6	52.9	52.6	52.3	55.7	10.0	65.7
	5	54.7	63.9	49.8	63.6	62.8	60.0	58.7	54.3	51.7	50.2	50.1	49.9	54.7	10.0	64.7
Day	6	58.0	67.1	50.6	66.7	66.0	63.8	62.7	58.3	54.1	51.1	50.9	50.7	58.0	10.0	68.0
	7	55.1	61.0	51.5	60.5	60.1	59.0	58.2	55.8	54.0	52.1	51.9	51.7	55.1	0.0	55.1
	8	55.6	65.6	50.2	65.2	64.7	62.4	59.9	53.9	52.0	50.7	50.5	50.3	55.6	0.0	55.6
	9	54.5	64.4	49.6	63.5	62.7	60.6	59.1	53.1	51.2	50.1	49.9	49.7	54.5	0.0	54.5
	10	55.6	64.3	50.4	63.8	63.1	61.1	59.7	55.3	52.9	51.2	50.8	50.5	55.6	0.0	55.6
	11	57.1	64.9	51.8	64.5	64.0	62.1	61.2	57.3	55.0	52.6	52.3	52.0	57.1	0.0	57.1
	12	51.7	61.0	47.9	60.7	59.9	57.2	55.3	50.4	49.3	48.4	48.2	48.0	51.7	0.0	51.7
	13	56.6	67.5	51.8	66.4	65.0	62.2	60.0	55.6	54.0	52.2	52.1	51.8	56.6	0.0	56.6
	14	56.1	62.7	53.9	62.2	61.5	59.6	58.4	56.2	55.0	54.2	54.1	53.9	56.1	0.0	56.1
	15	56.4	64.1	49.9	63.8	63.2	61.4	60.4	57.2	54.7	50.9	50.5	50.1	56.4	0.0	56.4
	16	52.8	60.8	47.8	60.4	59.7	57.4	56.2	53.5	50.8	48.6	48.3	47.9	52.8	0.0	52.8
	17	59.3	65.5	55.4	65.2	64.7	63.4	62.6	60.2	57.6	56.1	55.9	55.5	59.3	0.0	59.3
	18	54.6	62.9	49.2	62.5	61.7	59.6	58.6	55.0	52.3	50.0	49.7	49.4	54.6	0.0	54.6
Evening	19	58.4	68.1	48.9	67.4	66.5	63.8	62.5	59.3	55.3	50.2	49.6	49.1	58.4	5.0	63.4
	20	56.5	63.4	50.2	63.0	62.5	61.1	60.0	57.6	54.9	51.8	51.4	50.6	56.5	5.0	61.5
	21	59.2	66.8	51.9	66.5	66.2	64.9	63.5	60.2	56.4	53.0	52.5	52.1	59.2	5.0	64.2
Night	22	56.1	64.1	49.9	63.6	63.1	61.2	60.1	56.5	53.5	50.8	50.5	50.1	56.1	10.0	66.1
	23	57.6	62.5	54.5	62.2	61.9	61.0	60.2	58.2	56.7	55.2	54.9	54.6	57.6	10.0	67.6
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq} (dBA)		
Day	Min	51.7	60.8	47.8	60.4	59.7	57.2	55.3	50.4	49.3	48.4	48.2	47.9	24-Hour	Daytime	Nighttime
	Max	59.3	67.5	55.4	66.4	65.0	63.4	62.6	60.2	57.6	56.1	55.9	55.5			
Energy Average		55.9	Average:		63.2	62.5	60.5	59.1	55.3	53.2	51.4	51.2	50.9	24-Hour CNEL (dBA)	62.6	
Evening	Min	56.5	63.4	48.9	63.0	62.5	61.1	60.0	57.6	54.9	50.2	49.6	49.1			
	Max	59.2	68.1	51.9	67.4	66.5	64.9	63.5	60.2	56.4	53.0	52.5	52.1			
Energy Average		58.2	Average:		65.6	65.1	63.3	62.0	59.0	55.5	51.7	51.1	50.6			
Night	Min	51.7	57.9	46.3	57.7	57.4	56.1	55.4	52.1	50.0	47.3	47.0	46.5			
	Max	58.0	67.1	54.5	66.7	66.0	63.8	62.7	58.3	56.7	55.2	54.9	54.6			
Energy Average		55.6	Average:		62.0	61.5	60.0	59.1	55.5	52.9	50.6	50.3	50.0			

24-Hour Noise Level Measurement Summary

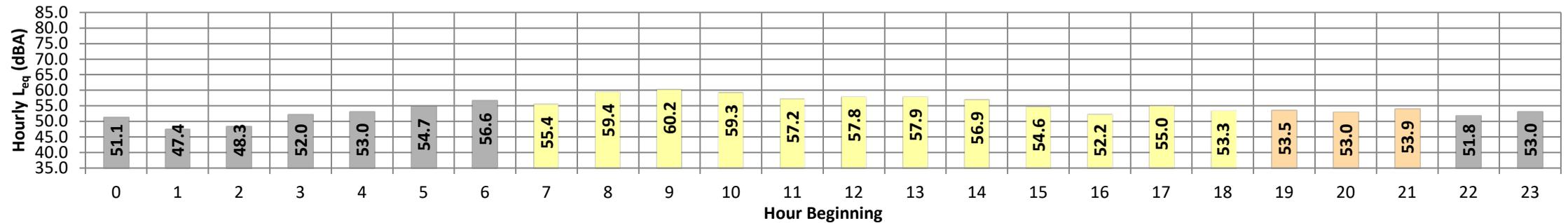
Date: Wednesday, May 27, 2020
Project: US Auctions

Location: L2 - Located east of the Project site on Jefferson Lane near existing single-family residential home at 991 South Jefferson Lane.

Meter: Piccolo II

JN: 12882
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}		
Night	0	51.1	55.1	47.0	54.9	54.7	54.0	53.7	52.3	50.8	47.9	47.5	47.1	51.1	10.0	61.1		
	1	47.4	52.4	44.7	52.2	51.8	50.8	49.9	47.9	46.6	45.0	44.9	44.8	47.4	10.0	57.4		
	2	48.3	52.8	44.8	52.6	52.5	51.8	51.1	49.2	47.4	45.6	45.2	44.9	48.3	10.0	58.3		
	3	52.0	56.5	48.6	56.4	56.1	55.6	55.2	52.9	50.9	49.0	48.8	48.7	52.0	10.0	62.0		
	4	53.0	58.1	50.8	57.9	57.5	56.0	55.2	53.4	52.1	51.2	51.1	50.9	53.0	10.0	63.0		
	5	54.7	60.6	50.2	60.2	59.8	58.4	57.3	55.4	53.8	51.6	51.1	50.5	54.7	10.0	64.7		
Day	6	56.6	64.3	48.7	64.0	63.5	62.5	61.5	57.7	53.0	49.9	49.5	48.9	56.6	10.0	66.6		
	7	55.4	63.1	49.7	62.7	62.0	60.0	58.8	55.9	54.0	51.0	50.6	50.0	55.4	0.0	55.4		
	8	59.4	67.1	49.4	66.5	65.7	64.3	62.9	60.3	58.1	53.3	51.6	50.0	59.4	0.0	59.4		
	9	60.2	68.0	52.9	67.6	67.1	64.7	63.0	60.9	58.9	55.1	54.2	53.3	60.2	0.0	60.2		
	10	59.3	67.7	52.2	67.1	66.5	64.7	63.1	59.2	57.4	54.3	53.5	52.6	59.3	0.0	59.3		
	11	57.2	65.3	52.6	64.8	64.0	62.1	60.6	57.2	55.6	53.3	53.0	52.7	57.2	0.0	57.2		
	12	57.8	64.7	51.5	64.2	63.5	62.1	60.7	58.7	57.0	52.9	52.3	51.6	57.8	0.0	57.8		
	13	57.9	66.9	50.6	66.6	66.1	64.1	62.3	57.0	55.3	52.4	51.8	51.0	57.9	0.0	57.9		
	14	56.9	66.5	49.1	66.0	65.3	62.5	60.4	56.8	54.6	51.5	50.7	49.5	56.9	0.0	56.9		
	15	54.6	63.4	49.0	62.9	62.3	60.0	58.2	54.4	52.6	49.9	49.6	49.2	54.6	0.0	54.6		
	16	52.2	58.1	47.7	57.4	57.0	55.8	54.9	53.1	51.4	48.8	48.3	47.8	52.2	0.0	52.2		
	17	55.0	62.0	49.5	61.5	61.0	59.5	58.4	55.5	53.4	50.7	50.3	49.7	55.0	0.0	55.0		
18	53.3	58.2	49.2	57.8	57.4	56.6	56.0	54.0	52.6	50.7	50.0	49.4	53.3	0.0	53.3			
Evening	19	53.5	60.5	45.7	60.1	59.7	58.7	58.1	54.9	50.4	47.1	46.6	45.9	53.5	5.0	58.5		
	20	53.0	60.4	46.1	59.9	59.4	58.0	57.1	53.9	50.5	47.2	46.7	46.3	53.0	5.0	58.0		
	21	53.9	59.1	48.6	58.8	58.5	57.9	57.4	55.2	52.4	49.5	49.1	48.8	53.9	5.0	58.9		
Night	22	51.8	58.0	46.9	57.4	57.0	56.1	55.4	52.7	50.6	47.7	47.4	47.0	51.8	10.0	61.8		
	23	53.0	56.1	50.1	55.9	55.7	55.2	54.9	53.9	52.8	50.8	50.5	50.2	53.0	10.0	63.0		
Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq} (dBA)				
Day	Min	52.2	58.1	47.7	57.4	57.0	55.8	54.9	53.1	51.4	48.8	48.3	47.8	24-Hour	Daytime	Nighttime		
	Max	60.2	68.0	52.9	67.6	67.1	64.7	63.1	60.9	58.9	55.1	54.2	53.3					
Energy Average		57.2	Average:		63.8	63.2	61.4	59.9	56.9	55.1	52.0	51.3	50.6	24-Hour CNEL (dBA)				
Evening	Min	53.0	59.1	45.7	58.8	58.5	57.9	57.1	53.9	50.4	47.1	46.6	45.9					
	Max	53.9	60.5	48.6	60.1	59.7	58.7	58.1	55.2	52.4	49.5	49.1	48.8					
Energy Average		53.5	Average:		59.6	59.2	58.2	57.5	54.7	51.1	47.9	47.5	47.0	24-Hour CNEL (dBA)				
Night	Min	47.4	52.4	44.7	52.2	51.8	50.8	49.9	47.9	46.6	45.0	44.9	44.8					
	Max	56.6	64.3	50.8	64.0	63.5	62.5	61.5	57.7	53.8	51.6	51.1	50.9					
Energy Average		52.8	Average:		56.8	56.5	55.6	54.9	52.8	50.9	48.7	48.4	48.1	24-Hour CNEL (dBA)				
60.3																		

24-Hour Noise Level Measurement Summary

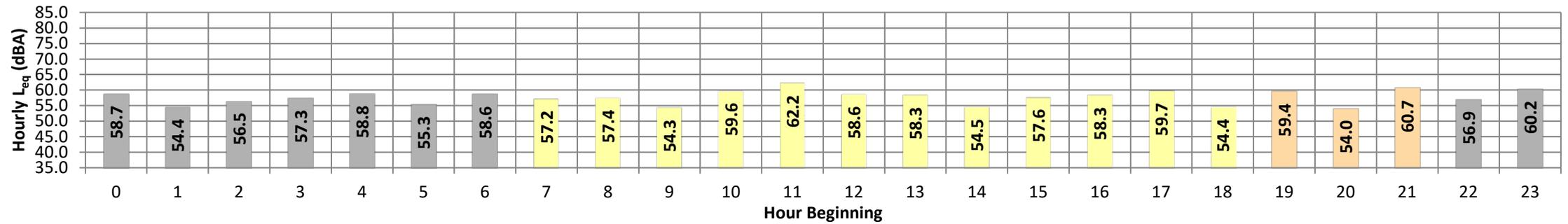
Date: Wednesday, May 27, 2020
Project: US Auctions

Location: L3 - Located south of the Project site on Fogg Street near existing single-family residential home at 261 Fogg Street.

Meter: Piccolo II

JN: 12882
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}		
Night	0	58.7	64.8	50.8	64.5	64.3	63.6	62.9	60.4	56.4	51.9	51.4	50.9	58.7	10.0	68.7		
	1	54.4	61.0	49.6	60.5	59.9	58.6	57.7	55.4	52.7	50.3	50.0	49.7	54.4	10.0	64.4		
	2	56.5	65.1	48.9	64.1	63.3	61.9	61.0	57.3	53.8	50.2	49.7	49.1	56.5	10.0	66.5		
	3	57.3	68.6	51.2	67.2	65.2	61.9	60.0	57.5	54.8	51.9	51.7	51.3	57.3	10.0	67.3		
	4	58.8	65.6	54.3	65.2	64.6	63.1	62.2	59.6	57.2	54.8	54.6	54.4	58.8	10.0	68.8		
	5	55.3	63.8	50.2	63.4	62.9	60.7	59.1	55.2	52.8	50.9	50.6	50.3	55.3	10.0	65.3		
Day	6	58.6	67.2	49.9	66.8	66.3	64.7	63.5	59.3	54.4	50.7	50.4	50.1	58.6	10.0	68.6		
	7	57.2	67.7	51.2	67.2	66.4	62.3	60.1	56.9	54.2	52.1	51.8	51.4	57.2	0.0	57.2		
	8	57.4	67.7	48.5	67.4	66.5	63.4	61.1	57.4	53.8	49.6	49.2	48.9	57.4	0.0	57.4		
	9	54.3	64.2	47.7	63.7	63.1	60.3	58.2	53.6	51.3	48.8	48.4	47.9	54.3	0.0	54.3		
	10	59.6	71.0	48.3	70.5	70.0	66.9	64.7	57.3	52.4	49.4	49.0	48.5	59.6	0.0	59.6		
	11	62.2	75.4	53.8	74.3	72.5	68.6	64.8	60.8	56.9	54.6	54.3	54.0	62.2	0.0	62.2		
	12	58.6	70.6	46.2	70.4	69.9	66.9	63.6	53.4	49.8	47.2	46.8	46.3	58.6	0.0	58.6		
	13	58.3	70.9	49.0	70.3	69.6	65.5	61.7	55.0	52.4	49.8	49.5	49.1	58.3	0.0	58.3		
	14	54.5	64.4	46.4	64.1	63.7	61.5	59.3	53.5	50.1	47.2	46.8	46.5	54.5	0.0	54.5		
	15	57.6	66.7	50.3	66.3	65.5	62.8	61.1	58.0	55.4	51.8	51.1	50.5	57.6	0.0	57.6		
	16	58.3	70.9	47.5	70.6	69.9	65.6	62.0	54.1	51.5	48.3	48.0	47.6	58.3	0.0	58.3		
	17	59.7	65.1	53.9	64.8	64.5	63.6	62.8	61.0	59.0	54.9	54.5	54.1	59.7	0.0	59.7		
18	54.4	63.1	49.7	62.2	61.1	58.8	57.6	54.8	52.6	50.6	50.3	49.9	54.4	0.0	54.4			
Evening	19	59.4	67.6	49.6	67.2	66.6	64.8	63.4	60.8	57.3	50.6	50.2	49.7	59.4	5.0	64.4		
	20	54.0	60.9	48.1	60.5	60.0	58.8	58.0	54.9	51.7	49.6	49.1	48.3	54.0	5.0	59.0		
	21	60.7	67.3	52.7	67.0	66.6	65.7	65.1	62.4	58.1	53.7	53.2	52.8	60.7	5.0	65.7		
Night	22	56.9	62.5	51.2	62.2	61.9	61.0	60.4	58.3	55.2	52.0	51.7	51.4	56.9	10.0	66.9		
	23	60.2	65.1	55.9	64.9	64.6	63.5	63.0	61.4	59.2	56.8	56.4	56.1	60.2	10.0	70.2		
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq} (dBA)				
Day	Min	54.3	63.1	46.2	62.2	61.1	58.8	57.6	53.4	49.8	47.2	46.8	46.3	24-Hour	Daytime	Nighttime		
	Max	62.2	75.4	53.9	74.3	72.5	68.6	64.8	61.0	59.0	54.9	54.5	54.1					
Energy Average		58.3	Average:		67.7	66.9	63.9	61.4	56.3	53.3	50.3	50.0	49.6	24-Hour CNEL (dBA)				
Evening	Min	54.0	60.9	48.1	60.5	60.0	58.8	58.0	54.9	51.7	49.6	49.1	48.3					
	Max	60.7	67.6	52.7	67.2	66.6	65.7	65.1	62.4	58.1	53.7	53.2	52.8					
Energy Average		58.8	Average:		64.9	64.4	63.1	62.1	59.4	55.7	51.3	50.8	50.3	24-Hour CNEL (dBA)				
Night	Min	54.4	61.0	48.9	60.5	59.9	58.6	57.7	55.2	52.7	50.2	49.7	49.1					
	Max	60.2	68.6	55.9	67.2	66.3	64.7	63.5	61.4	59.2	56.8	56.4	56.1					
Energy Average		57.7	Average:		64.3	63.7	62.1	61.1	58.3	55.2	52.2	51.8	51.5	24-Hour CNEL (dBA)				
64.6																		

24-Hour Noise Level Measurement Summary

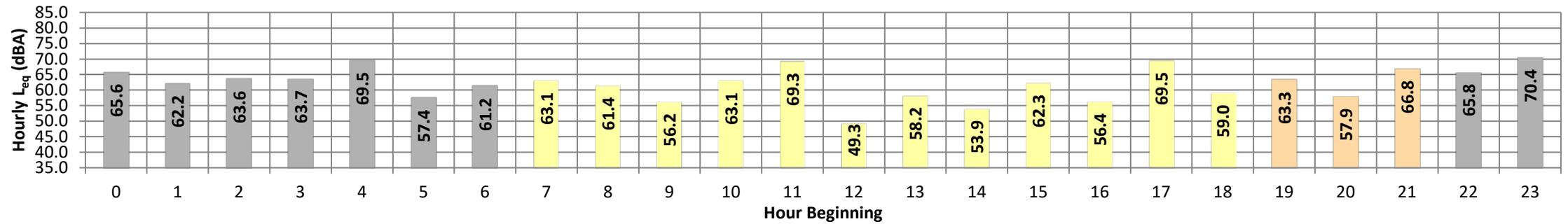
Date: Wednesday, May 27, 2020
Project: US Auctions

Location: L4 - Located near the western boundary of the Project site on South 6th Street near the AT and SF Railroad.

Meter: Piccolo II

JN: 12882
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
Night	0	65.6	73.0	57.2	72.7	72.5	71.8	71.2	65.9	61.5	58.3	57.9	57.5	65.6	10.0	75.6
	1	62.2	68.6	57.1	68.4	68.2	67.5	66.7	62.0	60.2	58.1	57.6	57.2	62.2	10.0	72.2
	2	63.6	71.4	54.9	70.9	70.6	69.9	69.2	63.4	60.2	56.0	55.6	55.1	63.6	10.0	73.6
	3	63.7	70.8	58.2	70.6	70.2	69.2	68.3	64.2	60.9	58.9	58.7	58.3	63.7	10.0	73.7
	4	69.5	74.1	65.6	73.8	73.4	73.0	72.5	70.2	68.7	66.6	66.0	65.7	69.5	10.0	79.5
	5	57.4	65.0	51.0	64.5	63.9	62.8	62.3	57.6	54.8	53.0	51.9	51.3	57.4	10.0	67.4
Day	6	61.2	68.7	51.9	68.5	68.2	67.4	66.7	61.8	57.2	53.0	52.5	52.1	61.2	10.0	71.2
	7	63.1	70.1	57.7	70.0	69.8	69.0	67.5	62.9	61.0	58.5	58.1	57.9	63.1	0.0	63.1
	8	61.4	69.7	53.4	69.4	69.1	68.5	67.3	61.1	57.2	54.0	53.9	53.6	61.4	0.0	61.4
	9	56.2	63.5	49.5	63.3	63.2	62.5	61.5	56.1	53.6	50.1	49.9	49.6	56.2	0.0	56.2
	10	63.1	73.5	53.2	73.2	72.8	71.2	69.1	60.8	56.4	54.1	53.6	53.3	63.1	0.0	63.1
	11	69.3	76.9	64.8	75.8	74.6	72.7	72.1	70.4	67.8	65.8	65.4	64.9	69.3	0.0	69.3
	12	49.3	59.0	42.9	58.4	57.5	55.6	53.9	48.9	45.2	43.6	43.3	43.0	49.3	0.0	49.3
	13	58.2	65.8	52.8	65.5	65.2	64.3	63.3	57.6	56.2	53.4	53.2	52.9	58.2	0.0	58.2
	14	53.9	60.4	46.8	60.1	59.7	58.6	57.5	54.3	52.9	48.6	47.4	46.9	53.9	0.0	53.9
	15	62.3	68.8	53.5	68.5	68.3	67.8	67.4	63.5	59.2	55.2	54.4	53.7	62.3	0.0	62.3
	16	56.4	62.0	50.4	61.7	61.4	60.6	59.9	57.3	55.2	51.5	51.1	50.6	56.4	0.0	56.4
	17	69.5	73.4	65.1	73.2	73.1	72.6	72.1	70.3	68.8	66.5	65.8	65.2	69.5	0.0	69.5
	18	59.0	66.0	51.3	65.7	65.4	64.6	63.4	59.0	57.4	54.0	52.0	51.6	59.0	0.0	59.0
Evening	19	63.3	70.0	53.7	69.6	69.4	68.7	68.3	65.2	59.8	54.7	54.3	53.8	63.3	5.0	68.3
	20	57.9	64.3	45.9	64.1	63.8	63.0	62.4	58.1	56.2	48.3	47.1	46.2	57.9	5.0	62.9
	21	66.8	74.3	57.8	74.0	73.7	73.0	72.4	67.4	62.9	59.0	58.4	58.0	66.8	5.0	71.8
Night	22	65.8	72.2	61.2	71.7	71.0	69.8	69.3	66.8	63.9	61.8	61.6	61.3	65.8	10.0	75.8
	23	70.4	74.3	66.6	73.9	73.5	72.9	72.6	71.4	69.9	67.4	67.0	66.7	70.4	10.0	80.4
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq} (dBA)		
Day	Min	49.3	59.0	42.9	58.4	57.5	55.6	53.9	48.9	45.2	43.6	43.3	43.0	24-Hour	Daytime	Nighttime
	Max	69.5	76.9	65.1	75.8	74.6	72.7	72.1	70.4	68.8	66.5	65.8	65.2			
Energy Average		63.5	Average:		67.1	66.7	65.7	64.6	60.2	57.6	54.6	54.0	53.6	64.7		
Evening	Min	57.9	64.3	45.9	64.1	63.8	63.0	62.4	58.1	56.2	48.3	47.1	46.2	24-Hour CNEL (dBA)		
	Max	66.8	74.3	57.8	74.0	73.7	73.0	72.4	67.4	62.9	59.0	58.4	58.0	63.6		
Energy Average		64.0	Average:		69.2	68.9	68.2	67.7	63.6	59.6	54.0	53.3	52.7	65.9		
Night	Min	57.4	65.0	51.0	64.5	63.9	62.8	62.3	57.6	54.8	53.0	51.9	51.3	72.3		
	Max	70.4	74.3	66.6	73.9	73.5	73.0	72.6	71.4	69.9	67.4	67.0	66.7			
Energy Average		65.9	Average:		70.6	70.2	69.4	68.8	64.8	61.9	59.2	58.7	58.3			

APPENDIX 6.1:
REFERENCE NOISE MEASUREMENT PHOTOS

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JN:12882 Noise Level Measurement Photos



IMG_2053
34, 2' 35.700000"117, 38' 12.870000"



IMG_2054
34, 2' 35.330000"117, 38' 12.870000"



IMG_2055
34, 2' 36.160000"117, 38' 12.680000"



IMG_2056
34, 2' 36.030000"117, 38' 12.630000"



IMG_2057
34, 2' 35.900000"117, 38' 12.650000"



IMG_2063
34, 2' 35.310000"117, 38' 11.780000"

JN:12882 Noise Level Measurement Photos



IMG_2064

34, 2' 34.930000"117, 38' 11.230000"



IMG_2069

34, 2' 35.920000"117, 38' 13.400000"

APPENDIX 6.2:
CADNAA OPERATIONAL NOISE MODEL INPUTS

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12882

CadnaA Noise Prediction Model: 12882-03.cna

Date: 16.06.20

Analyst: B. Lawson

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit Value			Land Use			Height (ft)	Coordinates			
			Day (dBA)	Night (dBA)	CNEL (dBA)	Day (dBA)	Night (dBA)	CNEL (dBA)	Type	Auto	Noise Type		X (ft)	Y (ft)	Z (ft)	
RECEIVERS		R1	54.2	28.3	51.3	65.0	55.0	0.0				5.00	a	6235118.58	2329380.82	5.00
RECEIVERS		R2	62.0	34.0	59.0	65.0	55.0	0.0				5.00	a	6235446.85	2328907.28	5.00
RECEIVERS		R3	63.9	43.5	61.2	65.0	55.0	0.0				5.00	a	6235151.35	2328533.38	5.00
RECEIVERS		R4	61.5	30.8	58.5	65.0	55.0	0.0				5.00	a	6234998.36	2329123.66	5.00

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li		Operating Time			KO (dB)	Height (ft)	Coordinates				
			Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value dB(A)	norm.	Day (min)	Special (min)			Night (min)	X (ft)	Y (ft)	Z (ft)	
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6234989.19	2328562.19	30.00
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6234957.01	2328561.29	30.00
POINTSOURCE		GATE01	93.3	93.3	93.3	Lw	93.3		900.00	0.00	0.00	0.0	5.00	a	6235064.89	2328474.62	5.00
POINTSOURCE		GATE02	93.3	93.3	93.3	Lw	93.3		900.00	0.00	0.00	0.0	5.00	a	6234841.03	2328611.27	5.00
POINTSOURCE		GATE03	93.3	93.3	93.3	Lw	93.3		900.00	0.00	0.00	0.0	5.00	a	6234872.91	2328792.20	5.00
POINTSOURCE		TRASH01	89.0	89.0	89.0	Lw	89		900.00	0.00	0.00	0.0	5.00	a	6235027.67	2328585.74	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL"			Lw / Li			Operating Time		
			Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value dB(A)	norm.	Day (min)	Special (min)	Night (min)
AREASOURCE		RECEIVING01	93.2	93.2	93.2	64.2	64.2	64.2	Lw	93.2		900.00	0.00	0.00
AREASOURCE		RECEIVING02	93.2	93.2	93.2	65.2	65.2	65.2	Lw	93.2		900.00	0.00	0.00
AREASOURCE		AUCTION01	107.6	107.6	107.6	64.6	64.6	64.6	Lw	107.6		900.00	0.00	0.00

Name	Height		Coordinates			
	Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
AREASOURCE	5.00	a	6234909.19	2328528.46	5.00	0.00
			6235037.93	2328529.89	5.00	0.00
			6235039.01	2328463.01	5.00	0.00
			6234912.43	2328462.29	5.00	0.00
AREASOURCE	5.00	a	6234875.39	2328748.17	5.00	0.00
			6234937.60	2328735.59	5.00	0.00
			6234914.23	2328632.02	5.00	0.00
			6234851.30	2328645.69	5.00	0.00
AREASOURCE	10.00	a	6234915.90	2328799.76	10.00	0.00
			6234936.85	2328888.77	10.00	0.00
			6234898.89	2328898.59	10.00	0.00
			6234946.01	2329104.09	10.00	0.00
			6235033.05	2329085.77	10.00	0.00
			6235036.33	2329093.62	10.00	0.00
			6235054.00	2329179.36	10.00	0.00
			6235187.51	2329180.01	10.00	0.00
			6235221.54	2329072.68	10.00	0.00
			6235229.40	2329068.10	10.00	0.00
			6235352.55	2329069.86	10.00	0.00
			6235352.09	2328598.07	10.00	0.00
			6235276.30	2328598.99	10.00	0.00
			6235272.59	2328675.41	10.00	0.00
			6235169.19	2328670.83	10.00	0.00
			6235171.15	2328600.14	10.00	0.00
			6234864.20	2328598.84	10.00	0.00
			6234862.24	2328621.09	10.00	0.00
			6234914.23	2328632.02	10.00	0.00
			6234937.60	2328735.59	10.00	0.00
			6234896.98	2328743.81	10.00	0.00

Barrier(s)

Name	M.	ID	Absorption		Z-Ext. (ft)	Cantilever			Height		Coordinates			
			left	right		horz. (ft)	vert. (ft)	Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)	
BARRIERS		BARRIERS00001							6.00	a	6234947.30	2329114.42	6.00	0.00
											6235025.41	2329097.67	6.00	0.00
											6235046.60	2329195.74	6.00	0.00
											6235203.32	2329195.74	6.00	0.00

Building(s)

Name	M.	ID	RB	Residents	Absorption	Height	Coordinates				
							Begin	x	y	z	Ground
						(ft)	(ft)	(ft)	(ft)	(ft)	
BUILDING		BUILDING00001	x	0		25.00	a	6234923.98	2328588.53	25.00	0.00
								6235004.81	2328588.84	25.00	0.00
								6235006.07	2328538.84	25.00	0.00
								6234925.87	2328540.10	25.00	0.00
BUILDING		BUILDING00002	x	0		16.00	a	6235175.31	2328671.10	16.00	0.00
								6235272.59	2328675.41	16.00	0.00
								6235275.70	2328611.46	16.00	0.00
								6235175.59	2328611.80	16.00	0.00

APPENDIX 7.1:
CADNAA CONSTRUCTION NOISE MODEL INPUTS

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12882

CadnaA Noise Prediction Model: 12882-03_Construction.cna

Date: 16.06.20

Analyst: B. Lawson

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height (ft)	Coordinates			
			Day (dBA)	Night (dBA)	CNEL (dBA)	Day (dBA)	Night (dBA)	CNEL (dBA)	Type	Auto	Noise Type		X (ft)	Y (ft)	Z (ft)	
RECEIVERS		R1	68.8	68.8	75.4	65.0	55.0	0.0				5.00	a	6235118.58	2329380.82	5.00
RECEIVERS		R2	74.2	74.2	80.9	65.0	55.0	0.0				5.00	a	6235446.85	2328907.28	5.00
RECEIVERS		R3	75.0	75.0	81.7	65.0	55.0	0.0				5.00	a	6235151.35	2328533.38	5.00
RECEIVERS		R4	76.5	76.5	83.2	65.0	55.0	0.0				5.00	a	6234998.36	2329123.66	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time		
			Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value	norm. dB(A)	Day (min)	Special (min)	Night (min)
SITEBOUNDARY		SITE PREPARATION	119.8	119.8	119.8	75.3	75.3	75.3	Lw''	75.3				

Name	Height		Coordinates			
	Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
SITEBOUNDARY	8.00	a	6235045.62	2329195.95	8.00	0.00
			6235203.96	2329196.65	8.00	0.00
			6235229.65	2329086.23	8.00	0.00
			6235353.26	2329082.76	8.00	0.00
			6235349.79	2329020.26	8.00	0.00
			6235353.26	2328941.09	8.00	0.00
			6235502.57	2328941.79	8.00	0.00
			6235504.65	2328923.04	8.00	0.00
			6235353.96	2328923.73	8.00	0.00
			6235353.96	2328583.45	8.00	0.00
			6235081.04	2328581.37	8.00	0.00
			6235080.66	2328428.25	8.00	0.00
			6234833.27	2328428.25	8.00	0.00
			6234818.51	2328640.05	8.00	0.00
			6234857.25	2328817.84	8.00	0.00
			6234907.95	2328804.65	8.00	0.00
			6234926.70	2328881.73	8.00	0.00
			6234874.96	2328893.54	8.00	0.00
			6234882.95	2328927.22	8.00	0.00
			6234928.26	2329119.43	8.00	0.00
			6235025.48	2329097.73	8.00	0.00

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