Appendix J Noise Modeling

Appendices

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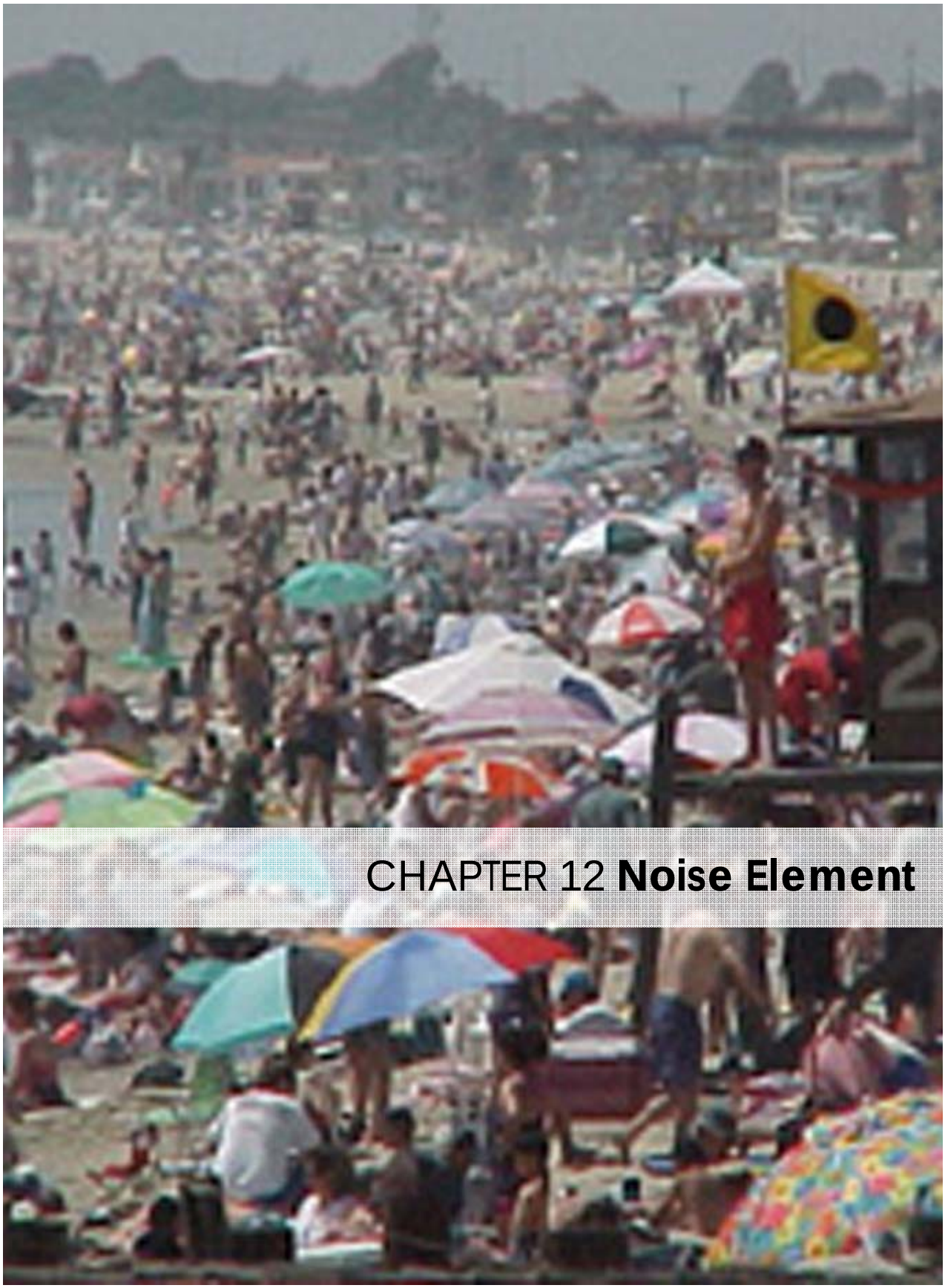

CHAPTER 12 **Noise Element**

NOISE

Protecting Newport Beach Residents

Introduction

The Noise Element of a General Plan is a tool for including noise control in the planning process in order to maintain compatible land use with environmental noise levels. This Noise Element identifies noise sensitive land uses and noise sources, and defines areas of noise impact for the purpose of developing policies to insure that Newport Beach residents will be protected from excessive noise intrusion.

The Noise Element follows the revised state guidelines in Section 46050.1 of the Health and Safety Code. The element quantifies the community noise environment in terms of noise exposure contours for both near and long-term levels of growth and traffic activity. The information contained in this document provides the framework to achieve compatible land uses and provide baseline levels and noise source identification for local noise ordinance enforcement.

Background

Sound is created when objects vibrate and produce pressure variations that move rapidly outward into the surrounding air. The main characteristics of these air pressure waves are amplitude, which we experience as a sound's "loudness" and frequency, which we experience as a sound's "pitch." The standard unit of sound amplitude is the decibel (dB), which is a measure of the physical magnitude of the pressure variations relative to the human threshold of perception. The human ear's sensitivity to sound amplitude is frequency-dependent and thus a modification is usually made to the decibel to

account for this; A-weighted decibels (dBAs) incorporate human sensitivity to a sound's frequency as well as its amplitude.

Noise is generally defined as unwanted sound, aspects of which can negatively affect the physiological or psychological well-being of individuals or communities. A typical noise environment consists of a base of steady ambient noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from, for example, traffic on a major highway. Noise in excessive levels can affect our living environment and quality of life.

Several quantitative indicators are commonly used to gauge the likelihood that environmental noise would have an adverse effect on a community. These indicators consider that the most disruptive aspects of noise are strongly associated with the average acoustical energy content of the sound over

ELEMENT

from Excessive Noise Intrusion

the time it occurs and/or with the time of day when the sound occurs. The indicators used in the Noise Element are as follows:

- L_{eq}, the equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the Leq of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this indicator is not affected by whether the noise occurs during the day or the night.
- CNEL, the Community Noise Equivalent Level, is a 24-hour average L_{eq} with a 10 dBA "weight" added to noise during the hours of 10:00 P.M. to 7:00 A.M., and a 5 dBA "weight" added during the hours of 7:00 P.M. to 10:00 P.M. to account for increased noise sensitivity in the evening and nighttime.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day, night, or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 55 dBA, moderate in the 55 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated natural settings that can provide noise levels as low as 20 dBA, and quiet suburban residential streets that can provide noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with more noisy urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Additional examples of sound levels and loudness in indoor and outdoor environments are shown in Table N1.

Table N1 Representative Environmental Noise Levels

Common Outdoor Activities	*Noise Level (dBA)*	*Common Indoor Activities*
	—110—	Rock Band
Jet Fly-over at 100 feet		
	—100—	
Gas Lawnmower at 3 feet		
	—90—	
		Food Blender at 3 feet
Diesel Truck going 50 mph at 50 feet	—80—	Garbage Disposal at 3 feet
Noisy Urban Area During Daytime		
Gas Lawnmower at 100 feet	—70—	Vacuum Cleaner at 10 feet
Commercial Area		Normal Speech at 3 feet
Heavy Traffic at 300 feet	—60—	
		Large Business Office
Quiet Urban Area During Daytime	—50—	Dishwasher in Next Room
Quiet Urban Area During Nighttime	—40—	Theater, Large Conference Room (background)
Quiet Suburban Area During Nighttime		
	—30—	Library
Quiet Rural Area During Nighttime		Bedroom at Night, Concert Hall (background)
	—20—	
		Broadcast/Recording Studio
	—10—	
Threshold of Human Hearing	—0—	Threshold of Human Hearing

SOURCE: California Department of Transportation 1998

Context

TRANSPORTATION NOISE SOURCES

The most common sources of noise in urban areas are transportation-related. These include automobiles, trucks, motorcycles, boats, and aircraft. Motor vehicle noise is of concern because it is characterized by a high number of individual events which often create a sustained noise level and its proximity to areas sensitive to noise exposure. Residential land uses and other sensitive receptors should be protected from excessive noise from these sources.

Freeway/Highway

Newport Beach has the Corona Del Mar Freeway (State Route 73) and San Joaquin Hills Transportation Corridor (SJHTC) within its borders. State Route 73 runs in a northwest/southeast direction through the City's northern section. The portion of State Route 73 that cuts through the northern portion of the City is below grade from the adjacent land uses. There are a few residences in close proximity to this freeway.

The SJHTC runs in a northwest/southeast direction through the City's northeastern boundary connecting with the State Route 73 at Jamboree Road. SJHTC is considered a highway from Jamboree Road south to Bonita Canyon, and then it becomes a toll road. At various locations, the highway will be at grade with or elevated above the adjacent land uses. There are existing residences that are in close proximity to this highway; however, these residences have already included noise mitigation measures to sufficiently attenuate the noise from SJHTC.

Major and Minor Arterial Roadways

Traffic noise on surface streets is a significant source of noise within the community. The major sources of traffic noise in Newport Beach are Coast Highway, Jamboree Road, and MacArthur Boulevard. Many of the residential uses located along these roadways include some level of noise attenuation, provided by either a sound barrier or grade separation. Other residential uses, primarily older units, built near these arterial roadways do not have any attenuation from noise other than the distance between the roadway and the residential structure. The noise attenuation features for new residences are reviewed on a project-by-project basis. This means that as residential projects are proposed near the major roadways within Newport Beach, future noise levels are evaluated and noise mitigation strategies are developed as necessary to meet City standards.

Traffic is a source of noise within Newport Beach

Noise levels along roadways are determined by a number of traffic characteristics. Most important is the average daily traffic (ADT). Additional factors include the percentage of trucks, vehicle speed, the time distribution of this traffic and gradient of the roadway.

Water Vehicles

Newport Beach has the largest small boat harbor in Southern California. Thousands of boats operate near noise-sensitive residential uses that border much of Newport Bay, and noise associated with these boats can be a problem to these residences. Of particular concern are the charter boats which generate engine noise and noise from the occupants, as well as use loudspeakers or live entertainment.

Aircraft Operations

Many residents of Newport Beach are impacted by noise generated by commercial and general aviation aircraft departing John Wayne Airport (JWA). Owned and operated by Orange County, JWA serves both general aviation and scheduled commercial passenger airline and cargo operations. JWA experienced a total of 349,936 aircraft operations (arrivals and departures) in 2005 and of those, 246,920 were general aviation operations, 87,130 were air carrier operations, 15,729, were air taxi (commuter) operations and 157 were military operations. Newport Beach is located immediately south of JWA and is under the primary departure corridor. Although aircraft noise can be heard throughout Newport Beach, the highest noise levels are experienced just south of JWA, in the Airport Area, Santa Ana Heights Area, Westcliff, Dover Shores, the Bluffs, and Balboa Island, and are generated by aircraft departures.

Newport Beach has, since the mid-1970s, actively engaged in efforts to minimize the impact of the airport on our residents and their quality of life. The City's initial efforts focused on involvement in route authority proceedings conducted by the Civil Aviation Board and litigation challenging County decisions that could increase the level or frequency of noise events. In 1985, the City, County, Stop Polluting Our Newport (SPON), and the Airport Working Group (AWG) entered into an agreement (1985 JWA Settlement Agreement) to resolve Federal Court litigation initiated by the County. The 1985 JWA Settlement Agreement required the County to reduce the size of the terminal, cap the number of parking spaces, limit the number of "average daily departures," and limit the number of passengers served each year at JWA (expressed in terms of "million annual passengers" or "MAP") to 8.4 MAP after construction of the new terminal.

After two years of discussion among the parties to the Settlement Agreement, the City Council and County Board of Supervisors approved Settlement Agreement amendments that eliminated noisier aircraft, increased the maximum number of noise regulated and air cargo average daily departures, increased the service level limit from 8.4 to 10.3 MAP until January 1, 2011, and then 10.8 MAP afterwards, and increased the maximum number of passenger loading bridges from 14 to 20. The 2002 Amendments also eliminated the floor area restrictions on the terminal and the "cap" on public parking spaces.

City Council approval of the 2002 Amendments was contingent on receipt of a letter from the FAA confirming that the 2002 Amendments were consistent with the *Airport Noise and Capacity Act* (ANCA) and other relevant laws, regulations and grant assurances made by the County. In December 2002, the FAA sent a letter confirming compliance and in January 2003, a judge approved the stipulation of the parties reflected by the 2002 Amendments. The FAA letter confirming the validity of the 2002 Amendments is a precedent for future amendments that increase air transportation service without impacting airport safety or the quality of life of residents in Newport Beach and other affected communities.

Other aircraft operations related to helicopter operations at Hoag Hospital are also a concern. Helicopter flights are noisy, and there are residential uses located in close proximity to the hospital. The helipad is located on the roof of the emergency area of the hospital. Finally, Newport Beach is exposed to noise from airplanes towing banners along the beach.

NONTRANSPORTATION NOISE SOURCES (STATIONARY NOISE SOURCES)

There are many stationary noise sources within the boundaries of Newport Beach. Some of these stationary noise sources include restaurant/bar/entertainment establishments, mixed-use structures, mechanical equipment, and use of recreational facilities. The impacts of nontransportation noise sources are most effectively controlled through the enforcement and application of City stationary noise ordinances or regulations.

Restaurant/Bar/Entertainment Establishments

Numerous restaurants, bars, and entertainment establishments in Mariners' Mile, Corona del Mar, the Peninsula, and Balboa Island have been subject to noise complaints in the past. Noise complaints have been made due to the close proximity of these establishments to residential uses, the potentially high noise levels that these establishments are able to produce, and the late hours of operation.

Mixed Use Developments (Commercial/Residential)

In a mixed use building, a portion of it may be used as commercial (i.e. office space, restaurant, market, dry cleaner, etc.) and the remaining portion may be used for residential purposes. Such mixed uses can range from a small retail structure with a residence unit on the second floor (as seen on parts of Balboa Island and the Balboa Peninsula) to larger commercial properties that include a residential component. Requiring that the commercial portion conform to the more strict residential noise standards would make operating the commercial facility difficult. However, applying the commercial noise standards to the entire project would make the noise exposure levels at the residential portion of the building potentially too high. Mixed use projects represent a unique noise environment and it is important that a program be developed that allows mixed use to operate with a minimum amount of conflict.

Mechanical Equipment Noise

Various Heating Ventilating and Air Conditioning (HVAC) installations and occasional pool and spa pumps can be noise intrusions. Noise intrusions from HVAC equipment has been a problem in the past, especially in areas such as Balboa Island, Lido Island, and the Peninsula where the homes are very close together, and in commercial areas as well when abutting residential areas. However, the City's Municipal Code now requires a permit before installation of new HVAC equipment. Permits are only granted when a sound rating of the proposed equipment does not exceed standards, or is installed with a timing device that will deactivate the equipment during the hours of 10:00 P.M. to 7:00 A.M. if the standards are exceeded.

Just because HVAC equipment sound ratings are reviewed during plan check, as well as tested in the field after installation, it can still be problematic over time. As equipment ages and sometimes suffers from lack of maintenance, noise from the equipment can increase. Because of this, the City still deals with HVAC equipment noise on a complaint basis, in order insure ongoing compliance with the standards of the Code.

Recreational Activities

Another source of stationary noise in Newport Beach is recreational activities such as league and youth sporting games, as well as recreational rowers in Newport Harbor. These activities are sometimes scheduled during early morning hours on the weekends and can be a source of noise intrusion on nearby residences. Types of noise generated include people shouting and whistles/horns blowing. Some sporting events also utilize loudspeakers.

Noise Disturbance

Residential party noise, boat party noise, barking dogs, and landscape maintenance tools are disturbing to residents, but are difficult to attenuate, and difficult to control. Complaints about noise disturbances are typically dealt with through code enforcement.

- **Residential Party Noise**—Residential party noise, particularly on Balboa Peninsula and in the West Newport area has been an ongoing problem. There are many difficulties in trying to control party noise. If a noise limit is established for enforcement using a quantitative measure, the code enforcer would be required to make noise measurements of the intrusive noise. Often, the disturbing levels of noise that were generated by a party are reduced once a code enforcer arrives on the premises to make measurements. Therefore, party noise level measurements may be an impractical means of party noise enforcement since it is often not possible to accurately capture the loud noise levels being generated by the party. Historically, police officers use their judgment for identifying and controlling party noise problems. Additionally, a recently adopted ordinance addressing police services has been effective in curbing party-related noise.
- **Boat Party Noise**—Charter boats, generally larger in size and carrying large numbers of paid passengers, have also been a source of noise. These boats can control on-deck noise by means of eliminating outside loudspeakers. The City recently amended its Municipal Code to provide greater regulations of charter boat operations.
- **Barking Dogs**—Dog barks can be characterized as being impulsive and startling or continuous and sustained. In either event, it can be a major source of noise disturbance. When dogs are outdoors, it is very difficult to attenuate the noise.
- **Landscape Maintenance Tools**—Tools used to maintain landscaping in Newport Beach can also be a source of noise. The most commonly-used tools, which are very difficult to attenuate the noise from, include edgers, blowers, and lawn mowers.

NOISE-SENSITIVE RECEPTORS

Newport Beach has a number of public and private educational facilities, hospitals, convalescent homes, day cares, and other facilities that are considered noise sensitive. However, the primary noise-sensitive use within the City is residential use. The noise exposure of these sensitive uses varies from low, in quiet residential areas, to high, in areas adjacent to the freeway.

COMMUNITY NOISE CONTOURS

Noise contours for all of the major noise sources in Newport Beach, which include motor vehicles on roadways and freeways, and aircraft at JWA, were developed for existing conditions and future conditions. Existing noise contours were determined from the 2003 traffic levels and existing aircraft

levels for these sources, and are expressed in terms of the CNEL. Existing noise contours are shown in Figure N1 through Figure N3.

Future noise conditions for roadways are presented for the 20 year time period ending 2025 and were derived from projected traffic levels for that horizon year. These noise contours are based on complete buildout of the General Plan, and are shown in Figure N4 through Figure N6. These future noise contours will assist in setting policies for establishing new land uses and appropriate mitigation for properties that will continue to be exposed to higher noise levels.

The aircraft noise contours that are used for planning purposes by the County of Orange and Airport Land Use Commission are found in the Airport Environs Land Use Plan (AELUP) and are derived from the 1985 Master Plan for JWA and the accompanying EIR 508. These noise contours are based on fleet mix and flight level assumptions developed in EIR 508, and are shown in Figure N5.

Noise contours represent lines of equal noise exposure, just as the contour lines on a topographic map are lines of equal elevation. The contours shown on the maps are the 60, 65, and 70 dB CNEL noise levels. The noise contours represent the maximum possible traffic noise levels at locations within them (i.e., they do not account for building placement or traffic speeds, nor the attenuating effects of walls, structures, and terrain features that might intervene between the roads and any location of interest) and should be used as a guide for land use planning. The 60 dB CNEL contour defines the Noise Referral Zone. This is the noise level for which noise considerations should be included when making land use policy decisions that effect existing and proposed noise-sensitive developments. The 65 dB CNEL contour describes the area for which new noise sensitive developments will be permitted only if appropriate mitigation measures are included such that the standards contained in this Element are achieved.

The JWA AELUP (last amended in 2002) only allows residential uses and other noise-sensitive uses within a 65 dBA contour if the interior noise standard of 45 dBA CNEL can be maintained with an accompanying dedication of a navigation easement for noise to the airport proprietor applicable to single-family residences. The AELUP also strongly recommends that if any residential uses are allowed within a 60 dBA CNEL contour that sufficient sound attenuating methods are used to maintain a 45 dBA CNEL interior noise level.

TYPICAL NOISE ATTENUATION METHODS

Noise impacts can typically be abated using four basic methods: (1) reducing the sound level of the noise generator, (2) interrupting the noise path between the source and receiver, (3) increasing the distance between the source and receiver, and (4) insulating the receiver with building materials and construction methods more resistant to noise intrusion.

Quieting certain noise sources may often be successfully achieved through design or the use of mufflers. However, a local government has limited direct control of transportation noise at the source. This control lies with the state and federal agencies that have this responsibility. The most effective method available to the City to mitigate transportation noise and reduce the impact of the noise onto the community is through comprehensive planning that includes noise as planning criteria, the inclusion of noise mitigation in project planning and design, and improved building noise reduction characteristics.

Noise may also be minimized by strategically placing a noise barrier (wall, berm, or combination wall/berm), the most common way of alleviating traffic noise impacts. Generally, effective noise shielding requires a continuous, solid barrier with a mass which is large enough to block the line of sight between source and receiver. Variations may be appropriate in individual cases based on distance, nature, and orientation of buildings behind the barrier, and a number of other factors. Garage or other structures may be used to shield dwelling units and outdoor living areas from non-aircraft noise.

The effects of noise may also be minimized by separating or isolating the noise source from the potential receiver. Wide buffers along freeways, for example, may reduce the noise level affecting adjacent noise sensitive land uses. These buffer areas may be developed with less sensitive uses.

Building interior noise levels can also be reduced by protecting the receiver with acoustical structures, enclosures, or construction techniques. Windows and doors are the most important paths for sound to enter a structure. Use of sound insulating doors and double paned windows can provide substantial reductions of interior noise levels. Because these features have little effect in reducing noise when they are left open, installation of air conditioning for adequate ventilation may be required.

Noise exposure criteria should be incorporated into land use planning to reduce future noise and land use incompatibilities. This is achieved by specifying acceptable noise exposure ranges for various land uses throughout the City. These criteria are designed to integrate noise considerations into land use planning to prevent noise/land use conflicts. Table N2 presents criteria used to assess the compatibility of proposed land uses with the noise environment.

The noise/land use compatibility matrix presented in Table N2 presents broad ranges of compatibility and are intended to be flexible enough to apply to a wide range of projects and environments. For example, a project in a large undeveloped area may be evaluated differently than an infill project in a densely developed area of the City. But in no case would it be desirable for any land use to have noise exceeding the highest "normally compatible" noise level shown in the matrix. This matrix is intended to be used as one of the many factors used in the land use planning process. It should be noted that California requires that interior noise levels in multi-family residential uses not exceed 45 LDN (day-night noise level); it is commonly used as an interior standard for all residential uses, but is not required under the California Administrative Code, Title 24, and Part 2.

In addition to the noise/land use compatibility guidelines contained in the General Plan Noise Element, the City of Newport Beach has adopted Community Noise Control policies and standards as part of its Municipal Code in order to limit unnecessary, excessive and annoying noise in the City. These noise standards are displayed in Table N3.

The most effective method to control community noise impacts from non-transportation noise sources is through application of Municipal Code standards. The noise levels established by the Municipal Code assure that noise from mechanical equipment, and other types of non-transportation noise are not excessive in residential and other noise-sensitive areas.

Figure N1 Existing Noise Contours (1)
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Pg 2—11x17 color

Figure N2 Existing Noise Contours (2)
Pg 1—11x17 color

Pg 2—11x17 color

Figure N3 Existing Noise Contours (3)
Pg 1—11x17 color

Pg 2—11x17 color

Figure N4 Future Noise Contours (1)
Pg 1—11x17 color

Pg 2—11x17 color

Figure N5 Future Noise Contours (2)
Pg 1—11x17 color

Pg 2—11x17 color

Figure N6 Future Noise Contours (3)
Pg 1—11x17 color

Pg 2—11x17 color

Table N2 Land Use Noise Compatibility Matrix

Land Use Categories		*Community Noise Equivalent Level (CNEL)*						
Categories	*Uses*	*<55*	*55–60*	*60–65*	*65–70*	*70–75*	*75–80*	*>80*
Residential	Single Family, Two Family, Multiple Family	A	A	B	C	C	D	D
Residential	Mixed Use	A	A	A	C	C	C	D
Residential	Mobile Home	A	A	B	C	C	D	D
Commercial Regional, District	Hotel, Motel, Transient Lodging	A	A	B	B	C	C	D
Commercial Regional, Village District, Special	Commercial Retail, Bank, Restaurant, Movie Theatre	A	A	A	A	B	B	C
Commercial Industrial Institutional	Office Building, Research and Development, Professional Offices, City Office Building	A	A	A	B	B	C	D
Commercial Recreational Institutional Civic Center	Amphitheatre, Concert Hall Auditorium, Meeting Hall	B	B	C	C	D	D	D
Commercial Recreation	Children's Amusement Park, Miniature Golf Course, Go-cart Track, Equestrian Center, Sports Club	A	A	A	B	B	D	D
Commercial General, Special Industrial, Institutional	Automobile Service Station, Auto Dealership, Manufacturing, Warehousing, Wholesale, Utilities	A	A	A	A	B	B	B
Institutional	Hospital, Church, Library, Schools' Classroom	A	A	B	C	C	D	D
Open Space	Parks	A	A	A	B	C	D	D
Open Space	Golf Course, Cemeteries, Nature Centers Wildlife Reserves, Wildlife Habitat	A	A	A	A	B	C	C
Agriculture	Agriculture	A	A	A	A	A	A	A

SOURCE: Newport Beach, 2006

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

Zone B: Normally Compatible**—New construction or development should be undertaken only after detailed analysis of the noise reduction requirements and are made and needed noise insulation features in the design are determined. Conventional construction, with closed windows and fresh air supply systems or air conditioning, will normally suffice.

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

Zone D: Clearly Incompatible—New construction or development should generally not be undertaken.

Table N3 Noise Standards

Land Use Categories		Allowable Noise Levels (dBA)			
		Interior [a,b]		Exterior [a,b]	
Categories	Uses	Interior Noise Level (Leq) 7am to 10pm	Interior Noise Level (Leq) 10 pm to 7 am	Exterior Noise Level (Leq) 7am to 10pm	Exterior Noise Level (Leq) 10 pm to 7 am
Residential	Single Family, Two Family, Multiple Family (Zone I)	45	40	55	50
	Residential Portions of Mixed Use Developments (Zone III)	45	40	60	50
Commercial Industrial	Commercial (Zone II)	N/A	N/A	65	60
	Industrial or Manufacturing (Zone IV)	N/A	N/A	70	70
Institutional	Schools, Day Care Centers, Churches, Libraries, Museums, Health Care Institutions (Zone I)	45	40	55	50

SOURCE: EIP Associates, 2006

[a] If the ambient noise level exceeds the resulting standard, the ambient shall be the standard.

[b] It shall be unlawful for any person at any location within the incorporated area of the City to create any noise or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such a person which causes the noise level when measured on any other property, to exceed either of the following:

- The noise standard for the applicable zone for any fifteen-minute period;
- A maximum instantaneous noise level equal to the value of the noise standard plus twenty dBA for any period of time (measured using A-weighted slow response).
- In the event the ambient noise level exceeds the noise standard, the noise standard applicable to said category shall be increased to reflect the maximum ambient noise level.
- The noise standard for the residential portions of the residential property falling within one hundred feet of a commercial property, if the intruding noise originates from that commercial property.
- If the measurement location is on a boundary between two different noise zones, the lower noise level standard applicable to the noise zone shall apply.

Goals and Policies

Noise and Land Use Compatibility

Goal

N 1

Noise Compatibility—Minimized land use conflicts between various noise sources and other human activities.

Policies

N 1.1 Noise Compatibility of New Development

Require that all proposed projects are compatible with the noise environment through use of Table N2, and enforce the interior and exterior noise standards shown in Table N3. *(Imp 2.1)*

N 1.2 Noise Exposure Verification for New Development

Applicants for proposed projects that require environmental review and are, located in areas projected to be exposed to a CNEL of 60 dBA and higher, as shown on Figure N4, Figure N5, and Figure N6 may conduct a field survey, noise measurements or other modeling in a manner acceptable to the City to provide evidence that the depicted noise contours do not adequately account for local noise exposure circumstances due to such factors as, topography, variation in traffic speeds, and other applicable conditions. These findings shall be used to determine the level of exterior or interior, noise attenuation needed to attain an acceptable noise exposure level and the feasibility of such mitigation when other planning considerations are taken into account. *(Imp 2.1)*

N 1.3 Remodeling and Additions of Structures

Require that all remodeling and additions of structures comply with the noise standards shown in Table N3. *(Imp 7.1)*

N 1.4 New Developments in Urban Areas

Require that applicants of residential portions of mixed-use projects and high density residential developments in urban areas (such as the Airport Area and Newport Center) demonstrate that the design of the structure will adequately isolate noise between adjacent uses and units (common floor/ceilings) in accordance with the California Building Code. *(Imp 7.1)*

N 1.5 Infill Projects

Allow a higher exterior noise level standard for infill projects in existing residential areas adjacent to major arterials if it can be shown that there are no feasible mechanisms to meet the exterior noise levels. The interior standard of 45 dBA CNEL shall be enforced for any new residential project. *(Imp 2.1, 7.1)*

N 1.6 Mixed-Use Developments

Encourage new mixed-use developments to site loading areas, parking lots, driveways, trash enclosures, mechanical equipment, and other noise sources away from the residential portion of the development. *(Imp 7.1, 8.1)*

N 1.7 Commercial/Entertainment Uses

Limit hours and/or require attenuation of commercial/entertainment operations adjacent to residential and other noise sensitive uses in order to minimize excessive noise to these receptors. *(Imp 2.1, 8.1, 8.2)*

N 1.8 Significant Noise Impacts

Require the employment of noise mitigation measures for existing sensitive uses when a significant noise impact is identified. A significant noise impact occurs when there is an increase in the ambient CNEL produced by new development impacting existing sensitive uses. The CNEL increase is shown in the table below. *(Imp 2.1, 7.1)*

CNEL (dBA)	*dBA increase*
55	3
60	2
65	1
70	1
Over 75	Any increase is considered significant

Transportation-Related Noise

Goal

N 2
Minimized motor vehicle traffic and boat noise impacts on sensitive noise receptors

Policies

N 2.1 New Development

Require that proposed noise-sensitive uses in areas of 60 dBA and greater, as determined the analyses stipulated by Policy N1.1, demonstrate that they meet interior and exterior noise levels. *(Imp 2.1)*

N 2.2 Design of Sensitive Land Uses

Require the use of walls, berms, interior noise insulation, double paned windows, or other noise mitigation measures, as appropriate, in the design of new residential or other new noise sensitive land uses that are adjacent to major roads. Application of the Noise Standards in Table N3 shall govern this requirement. *(Imp 7.1)*

N 2.3 Limiting Hours of Truck Deliveries

Limit the hours of truck deliveries to commercial uses abutting residential uses and other noise sensitive land uses to minimize excessive noise unless there is no feasible alternative. Any exemption shall require compliance with nighttime (10:00 P.M. to 7:00 A.M.) noise standards. *(Imp 2.1, 8.1)*

N 2.4 Interagency Coordination to Enforce Standards

Encourage the enforcement of State Motor Vehicle noise standards for cars, trucks, and motorcycles through coordination with the California Highway Patrol and Newport Beach Police Department. *(Imp 14.16, 14.17)*

N 2.5 Boating Activities

Enforce compliance of all boating activities with the noise standards defined in the Municipal Code. *(Imp 26.1)*

N 2.6 Barrier Construction Funding

Establish a program to secure funding for the construction of noise barriers to protect private outdoor yard areas along arterial roadways where existing homes are exposed to noise levels above the City noise standards and develop a priority program for the construction of such barriers. A potential source of such funding may be a fee for new projects, which generate new traffic within the City, as well as road improvement funds where road improvements are made. The amount of these fees should be proportional to the amount of the new traffic that is caused by the new project. It should be recognized that noise barriers will not always be feasible mitigation to roadway noise. Noise barriers are most feasible for single-family homes where the rear yards are adjacent to the roadway. The feasibility of other situations should be evaluated on a case-by-case basis. *(Imp 30.2)*

Goal

N 3

Protection of Newport Beach residents from the adverse noise impacts of commercial air carrier operations at John Wayne Airport as provided in the City Council Airport Policy.

Policy

N 3.1 New Development

Ensure new development is compatible with the noise environment by using airport noise contours no larger than those contained in the 1985 JWA Master Plan, as guides to future planning and development decisions. *(Imp 2.1, 3.1, 4.1)*

N 3.2 Residential Development

Require that residential development in the Airport Area be located outside of the 65 dBA CNEL noise contour no larger than shown in the 1985 JWA Master Plan and require residential developers to notify prospective purchasers or tenants of aircraft overflight and noise. *(Imp 2.1, 3.1, 4.1)*

N 3.3 Avigation Easement

Consider requiring the dedication of avigation easements in favor of the County of Orange when noise sensitive uses are proposed in the JWA planning area, as established in the JWA Airport Environs Land Use Plan (AELUP). *(Imp 2.1, 3.1, 4.1)*

N 3.4 Existing Noise Restrictions

Take any action necessary to oppose any attempt to modify the existing noise restrictions, including the existing curfew and the General Aviation Noise Ordinance. *(Imp 9.1)*

N 3.5 Additional Facilities at John Wayne Airport

Take any action necessary to oppose any attempt to construct a second air carrier runway including the acquisition of land necessary to provide required separation of the existing air carrier runway and any proposed facility. *(Imp 9.1)*

N 3.6 Existing Level of General Aviation Operations

Support any plan or proposal that maintains, and oppose any plan or project that proposes any significant changes to the existing level of general aviation operations and general aviation support facilities. *(Imp 9.1)*

N 3.7 Remote Monitoring Systems

Support preservation or enhancement of the existing remote monitoring systems (RMS) and the public reporting of the information derived from the RMS. *(Imp 9.1)*

N 3.8 Meeting Air Transportation Demand

Support means of satisfying some of Orange County's air transportation demand at airports other than John Wayne Airport or through alternative means of transportation. *(Imp 14.3)*

N 3.9 John Wayne Airport Amended Settlement Agreement

Take all steps necessary to preserve and protect the validity of the John Wayne Airport Amended Settlement Agreement, including the following:

- Oppose, or seek protection from any federal legislative or regulatory action that would or could affect or impair the County's ability to operate John Wayne Airport consistent with the provisions of the John Wayne Airport

Amended Settlement Agreement or the City's ability to enforce the Amended Settlement Agreement.

- Approving amendments of the John Wayne Airport Settlement Agreement to ensure continued validity provided amendments are consistent with the City Council Airport Policy, do not materially impair the quality of life, and are in the long-term best interests of Newport Beach residents.
- Continuing to monitor possible amendment of the *Airport Noise and Capacity Act of 1990* as well as various FAA Regulations and Advisory Circulars that relate to aircraft departure procedures. *(Imp 14.3)*

N 3.10 Community and Public Agency Support

Take steps necessary to secure broad-based support for all aspects of the City Council Airport Policy. *(Imp 14.3, 29.1)*

Nontransportation-Related Noise

Goal

N 4
Minimization of Nontransportation-Related Noise—Minimized nontransportation-related noise impacts on sensitive noise receptors.

Policy

N 4.1 Stationary Noise Sources

Enforce interior and exterior noise standards outlined in Table N3, and in the City's Municipal Code to ensure that sensitive noise receptors are not exposed to excessive noise levels from stationary noise sources, such as heating, ventilation, and air conditioning equipment. *(Imp 7.1)*

N 4.2 New Uses

Require that new uses such as restaurants, bars, entertainment, parking facilities, and other commercial uses where large numbers of people may be present adjacent to sensitive noise receptors obtain a use permit that is based on compliance with the noise standards in Table N3 and the City's Municipal Code. *(Imp 2.1)*

N 4.3 New Commercial Developments

Require that new commercial developments abutting residentially designated properties be designed to minimize noise impacts generated by loading areas, parking lots, trash enclosures, mechanical equipment, and any other noise generating features specific to the development to the extent feasible. *(Imp 2.1)*

N 4.4 Limiting Hours of Recreational Activities

Limit hours when recreational activities in parks and the harbor can take place. *(Imp 9.1, 23.4)*

N 4.5 Sound-Amplifying Equipment

Regulate the use of sound-amplifying equipment through the City's Municipal Code. *(Imp 2.1, 8.2)*

N 4.6 Maintenance or Construction Activities

Enforce the Noise Ordinance noise limits and limits on hours of maintenance or construction activity in or adjacent to residential areas, including noise that results from in-home hobby or work related activities. *(Imp 7.1, 8.1)*

N 4.7 Nuisances

Regulate the control of nuisances, such as residential party noise, boat party noise, private fireworks, and barking dogs, through the City's Municipal Code. *(Imp 8.1, 26.1)*

N 4.8 Mechanized Landscaping Equipment

Regulate the use of mechanized landscaping equipment. *(Imp 8.1)*

Construction Noise

Goal

N 5
Minimized excessive construction-related noise.

Policies

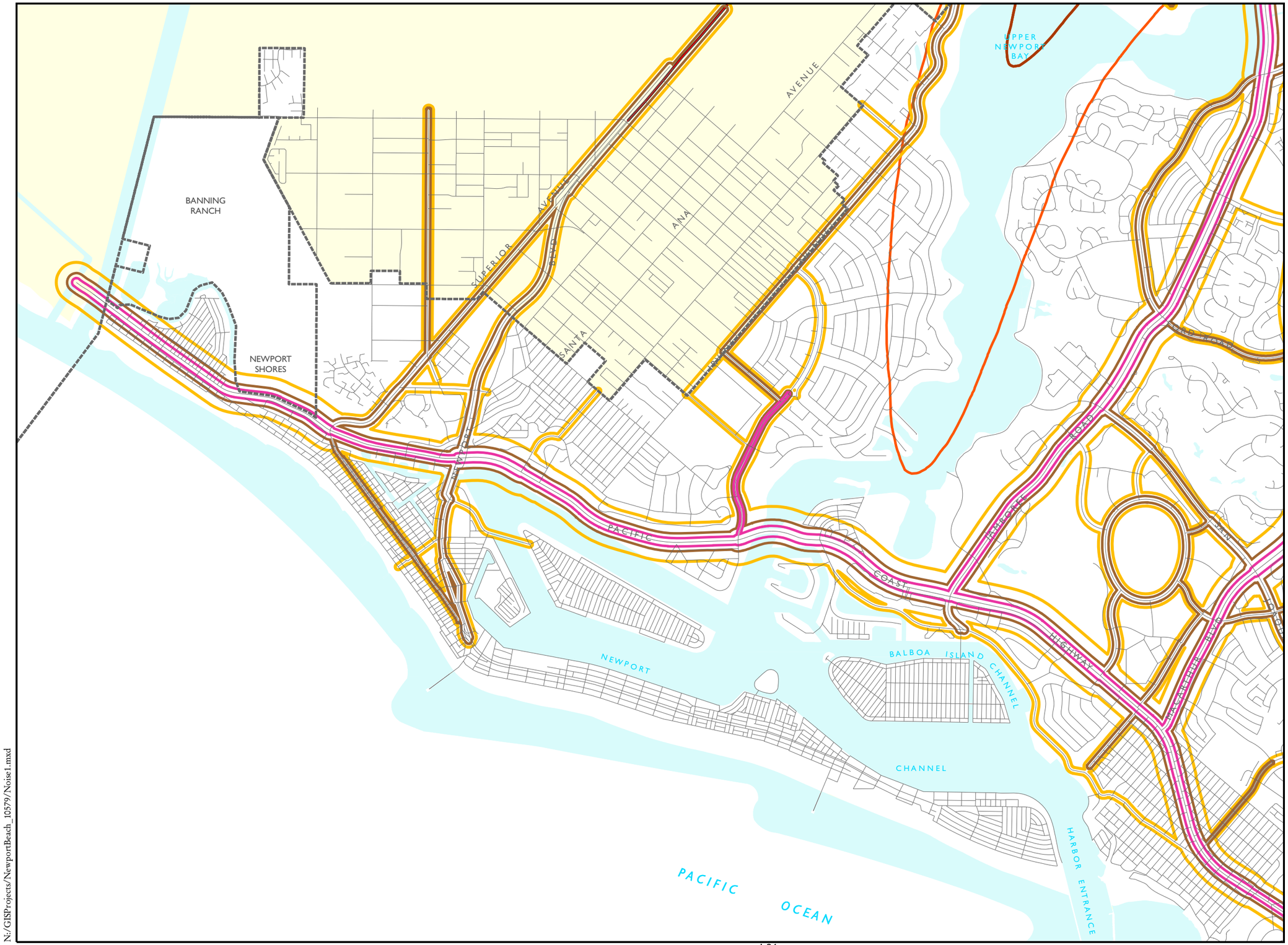
N 5.1 Limiting Hours of Activity

Enforce the limits on hours of construction activity. *(Imp 8.1)*

CITY of NEWPORT BEACH GENERAL PLAN

Figure N1

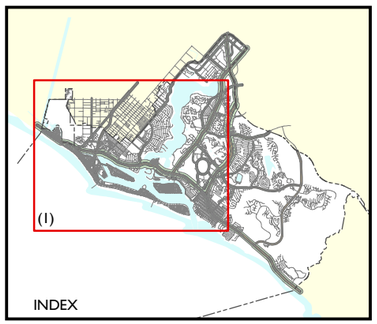
EXISTING NOISE CONTOURS



Roadway Noise Contours
- 70 CNEL
- 65 CNEL
- 60 CNEL

AELUP Noise Contours
- 70 CNEL
- 65 CNEL
- 60 CNEL
- City Boundary
- John Wayne Airport

The noise contours represent the maximum possible traffic noise levels at locations within them (i.e., they do not account for building placement or traffic speeds, nor include the attenuating effects of walls, structures, and terrain features that might intervene between the roads and any location of interest).



INDEX

0 Miles

Source: City of Newport Beach, Mestre Greve Associates and EIP Associates

PROJECT NUMBER: 10579-01

Date: 4/17/06

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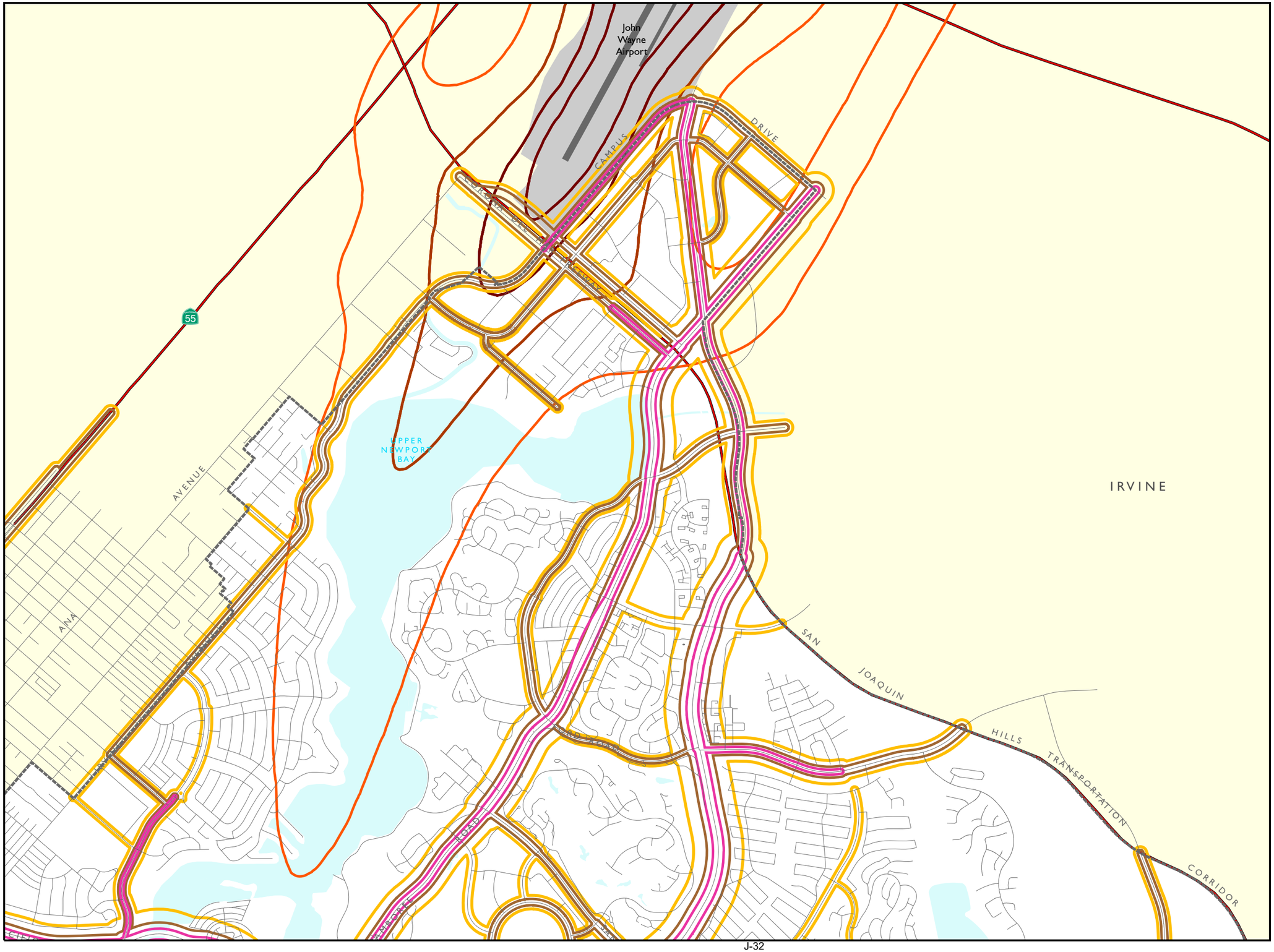


CITY of NEWPORT BEACH
GENERAL PLAN

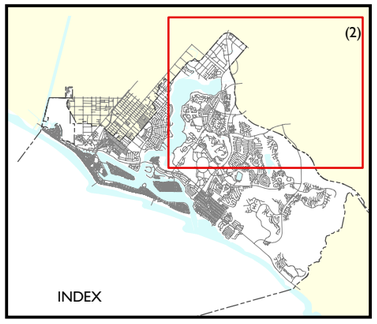
Figure N2

EXISTING NOISE CONTOURS

Roadway Noise Contours
- 70 CNEL
- 65 CNEL
- 60 CNEL

AELUP Noise Contours
- 70 CNEL
- 65 CNEL
- 60 CNEL
- City Boundary
- John Wayne Airport

The noise contours represent the maximum possible traffic noise levels at locations within them (i.e., they do not account for building placement or traffic speeds, nor include the attenuating effects of walls, structures, and terrain features that might intervene between the roads and any location of interest).



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Miles

Source: City of Newport Beach, Mestre Greve Associates and EIP Associates

PROJECT NUMBER: 10579-01
Date: 4/20/06

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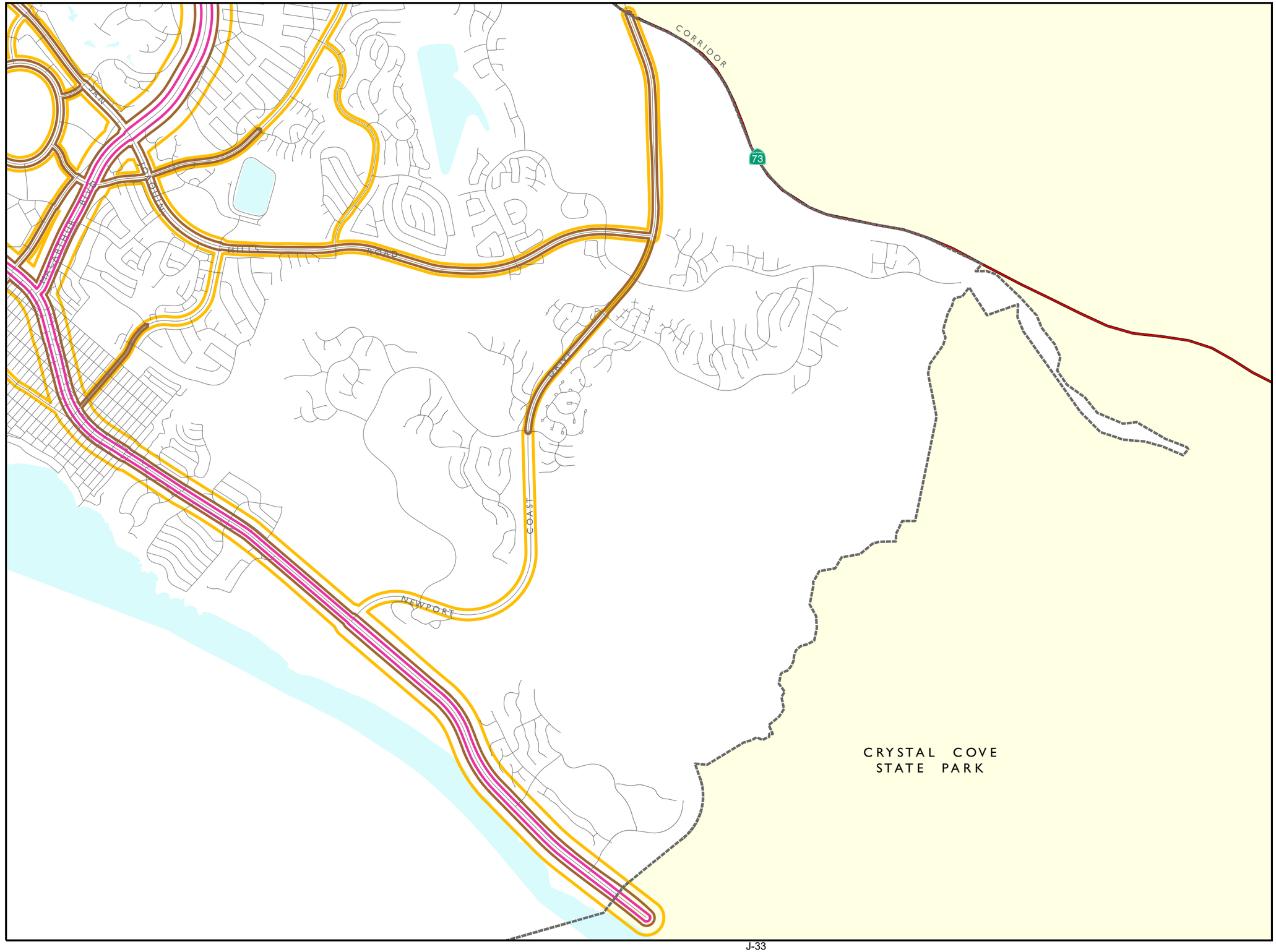


CITY of NEWPORT BEACH
GENERAL PLAN

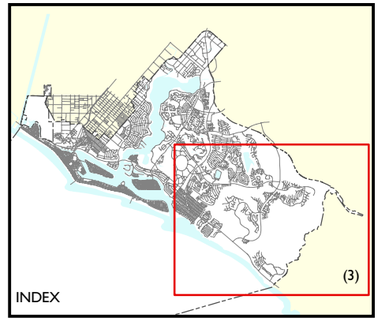
Figure N3

EXISTING NOISE CONTOURS

Roadway Noise Contours

- 70 CNEL
- 65 CNEL
- 60 CNELB
- City Boundary

The noise contours represent the maximum possible traffic noise levels at locations within them (i.e., they do not account for building placement or traffic speeds, nor include the attenuating effects of walls, structures, and terrain features that might intervene between the roads and any location of interest).



N

0 0.25 0.5 Miles

Source: City of Newport Beach, Mestre Greve Associates and EIP Associates

PROJECT NUMBER: 10579-01
Date: 4/17/06

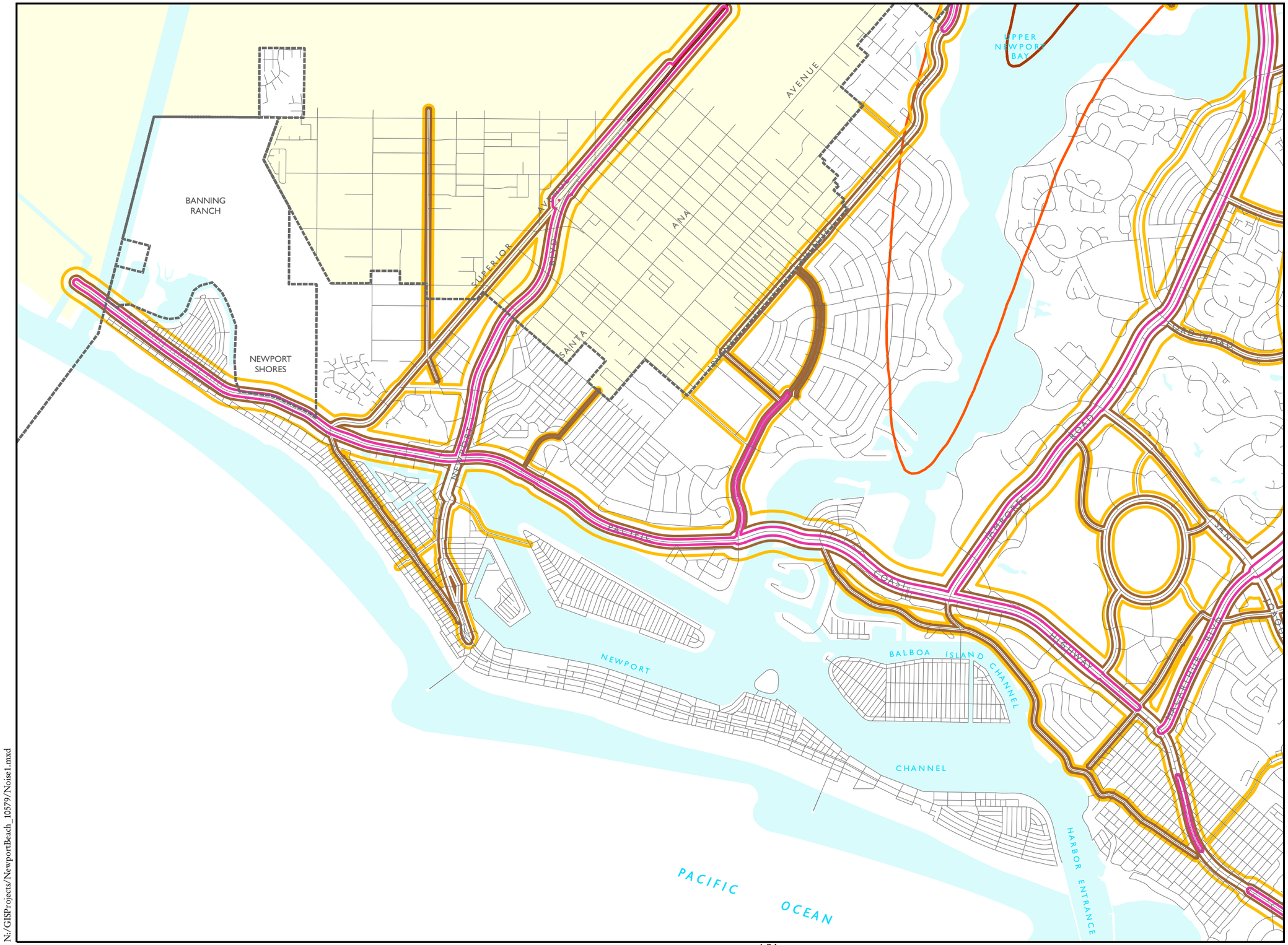
EIP ASSOCIATES

N:/GISProjects/NewportBeach_10579/Noise1.mxd

CITY of NEWPORT BEACH GENERAL PLAN

Figure N4

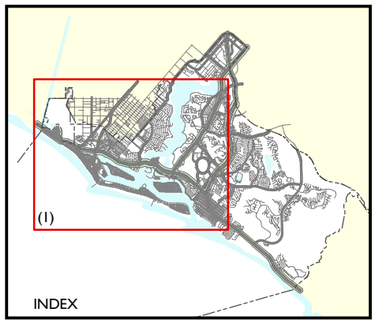
FUTURE NOISE CONTOURS



Roadway Noise Contours
- 70 CNEL
- 65 CNEL
- 60 CNEL

AELUP Noise Contours
- 70 CNEL
- 65 CNEL
- 60 CNEL
- City Boundary
- John Wayne Airport

The noise contours represent the maximum possible traffic noise levels at locations within them (i.e., they do not account for building placement or traffic speeds, nor include the attenuating effects of walls, structures, and terrain features that might intervene between the roads and any location of interest).



INDEX

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Source: City of Newport Beach, Mestre Greve Associates and EIP Associates

PROJECT NUMBER: 10579-01

Date: 4/17/06

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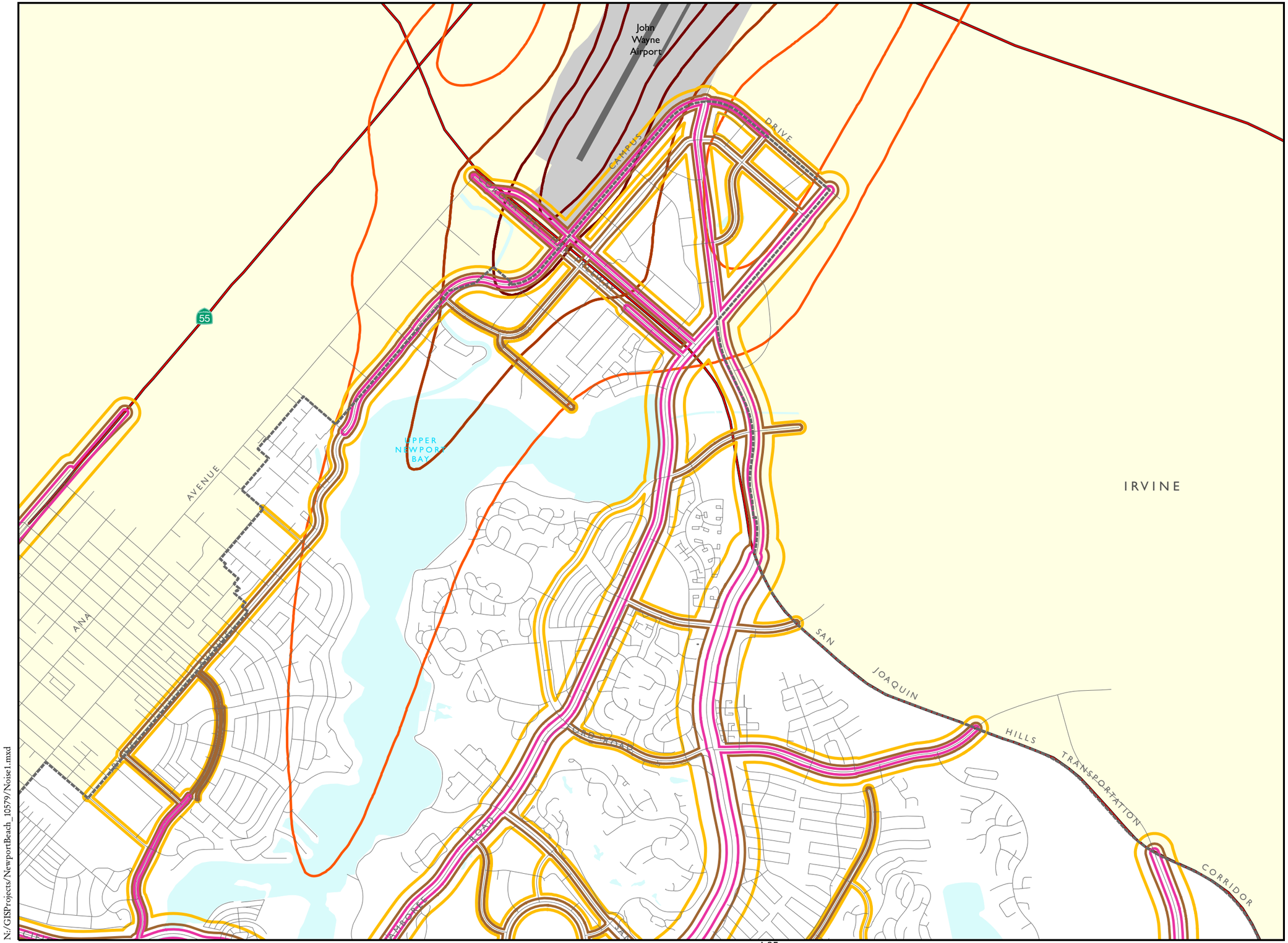


CITY of NEWPORT BEACH
GENERAL PLAN

Figure N5

FUTURE NOISE CONTOURS

Roadway Noise Contours
- 70 CNEL
- 65 CNEL
- 60 CNEL

AELUP Noise Contours
- 70 CNEL
- 65 CNEL
- 60 CNEL
- City Boundary
- John Wayne Airport

The noise contours represent the maximum possible traffic noise levels at locations within them (i.e., they do not account for building placement or traffic speeds, nor include the attenuating effects of walls, structures, and terrain features that might intervene between the roads and any location of interest).

0
Miles

Source: City of Newport Beach, Mestre Greve Associates and EIP Associates

PROJECT NUMBER: 10579-01
Date: 4/20/06

N:/GISProjects/NewportBeach_10579/Noise1.mxd

CORRIDOR

73

SAN JOAQUIN HILLS ROAD

SAN JOAQUIN HILLS ROAD

PACIFIC COAST HIGHWAY

NEWPORT COAST DRIVE

CRYSTAL COVE STATE PARK

CITY of NEWPORT BEACH GENERAL PLAN

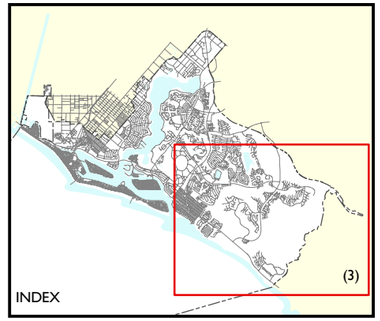
Figure N6

FUTURE NOISE CONTOURS

Roadway Noise Contours

- 70 CNEL
- 65 CNEL
- 60 CNELB
- City Boundary

The noise contours represent the maximum possible traffic noise levels at locations within them (i.e., they do not account for building placement or traffic speeds, nor include the attenuating effects of walls, structures, and terrain features that might intervene between the roads and any location of interest).



N

0 0.25 0.5 Miles

Source: City of Newport Beach, Mestre Greve Associates and EIP Associates

PROJECT NUMBER: 10579-01

Date: 4/17/06

EIP ASSOCIATES

N:/GISProjects/NewportBeach_10579/Noise1.mxd

City of Newport Beach Municipal Code regarding Noise

Chapter 10.26
COMMUNITY NOISE CONTROL

Sections:

10.26.005 Declaration of Policy.

A. In order to control unnecessary, excessive and annoying noise in the City of Newport Beach, it is declared to be the policy of the City to prohibit such noise generated from or by all sources as specified in this chapter.

B. It is determined that certain noise levels are detrimental to the public health, welfare and safety and contrary to public interest, therefore, the City Council of the City of Newport Beach does ordain and declare that creating, maintaining, causing or allowing to be created, caused or maintained, any noise in a manner prohibited by, or not in conformity with, the provisions of this chapter, is a public nuisance and may be punished as a public nuisance. The ordinance codified in this chapter is effective thirty (30) days from adoption, however, all fixed noise sources existing at the date of adoption shall have ninety (90) days from the date of adoption to achieve compliance with this chapter. (Ord. 95-38 § 11 (part), 1995)

10.26.010 Definitions.

The following words, phrases and terms as used in this chapter shall have the meanings as indicated here:

"Agricultural property" means a parcel of real property which is undeveloped for any use other than agricultural purposes.

"Ambient noise level" means the all-encompassing noise level associated with a given environment, being a composite of sounds from all sources, excluding the alleged offensive noise, at the location and approximate time at which a comparison with the alleged offensive noise is to be made.

"A-weighted sound level" means the total sound level meter with a reference pressure of twenty (20) micropascals using the A-weighted network (scale) at slow response. The unit of measurement shall be defined as DBA.

"Code Enforcement Officer" means the Code Enforcement Officer of the City or his duly authorized deputy.

"Commercial property" means a parcel of real property which is used as either in part or in whole for commercial purposes.

"Cumulative period" means an additive period of time composed of individual time segments which may be continuous or interrupted.

"Decibel (Db)" means a unit which denotes the ratio between two quantities which are proportional to power: the number of decibels corresponding to the ratio of two amounts of power is ten times the logarithm to the base ten of this ratio.

"Dwelling unit" means any area within a structure on any parcel which:

1. Contains separate or independent living facilities for one or more persons, with an area or equipment for sleeping, sanitation and food preparation, and which has independent exterior access to ground level; or

2. Is being utilized for residential purposes by one or more persons separately or independently from occupants of other areas within the structure.

“Emergency machinery, vehicle, work or alarm” means any machinery, vehicle, work or alarm used, employed, performed or operated in an effort to protect, provide or restore safety conditions in the community or for the citizenry, or work by private or public utilities when restoring utility service.

“Equivalent, noise, level, leq.” means the sound level corresponding to a steady state noise level over a given measurement period with the same amount of acoustic energy as the actual time varying noise level. Also known as the energy average noise level during the measurement period. The measurement period shall be fifteen (15) minutes under the terms of this chapter.

“Fixed noise source” means a stationary device which creates sounds while fixed or motionless including but not limited to residential, agricultural, industrial and commercial machinery and equipment, pumps, fans, compressors, air conditioners and refrigeration equipment.

“Grading” means any excavating of filling of earth material or any combination thereof conducted at a site to prepare said site for construction or other improvements thereon.

“Health care institution” means any hospital, convalescent home or other similar facility excluding residential.

“Hertz (HZ)” means the unit which describes the frequency of a function periodic in time which is the reciprocal of the period.

“Impulsive noise” means a noise of short duration usually less than one second and of high intensity, with an abrupt onset and rapid decay.

“Industrial property” means a parcel of real property which is used either in part or in whole for manufacturing purposes.

“Intruding noise level” means the total sound level, in decibels, created, caused, maintained or originating from an alleged offensive source at a specified location while the alleged offensive source is in operation.

“Licensed” means the issuance of a formal license or permit by the appropriate jurisdictional authority, or where no permits or licenses are issued, the sanctioning of the activity by the jurisdiction as noted in public record.

“Major roadway” means any street, avenue, boulevard or highway used for motor vehicle traffic which is owned or controlled by a public government entity.

“Mobile noise source” means any noise source other than a fixed noise source.

“Person” means any individual, firm, partnership, association, corporation, company or organization of any kind, including public agencies.

"Residential property" means a parcel of real property which is used either in part or in whole for residential purposes, other than transient uses such as hotels and motels, and residential care facilities. Residential property includes the residential portion of mixed use properties.

"Simple tone noise" means a noise characterized by a predominant frequency or frequencies so that other frequencies cannot be readily distinguished. If measured, simple tone noise shall exist if the one-third octave band sound pressure levels in the band with the tone exceeds the arithmetic average of the sound pressure levels of the two continuous one-third octave bands as follows: five Db for frequencies of five hundred (500) Hertz (Hz) and above or, by fifteen (15) Db for frequencies less than or equal to one hundred twenty-three (123) Hz.

"Sound level meter" means an instrument meeting American National Standard Institute's Standard S1.4-1971 or most recent revision thereof for Type 2 sound level meters or an instrument and the associated recording and analyzing equipment which will provide equivalent data.

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

"Vibration" means any movement of the earth, ground or other similar surface created by a temporal and spatial oscillation device or equipment located upon, affixed in conjunction with that surface. (Ord. 95-38 § 11 (part), 1995)

10.26.015 Decibel Measurement Criteria.

Any decibel measurement made pursuant to the provisions of this chapter shall be based on a reference sound pressure of twenty (20) micropascals as measured with a sound level meter using the A-weighted network (scale) at slow response. (Ord. 95-38 § 11 (part), 1995)

10.26.020 Designated Noise Zones.

The properties hereinafter described assigned to the following noise zones:

Noise Zone I	—	All single-, two- and multiple-family residential properties;
Noise Zone II	—	All commercial properties;
Noise Zone III	—	The residential portion of mixed-use properties;
Noise Zone IV	—	All manufacturing or industrial properties.

The actual use of the property shall be the determining factor in establishing whether a property is in Noise Zone I, II, III or IV provided that the actual use is a legal use in the City of Newport Beach. (Ord. 95-38 § 11 (part), 1995)

10.26.025 Exterior Noise Standards.

A. The following noise standards, unless otherwise specifically indicated, shall apply to all property with a designated noise zone:

		ALLOWABLE EXTERIOR NOISE LEVEL (Equivalent Noise Level, Leq)	
NOISE ZONE	**TYPE OF LAND USE**	**7 a.m. to 10 p.m.**	**10 p.m. to 7 a.m.**
I	Single-, two-or multiple-family residential	55 dBA	50 dBA
II	Commercial	65 dBA	60 dBA
III	Residential portions of mixed-use properties	60 dBA	50 dBA
IV	Industrial or manufacturing	70 dBA	70 dBA

If the ambient noise level exceeds the resulting standard, the ambient shall be the standard.

B. It is unlawful for any person at any location within the incorporated area of the City to create any noise, or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level when measured on any other property, to exceed either of the following:

1. The noise standard for the applicable zone for any fifteen-minute period;

2. A maximum instantaneous noise level equal to the value of the noise standard plus twenty (20) DBA for any period of time (measured using A-weighted slow response).

C. In the event the ambient noise level exceeds the noise standard, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

D. The Noise Zone III standard shall apply to that portion of residential property falling within one hundred (100) feet of a commercial property, if the intruding noise originates from that commercial property.

E. If the measurement location is on boundary between two different noise zones, the lower noise level standard applicable to the noise zone shall apply. (Ord. 95-53 § 1, 1995; Ord. 95-38 § 11 (part), 1995)

10.26.030 Interior Noise Standards.

A. The following noise standard, unless otherwise specifically indicated, shall apply to all residential property within all noise zones:

		ALLOWABLE INTERIOR NOISE LEVEL (Equivalent Noise Level, Leq)	
NOISE ZONE	**TYPE OF LAND USE**	**7 a.m. to 10 p.m.**	**10 p.m. to 7 a.m.**
I	Residential	45 dBA	40 dBA
III	Residential portions of mixed-use properties	45 dBA	40 dBA

If the ambient noise level exceeds the resulting standard, the ambient shall be the standard.

B. It shall be unlawful for any person at any location within the incorporated area of the City to create any noise or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such a person which causes the noise level when measured on any other property, to exceed either of the following:

1. The noise standard for the applicable zone for any fifteen-minute period;

2. A maximum instantaneous noise level equal to the value of the noise standard plus twenty (20) DBA for any period of time (measured using A-weighted slow response).

C. In the event the ambient noise level exceeds the noise standard, the noise standard applicable to said category shall be increased to reflect the maximum ambient noise level.

D. The Noise Zone III standard shall apply to that portion of residential property falling within one hundred (100) feet of a commercial property, if the intruding noise originates from that commercial property.

E. If the measurement location is on a boundary between two different noise zones, the lower noise level standard applicable to the noise zone shall apply. (Ord. 95-53 § 2, 1995; Ord. 95-38 § 11 (part), 1995)

10.26.035 Exemptions.

The following activities shall be exempted from the provisions of this chapter:

A. Any activity conducted on public property, or on private properly with the consent of the owner, by any public entity, or its officers, employees, representatives, agents, subcontractors, permittees, licensees, or lessees, which are consistent with, and in furtherance of, the governmental functions or services the public entity has authorized, or responsible, to perform, activities which are exempt from the provisions of this chapter include, without limitation, sporting and recreational activities which are sponsored or co-sponsored by the City of Newport Beach or the Newport Mesa Unified School District;

B. Occasional outdoor gatherings, public dances, show, sporting and entertainment events, provided said events are conducted pursuant to a permit or license issued by the appropriate jurisdiction relative to the staging of said events;

C. Any mechanical device, apparatus or equipment used, related to or connected with emergency machinery, vehicle, work or warning alarm or bell, provided the sounding of any bell or alarm on any building or motor vehicle shall terminate its operation within forty-five (45) minutes in any hour of its being activated;

D. Noise sources associated with construction, repair, remodeling, demolition or grading of any real property. Such activities shall instead be subject to the provisions of Chapter 10.28 of this title;

E. Noise sources associated with construction, repair, remodeling, demolition or grading of public rights-of-way or during authorized seismic surveys;

F. All mechanical devices, apparatus or equipment associated with agriculture operations provided that:

1. Operations do not take place between eight p.m. and seven a.m. on weekdays, including Saturday, or at any time Sunday or a federal holiday, or

2. Such operations and equipment are utilized for the protection or salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions, or

3. Such operations and equipment are associated with agricultural pest control through pesticide application, provided the application is made in accordance with permits issued by or regulations enforced by the California Department of Agriculture;

G. Noise sources associated with the maintenance of real property. Such activities shall instead be subject to the provisions of Chapter 10.28 of this title;

H. Any activity to the extent regulation thereof has been preempted by state or federal law. NOTE: Preemption may include motor vehicle, aircraft in flight, and railroad noise regulations;

I. Any noise sources associated with people and/or music associated with a party at a residential property. Such noise is difficult to measure under the terms of this chapter and instead shall be subject to the provisions of Chapters 10.28 and 10.58 of this title;

J. Any noise sources associated with barking dogs or other intermittent noises made by animals on any properly within the City of Newport Beach. Such noise is difficult to measure under the terms of this chapter and instead shall be subject to the provisions of Chapter 7.20 of this Code;

K. Any noise sources associated with the operation of a permanently installed heating, venting and air conditioning (HVAC) equipment on a residential property permitted under the provisions of Section 10.26.045(B) and (C);

L. Any noise sources specifically identified and mitigated under the provisions of a use permit, modification permit, development agreement or planned community district development plan adopted prior to the date of adoption of this chapter. (Ord. 95-53 § 3, 1995; Ord. 95-38 § 11 (part), 1995)

10.26.040 Schools, Day Care Centers, Churches, Libraries, Museums, Health Care Institutions—Special Provisions.

It is unlawful for any person to create any noise which causes the noise level at any school, day care center, hospital or similar health care institution, church, library or museum while the same is in use, to exceed the noise standards specified in Section 10.26.025 prescribed for the assigned Noise Zone I (residential uses). (Ord. 95-38 § 11 (part), 1995)

10.26.045 Heating, Venting and Air Conditioning—Special Provisions.

A. New HVAC Equipment. New permits for heating, venting and air conditioning (HVAC) equipment in or adjacent to residential areas shall be issued only where installations can be shown by computation, based on the sound rating of the proposed equipment, not to exceed an A-weighted sound pressure level of fifty (50) DBA or not to exceed an A-weighted sound pressure level of fifty-five (55) dBA and be installed with a timing device that will deactivate the equipment during the hours of ten p.m. to seven a.m. The method of computation used shall be that specified in "Standard Application of Sound Rated Outdoor Unitary Equipment," Standard 275, Air conditioning and Refrigeration Institute, 1984 or latest revision thereof.

B. Existing HVAC Equipment.

1. HVAC equipment legally installed prior to April 22, 1981, shall be permitted to operate with an exterior noise limit of sixty-five (65) dBA until January 1, 1998.

2. HVAC equipment legally installed prior to April 22, 1981, shall be exempted from the interior noise level standard as specified in Section 10.26.030 of this chapter until January 1, 1998.

3. HVAC equipment legally installed after April 22, 1981, and prior to the date of adoption of this chapter shall not exceed a maximum exterior noise limit of fifty-five (55) dBA during the ninety-day compliance period set forth in Section 10.26.005.

C. In the event that HVAC equipment cannot meet the requirements set forth in this chapter, then the exterior noise limit for such equipment may be raised to sixty-five (65) dBA and exempted from the interior noise level standard as specified in Section 10.26.030 of this chapter, provided that the applicant obtains the written consent of all the owners of the affected properties. (Ord. 95-38 § 11 (part), 1995)

10.26.050 Sound-Amplifying Equipment.

Loudspeakers, sound amplifiers, public address systems or similar devices used to amplify sounds shall be subject to the provisions of Chapter 10.32 of this title. Such sound-amplifying equipment shall not be construed to include electronic devices, including but not limited to, radios, tape players, tape

recorders, compact disc players, electric keyboards, music synthesizers, record players or televisions, which are designed and operated for personal use, or used entirely within a building and are not designed or used to convey the human voice, music or any other sound to an audience outside such building, or which are used in vehicles and heard only by occupants of the vehicle in which installed, which shall be subject to the provisions of Chapter 10.28 of this title. (Ord. 95-38 § 11 (part), 1995)

10.26.055 Noise Level Measurement.

A. The location selected for measuring exterior noise levels in a residential area shall be at any part of a private yard, patio, deck or balcony normally used for human activity and identified by the owner of the affected property as suspected of exceeding the noise level standard. This location may be the closest point in the private yard or patio, or on the deck or balcony, to the noise source, but should not be located in nonhuman activity areas such as trash container storage areas, planter beds, above or contacting a property line fence, or other areas not normally used as part of the yard, patio, deck or balcony. The location selected for measuring exterior noise levels in a nonresidential area shall be at the closest point to the noise source. The measurement microphone height shall be five feet above finish elevation or, in the case of a deck or balcony, the measurement microphone height shall be five feet above the finished floor level.

B. The location selected for measuring interior noise levels shall be made within the affected residential unit. The measurements shall be made at a point at least four feet from the wall, ceiling or floor, or within the frame of a window opening, nearest the noise source. The measurements shall be made with windows in an open position. (Ord. 95-38 § 11 (part), 1995)

10.26.065 Proposed Developments.

Each department whose duty it is to review and approve new projects or changes to existing projects that result or may result in the creation of noise shall consult with the Code Enforcement Officer prior to any such approval. If at any time the Code Enforcement Officer has reason to believe that a standard, regulation, action, proposed standard, regulation or action of any department respecting noise does not conform to the provisions as specified in this chapter, the Code Enforcement Officer may request such department to consult with him on the advisability of revising such standard or regulation to obtain uniformity. (Ord. 95-38 § 11 (part), 1995)

10.26.070 Prima Facie Violation.

Any noise exceeding the noise level standard as specified in Section 10.26.025 and 10.26.030 of this chapter, shall be deemed to be prima facie evidence of a violation of the provisions of this chapter. (Ord. 95-38 § 11 (part), 1995)

10.26.075 Violations.

Any persons violating any of the provisions of this chapter shall be deemed guilty of an infraction. (Ord. 95-38 § 11 (part), 1995)

10.26.080 Violations—Additional Remedies—Injunctions.

A. As an additional remedy, the operation or maintenance of any device, instrument, vehicle or machinery in violation of any provisions of this chapter which operation or maintenance causes or creates sound levels exceeding the allowable standards as specified in this chapter shall be deemed and is declared to be a public nuisance and may be subject to abatement summarily by a restraining order or injunction issued by a court of competent jurisdiction.

B. Any violation of this chapter is declared to be a public nuisance and may be abated in accordance with law. The expense of this chapter is declared to be public nuisance and may be by resolution of the City Council declared to be a lien against the property on which such nuisance is maintained, and such lien shall be made a personal obligation of the property owner. (Ord. 95-38 § 11 (part), 1995)

10.26.085 City Manager Waiver.

The City Manager is authorized to grant a temporary waiver to the provisions of this chapter for a period of time not to exceed thirty (30) days if such temporary waiver would be in the public interest and there is no feasible and prudent alternative to the activity, or the method of conducting the activity, for which the temporary waiver is sought. (Ord. 95-38 § 11 (part), 1995)

10.26.090 Noise Abatement Programs.

A. In circumstances which adopted community-wide noise standards and policies prove impractical in controlling noise generated from a specific source, the City Council may establish a noise abatement program which recognizes the characteristics of the noise source and affected property and which incorporates specialized mitigation measures.

B. Noise abatement programs shall set forth in detail the approved terms, conditions and requirements for achieving maximum compliance with noise standards and policies. Said terms, conditions and requirements may include, but shall not be limited to, limitations, restrictions, or prohibitions on operating hours, location of operations, and the types of equipment. (Ord. 95-38 § 11 (part), 1995)

10.26.095 Manner of Enforcement.

A. The City Code Enforcement Officer is directed to enforce the provisions of this chapter and may issue citations for any violation of the provisions of this chapter or violations of this chapter may be prosecuted or enforced in the same manner as other infractions pursuant to this Code; provided, however, that in the event of an initial violation of the provisions of this chapter, a written notice may be given to the alleged violator which specifies the time by which the condition shall be corrected.

B. No person shall interfere with, oppose or resist any authorized person charged with the enforcement of this chapter while such person is engaged in the performance of his/her duty.

C. In the event the alleged violator cannot be located in order to serve any notice, the notice shall be deemed to be given upon mailing such notice by registered or certified mail to the alleged violator at his last known address or at the place where the violation occurred in which event the specified time period for abating the violation or applying for a variance shall commence at the date of the day following the mailing of such notice. (Ord. 95-38 § 11 (part), 1995)

10.26.100 Severability.

If any provision, clause, sentence, or paragraph of this chapter, or the application thereof to any person or circumstance shall be held invalid, such invalidity shall not affect the other provisions of this chapter which can be given effect without the invalid provisions or application and, to this end, the provisions of this chapter are hereby declared to be severable. (Ord. 95-38 § 11 (part), 1995)

Chapter 10.28
LOUD AND UNREASONABLE NOISE*

Sections:

* Sound-amplifying equipment—See Chapter 10.32.

Prior history: 1949 Code § 4208; Ords. 1191, 1802, 87-11, 87-17 and 93-7.

10.28.005 Policy.

It is found and declared as follows:

A. The making, allowing, creation or maintenance of loud and unreasonable, unnecessary, or unusual noises which are prolonged, unusual, annoying, disturbing and/or unreasonable in their time, place and use are a detriment to public health, comfort, convenience, safety, general welfare and the peace and quiet of the City and its inhabitants.

B. The necessity in the public interest for the provisions and prohibitions contained and enacted is to declare as a matter of legislative determination and public policy, and it is further declared that the provisions and prohibitions contained and enacted are in pursuance of and for the purpose of securing and promoting the public health, comfort, convenience, safety, general welfare and property and the peace and quiet of the City and its inhabitants. (Ord. 2001-4 § 1, 2001)

10.28.007 Loud and Unreasonable Noise is Prohibited.

It is unlawful for any person or property owner to make, continue, cause or allow to be made any loud, unreasonable, unusual, penetrating or boisterous noise, disturbance or commotion which annoys, disturbs, injures or endangers the comfort, repose, health, peace and quiet within the limits of the City, and the acts and things listed in this chapter, among others, are declared to be loud, disturbing, injurious and unreasonable noises in violation of this Chapter, but shall not be deemed to be exclusive. (Ord. 2001-4 § 2, 2001)

10.28.010 Loud and Unreasonable Noise.

It is unlawful for any person or property owner to willfully make, allow, continue or cause to be made, allowed, or continued, any loud and unreasonable, unnecessary, or disturbing noise, including, but not limited to, yelling, shouting, hooting, whistling, singing, playing music, or playing a musical instrument, which disturbs the peace, comfort, quiet or repose of any area or which causes discomfort or annoyance to any reasonable person of normal sensitivities in the area, after a peace or code enforcement officer has first requested that the person or property owner cease and desist from making or continuing, or causing to make or continue, such loud, unreasonable, unnecessary, excessive or disturbing noise.

The factors, standards, and conditions which should be considered in determining whether a violation of the provisions of this section has been committed, include, but are not limited to, the following:

A. The level of the noise;

B. Whether the nature of the noise is usual or unusual;

C. Whether the origin of the noise is natural or unnatural;

D. The level and intensity of the background (ambient) noise, if any;

E. The proximity of the noise to residential or commercial sleeping areas;

F. The nature and zoning of the area within which the noise emanates;

G. The density of inhabitation of the area within which the noise emanates;

H. The time of day and night the noise occurs;

I. The duration of the noise;

J. Whether the noise is constant, or recurrent or intermittent; and

K. Whether the noise is produced by a commercial or noncommercial activity;

L. If the noise is produced by a commercial activity, whether the use is lawful under the provisions of Title 20 of this Code and whether the noise is one that could reasonably be expected from the commercial activity.

M. Penalties. Any person who violates any provision of this section is guilty of a misdemeanor, unless the violation is deemed an infraction pursuant to the provisions of Section 1.04.010 of this Code. (Ord. 2001-4 § 3 (part), 2001: Ord. 95-38 § 3 (part), 1995)

10.28.020 Loud and Raucous Noise from Sound-Making or Amplifying Devices Prohibited.

A. It is unlawful for any person to cause, allow or permit the emission or transmission of any loud or raucous noise from any sound-making or sound-amplifying device in his possession or under his control:

1. Upon any private property; or

2. Upon any public street, alley, sidewalk or thoroughfare; or

3. In or upon any public park, beach or other public place or property.

B. The words “loud and raucous noise,” as used herein, shall mean any sound or any recording thereof when amplified or increased by any electrical, mechanical or other device to such volume, intensity or carrying power as to unreasonably interfere with the peace and quiet of other persons within or upon any one or more of such places or areas, or as to unreasonably annoy, disturb, impair or endanger the comfort, repose, health, or safety of other persons within or upon any one or more such places or areas.

C. The word “unreasonably,” as used herein, shall include, but not be limited to, consideration of the hour, place, nature and circumstances of the emission or transmission of any such loud and raucous noise.

D. Penalties. Any person who violates any provision of this section is guilty of a misdemeanor unless the violation is deemed an infraction pursuant to the provisions of Section 1.04.010 of this Code. (Ord. 2001-4 § 3 (part), 2001: Ord. 95-38 § 3 (part), 1995)

10.28.040 Construction Activity—Noise Regulations.

A. Weekdays and Saturdays. No person shall, while engaged in construction, remodeling, digging, grading, demolition, painting, plastering or any other related building activity, operate any tool, equipment or machine in a manner which produces loud noise that disturbs, or could disturb, a person of normal sensitivity who works or resides in the vicinity, on any weekday except between the hours of seven a.m. and six-thirty p.m., nor on any Saturday except between the hours of eight a.m. and six p.m.

B. Sundays and Holidays. No person shall, while engaged in construction, remodeling, digging, grading, demolition, painting, plastering or any other related building activity, operate any tool, equipment or machine in a manner which produces loud noise that disturbs, or could disturb, a person of normal sensitivity who works or resides in the vicinity, on any Sunday or any federal holiday.

C. No landowner, construction company owner, contractor, subcontractor, or employer shall permit or allow any person or persons working under their direction and control to operate any tool, equipment or machine in violation of the provisions of this section.

D. Exceptions.

1. The provisions of this section shall not apply to emergency construction work performed by a private party when authorized by the Community Development Director or his or her designee.

2. The maintenance, repair or improvement of any public work or facility by public employees, by any person or persons acting pursuant to a public works contract, or by any person or persons performing such work or pursuant to the direction of, or on behalf of, any public agency; provided, however, this exception shall not apply to the City of Newport Beach, or its employees, contractors or agents, unless:

a. The City Manager or department director determines that the maintenance, repair or improvement is immediately necessary to maintain public services;

b. The maintenance, repair or improvement is of a nature that cannot feasibly be conducted during normal business hours;

c. The City Council has approved project specifications, contract provisions, or an environmental document that specifically authorizes construction during hours of the day which would otherwise be prohibited pursuant to this section.

E. Penalties. Any person who violates any provision of this section is guilty of a misdemeanor unless the violation is deemed an infraction pursuant to the provisions of Section 1.04.010 of this Code. (Ord. 2013-11 § 35, 2013; Ord. 2001-4 § 3 (part), 2001: Ord. 95-38 § 3 (part), 1995)

10.28.045 Real Property Maintenance—Noise Regulations.

A. Weekdays and Saturdays. No person shall, while engaged in maintenance of real property, operate any tool, equipment or machine in a manner which produces loud noise that disturbs, or could disturb, a person of normal sensitivity who works or resides in the vicinity, except between the hours of seven a.m. and six-thirty p.m., Monday through Friday, nor on any Saturday, except between the hours of eight a.m. and six p.m.

B. Sundays and Holidays. No person shall, while engaged in maintenance of real property, operate any tool, equipment or machine in a manner which produces loud noise that disturbs, or could disturb, a person of normal sensitivity who works or resides in the vicinity, on any Sunday or any federal holiday.

C. No landowner, gardener, property maintenance service, contractor, subcontractor or employer shall permit or allow any person or persons working under their direction and control to operate any tool, equipment or machine in violation of the provisions of this section.

D. After January 1, 1996, mechanical blowers, as defined in Section 6.04.055, shall not be operated at a noise level that exceeds an A-weighted sound pressure level of seventy (70) dBA, as measured at a distance of fifty (50) feet. After January 1, 1999, such equipment shall not be operated at a noise level that exceeds an A-weighted sound pressure level of sixty-five (65) dBA, as measured from a distance of fifty (50) feet.

E. Exceptions. The provisions of this section shall not apply to the following:

1. Emergency property maintenance authorized by the Building Director;

2. The maintenance, repair or improvement of any public work or facility by public employees, by any person or persons acting pursuant to a public works contract, or by any person or persons performing such work or pursuant to the direction of, or on behalf of, any public agency; provided, however, this exception shall not apply to the City of Newport Beach, or its employees, contractors or agents, unless:

a. The City Manager or department director determines that the maintenance, repair or improvement is immediately necessary to maintain public service,

b. The maintenance, repair or improvement is of a nature that cannot feasibly be conducted during normal business hours,

c. The City Council has approved project specifications, contract provisions, or an environmental document that specifically authorizes construction during hours of the day which would otherwise be prohibited pursuant to this section;

3. Greens maintenance on golf courses conducted between the hours of six a.m. and eight p.m. and all other types of golf course maintenance between the hours of seven a.m. and eight p.m., provided no maintenance activity commences before six a.m.

F. Penalties. Any person who violates any provision of this section is guilty of a misdemeanor unless the violation is deemed an infraction pursuant to the provisions of Section 1.04.010 of this Code. (Ord. 2001-4 § 3 (part), 2001: Ord. 95-38 § 3 (part), 1995)

10.28.050 Exceptions.

The provisions of Sections 10.28.040 and 10.28.045 shall not be construed to prohibit such work at different hours by or under the direction of any other public agency in cases of necessity or emergency. (Ord. 2001-4 § 3 (part), 2001: Ord. 95-38 § 3 (part), 1995)

Existing Noise Level Conditions

Airport-related Noise.
Per the 2006 General Plan EIR noise level contours; Figure N2 for Existing Noise Conditions, the 60 dBA CNEL noise contour for John Wayne Airport is approximately 3,725 feet to the WNW of the project site. Additionally, the John Wayne Airport 65 dBA CNEL noise contour is approximately 9,600 feet to the NNW of the project site.

Traffic-related Noise.
As also shown in Figure N2 for Existing Noise Conditions, 60 dBA CNEL traffic noise lines are shown for traffic flows on Santa Barbara Drive (which has an ADT of 10,000) and on Santa Cruz Drive (which has an ADT of 8,000).[1] Further, there are no 60 dBA CNEL traffic noise lines associated with either San Clemente Drive or Santa Maria Drive. The implication is that these roadways did not generate sufficient vehicle flow rates to generate substantial traffic noise levels and the assumption is that these roadways have flows of less than 5,000 to 6,000 ADT. A nominal calculation (from a similar project) shows typical distances to the 60 dBA CNEL contour line versus average daily traffic (ADT) flow rates:

Average Daily Traffic (ADT)	Distance to 60 dBA CNEL line (feet)
1,600	~55
2,600	~75
4,000	~100
4,500	~110
5,500	~125
6,200	~133
7,200	~147

With the premise that vehicle flows on San Clemente Drive less than 5,000 to 6,000 ADT, then the associated distance to the 60 dBA CNEL is less than approximately 130 from the centerline of the roadway. All permanent residential living spaces at the project site would be beyond this 60 dBA CNEL contour line and, thus, experience a traffic-related noise environment of less than 60 dBA CNEL.

[1] City of Newport Beach, General Plan Transportation Study, prepared by Urban Crossroads for EIP Associates, March 22, 2006. Accessed on 6/8/16 at: http://newportbeachca.gov/PLN/General_Plan/GP_EIR/Volume_2/App_D_Traffic_Study.pdf.

ST Summary Data

Site: 45 Model: 820 Firmware rev: 1.634
Location:
Date: 11May 16 11:29:07

	Overall	Current		
Run Time	15:00.0	00:00.0		
Start Time	5/11/2016 11:29	8/8/2016 11:50		
TWA: Leq	0	Leq	0	
SEL	0		0	
Lmax	77.6		0	
Lmax Time	8/7/2016 13:27	- - - - - -	00:00:00	
Lmin	37.6		0	
Lmin Time	5/11/2016 11:33	- - - - - -	00:00:00	
Peak	93.5		0	
Peak Time	8/7/2016 13:34	- - - - - -	00:00:00	
Unweighted Peak	98.1		0	
Uwpk Time	8/7/2016 13:27	- - - - - -	00:00:00	
Dose	0		0	
Projected Dose	0		0	
Threshold	80		80	
Criterion	90		90	
Ln values	L 2 = 67.1	L 8 = 62.8	L10 = 61.7	
	L25 = 53.6	L50 = 47.2	L90 = 40.8	

Ldn	57.1	Overall Leq	57.1	01:15:00.0
Cnel	57.1	Event Leq	67	00:04:00.0
Sound Exposure	0	Background Leq	54.3	01:10:59.0
Overloads	0			
Pause Time	00:00.0			

Records:

Run/Stop	10	Daily	0
Event	0	Calibration	3
Interval	5	Time History	90

ST-1 Time History Data

Sample Period (sec): 60.000

Date	Time	Level
7-Aug-16	13:01:10	57.1
7-Aug-16	13:02:10	53.5
7-Aug-16	13:03:10	55.7
7-Aug-16	13:04:10	62.7
7-Aug-16	13:05:10	54.1
7-Aug-16	13:06:10	53.5
7-Aug-16	13:07:10	57.6
7-Aug-16	13:08:10	61.0
7-Aug-16	13:09:10	62.1
7-Aug-16	13:10:10	63.4
7-Aug-16	13:11:10	52.8
7-Aug-16	13:12:10	62.5
7-Aug-16	13:13:10	56.3
7-Aug-16	13:14:10	53.3
7-Aug-16	13:15:10	48.7
7-Aug-16	13:16:10	50.9

15-minute Leq = 58.9

ST-2 Time History Data

Sample Period (sec): 60.000

Date	Time	Level
7-Aug-16	13:20:02	63.0
7-Aug-16	13:21:02	63.8
7-Aug-16	13:22:02	61.8
7-Aug-16	13:23:02	62.8
7-Aug-16	13:24:02	58.8
7-Aug-16	13:25:02	65.3
7-Aug-16	13:26:02	61.5
7-Aug-16	13:27:02	65.3
7-Aug-16	13:28:02	62.5
7-Aug-16	13:29:02	54.6
7-Aug-16	13:30:02	61.0
7-Aug-16	13:31:02	58.4
7-Aug-16	13:32:02	61.7
7-Aug-16	13:33:02	57.8
7-Aug-16	13:34:02	61.5
7-Aug-16	13:35:02	64.6

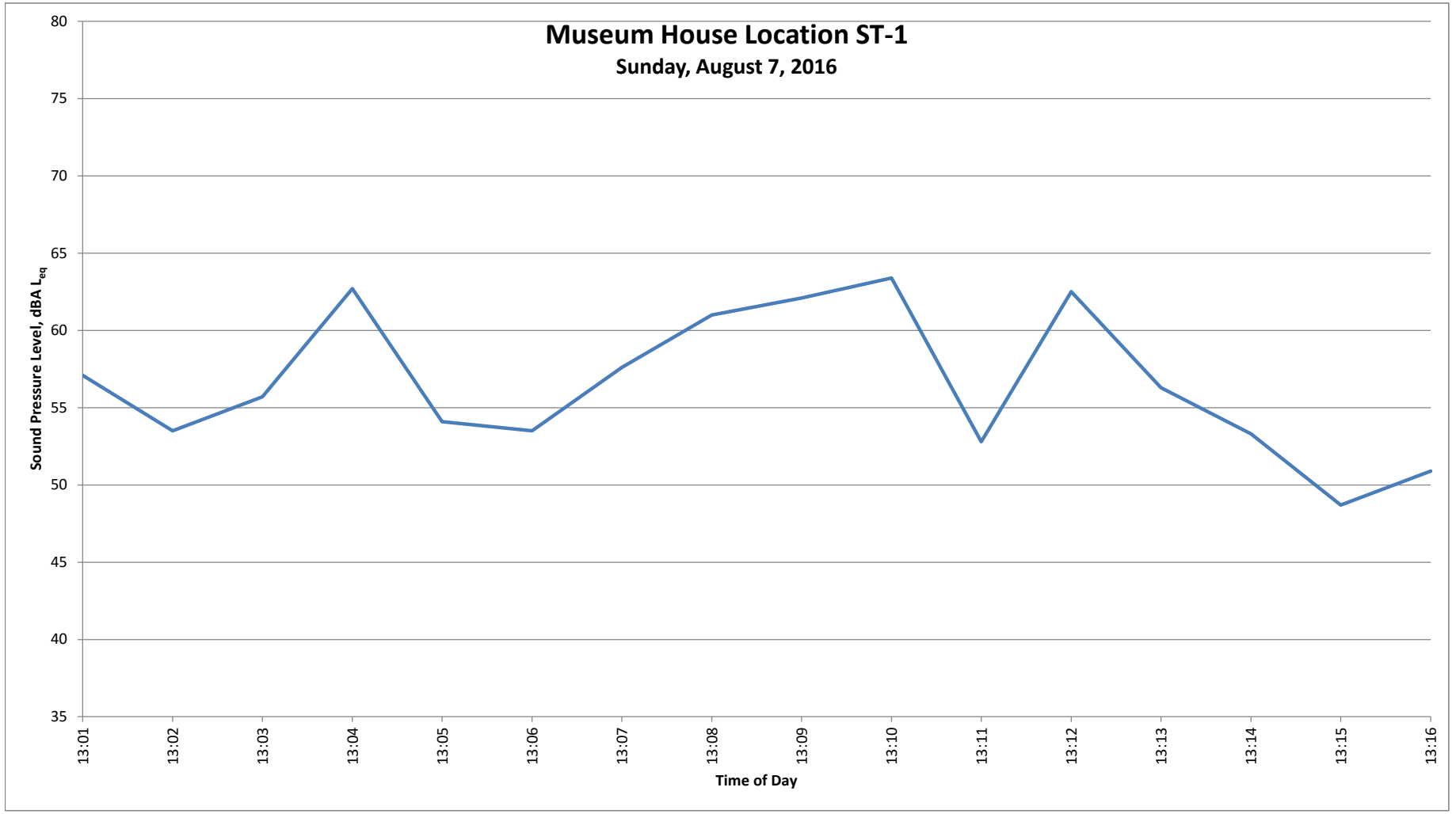
15-minute Leq = 62.1

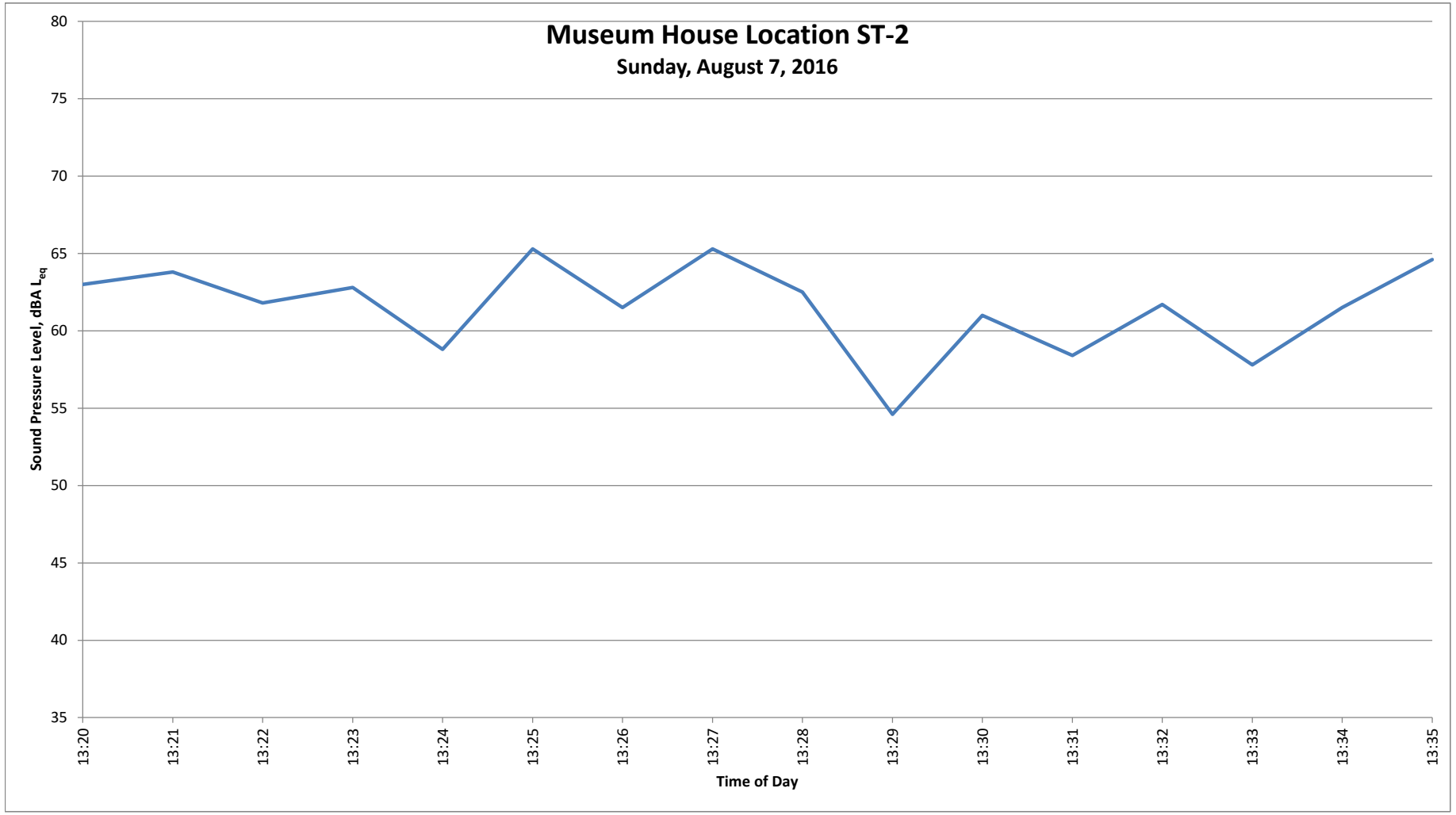
ST-1 Interval Data

Date	Time	Duration	Leq	SEL	Lmax	Lmin	L(2)	L(8)	L(10)	L(25)	L(50)	L(90)
7-Aug-16	13:01:10	900	58.9	88.5	71.8	47.6	67.9	64.3	63.0	58.1	52.3	48.5

ST-2 Interval Data

Date	Time	Duration	Leq	SEL	Lmax	Lmin	L(2)	L(8)	L(10)	L(25)	L(50)	L(90)
7-Aug-16	13:20:02	900	62.1	91.6	77.6	45.2	68.9	66.8	66.3	63.4	58.4	49.5


Museum House Location ST-1
Sunday, August 7, 2016
Sound Pressure Level, dBA Leq
80
75
70
65
60
55
50
45
40
35
13:01
13:02
13:03
13:04
13:05
13:06
13:07
13:08
13:09
13:10
13:11
13:12
13:13
13:14
13:15
13:16
Time of Day


Museum House Location ST-2
Sunday, August 7, 2016
Sound Pressure Level, dBA Leq
80
75
70
65
60
55
50
45
40
35
13:20
13:21
13:22
13:23
13:24
13:25
13:26
13:27
13:28
13:29
13:30
13:31
13:32
13:33
13:34
13:35
Time of Day

LT-1 Summary Data

Site: 1 Model: 820 Firmware rev: 1.634
Location:
Date: 11May 16 11:14:54

	Overall	Current
Run Time	15:48.7	00:00.0
Start Time	5/11/2016 11:14	8/8/2016 11:44
TWA: Leq	45.3	Leq 0.0
SEL	99.1	0
Lmax	88.9	0
Lmax Time	5/11/2016 15:16	- - - - - - 00:00:00
Lmin	31.8	0
Lmin Time	5/12/2016 2:55	- - - - - - 00:00:00
Peak	106.2	0
Peak Time	5/11/2016 15:16	- - - - - - 00:00:00
Unweighted Peak	111.5	0
Uwpk Time	5/11/2016 15:16	- - - - - - 00:00:00
Dose	0	0
Projected Dose	0	0
Threshold	80	80
Criterion	90	90
Ln values	L 2 = 67.5	L 8 = 63.1 L10 = 61.8
	L25 = 54.1	L50 = 47.5 L90 = 43.1

Ldn	60.2	Overall Leq	57.9	66:15:48.7
Cnel	60.5	Event Leq	67.8	03:57:20.5
Sound Exposure	0	Background Leq	54.2	62:18:28.2
Overloads	0			
Pause Time	00:00:00.0			

Records:

Run/Stop	4	Daily	0
Event	0	Calibration	4
Interval	68	Time History	3981

LT-1 Interval Data

Date	Time	Duration	Leq	SEL	Lmax	Lmin	L(2)	L(8)	L(10)	L(25)	L(50)	L(90)
6-Aug-16	17:25:51	2048.8	52.9	86.0	70.7	44.2	61.8	56.2	55.0	49.8	48.1	45.6
6-Aug-16	18:00:00	3600	52.5	88.0	69.5	43.7	62.6	55.5	53.6	48.9	47.5	45.2
6-Aug-16	19:00:00	3600	51.6	87.1	68.4	43.8	62.0	53.6	51.9	48.4	46.9	45.1
6-Aug-16	20:00:00	3600	50.8	86.4	68.4	43.7	61.6	50.4	49.3	47.4	46.0	44.4
6-Aug-16	21:00:00	3600	46.1	81.7	62.0	43.4	50.9	47.3	47.0	45.9	44.9	44.1
6-Aug-16	22:00:00	3600	45.5	81.0	60.0	43.2	48.9	46.9	46.7	45.6	44.8	44.0
6-Aug-16	23:00:00	3600	44.9	80.4	54.5	42.9	49.4	46.2	45.8	44.8	44.2	43.2
7-Aug-16	0:00:00	3600	44.0	79.6	58.6	42.4	46.2	44.7	44.6	43.9	43.5	42.9
7-Aug-16	1:00:00	3600	43.5	79.0	50.6	42.4	44.9	44.3	44.1	43.8	43.5	43.0
7-Aug-16	2:00:00	3600	43.4	79.0	55.2	42.2	44.9	44.0	43.9	43.7	43.4	42.5
7-Aug-16	3:00:00	3600	42.9	78.5	52.2	42.0	44.0	43.8	43.8	43.4	42.9	42.2
7-Aug-16	4:00:00	3600	42.9	78.4	46.5	41.7	44.0	43.7	43.6	43.0	42.6	42.1
7-Aug-16	5:00:00	3600	43.2	78.7	53.0	42.1	44.7	43.9	43.8	43.4	42.8	42.2
7-Aug-16	6:00:00	3600	44.6	80.1	66.2	42.4	48.7	44.8	44.6	43.8	43.4	42.4
7-Aug-16	7:00:00	3600	46.6	82.2	62.2	42.6	54.1	49.3	48.4	46.0	44.4	43.2
7-Aug-16	8:00:00	3600	55.3	90.9	70.0	42.9	65.4	60.9	59.7	51.4	47.1	44.3
7-Aug-16	9:00:00	3600	54.3	89.8	70.0	43.1	65.1	59.3	57.9	47.8	45.6	43.7
7-Aug-16	10:00:00	3600	54.0	89.6	71.7	43.4	64.8	58.8	56.8	49.0	46.3	44.3
7-Aug-16	11:00:00	3600	54.6	90.2	70.6	43.3	65.2	58.4	57.2	50.7	46.9	44.6
7-Aug-16	12:00:00	3600	53.9	89.5	70.8	44.5	63.8	58.2	56.7	50.3	48.1	45.9
7-Aug-16	13:00:00	3600	54.3	89.9	70.2	44.1	64.4	59.3	57.5	50.0	47.8	45.6
7-Aug-16	14:00:00	3600	51.7	87.2	67.1	44.7	61.5	54.6	53.2	49.1	47.8	46.1
7-Aug-16	15:00:00	3600	53.8	89.3	71.5	44.7	64.3	56.9	55.6	50.1	48.1	45.8
7-Aug-16	16:00:00	3600	54.3	89.8	70.0	44.6	64.2	59.1	57.7	50.7	48.0	46.0
7-Aug-16	17:00:00	3600	54.2	89.8	71.6	44.7	63.7	59.0	57.8	50.6	48.0	45.8
7-Aug-16	18:00:00	3600	53.5	89.1	71.4	44.8	62.9	56.9	55.0	48.6	47.1	45.5
7-Aug-16	19:00:00	3600	51.9	87.5	69.4	44.2	62.5	53.8	52.0	47.7	46.5	45.1
7-Aug-16	20:00:00	3600	51.5	87.1	68.2	43.5	61.6	54.8	52.4	48.3	46.0	44.3
7-Aug-16	21:00:00	3600	50.1	85.7	67.3	43.7	57.3	50.8	50.1	48.8	48.0	47.0

7-Aug-16	22:00:00	3600	47.9	83.5	57.6	45.4	50.7	49.1	48.9	48.3	47.7	46.7
7-Aug-16	23:00:00	3600	45.1	80.7	55.5	42.1	47.9	47.2	47.0	46.0	44.5	43.0
8-Aug-16	0:00:00	3600	45.9	81.5	55.4	42.6	48.6	47.6	47.3	46.7	46.0	43.3
8-Aug-16	1:00:00	3600	44.6	80.2	48.0	42.6	46.9	46.5	46.3	45.2	44.0	43.2
8-Aug-16	2:00:00	3600	44.1	79.7	62.0	42.5	45.4	44.5	44.4	43.9	43.5	42.7
8-Aug-16	3:00:00	3600	44.1	79.7	49.2	42.6	46.6	45.3	45.0	44.3	43.7	43.1
8-Aug-16	4:00:00	3600	44.9	80.5	48.7	43.1	46.7	46.0	45.9	45.5	44.8	43.6
8-Aug-16	5:00:00	3600	47.5	83.1	62.7	44.3	54.2	49.5	48.7	46.7	45.7	44.6
8-Aug-16	6:00:00	3600	54.1	89.6	74.3	45.0	62.7	57.7	56.7	51.7	48.8	46.4
8-Aug-16	7:00:00	3600	63.6	99.1	77.8	47.6	69.9	67.5	66.9	64.3	61.7	55.3
8-Aug-16	8:00:00	3600	65.8	101.4	77.2	54.6	71.2	69.3	68.9	67.0	64.4	59.8
8-Aug-16	9:00:00	3600	65.9	101.5	85.4	54.7	72.1	69.2	68.7	66.2	63.7	59.4
8-Aug-16	10:00:00	152.1	66.5	88.3	77.4	56.6	72.4	69.9	69.6	67.9	64.6	57.8

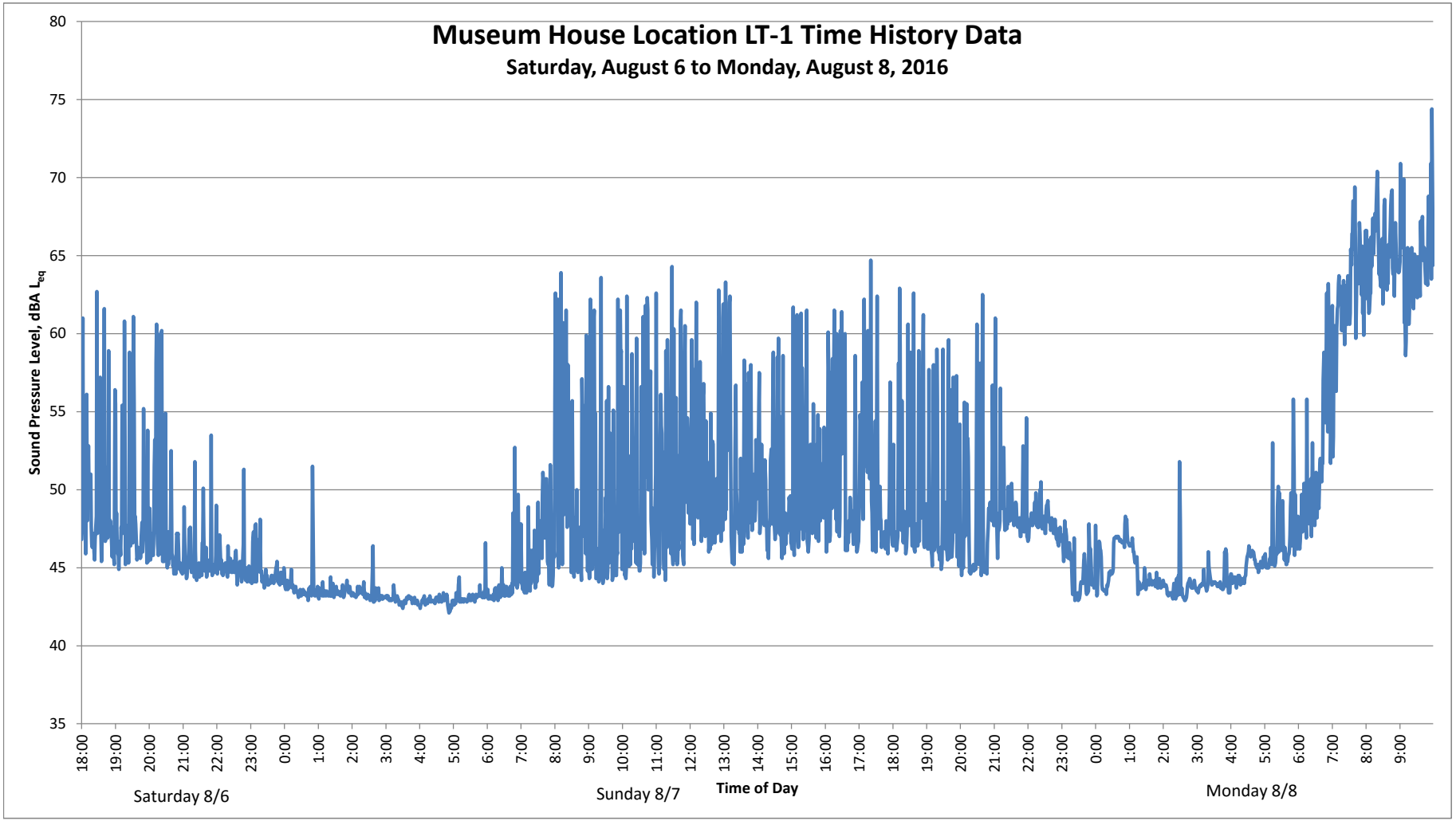
Highest Leq on Sunday, August 7 = 55.3

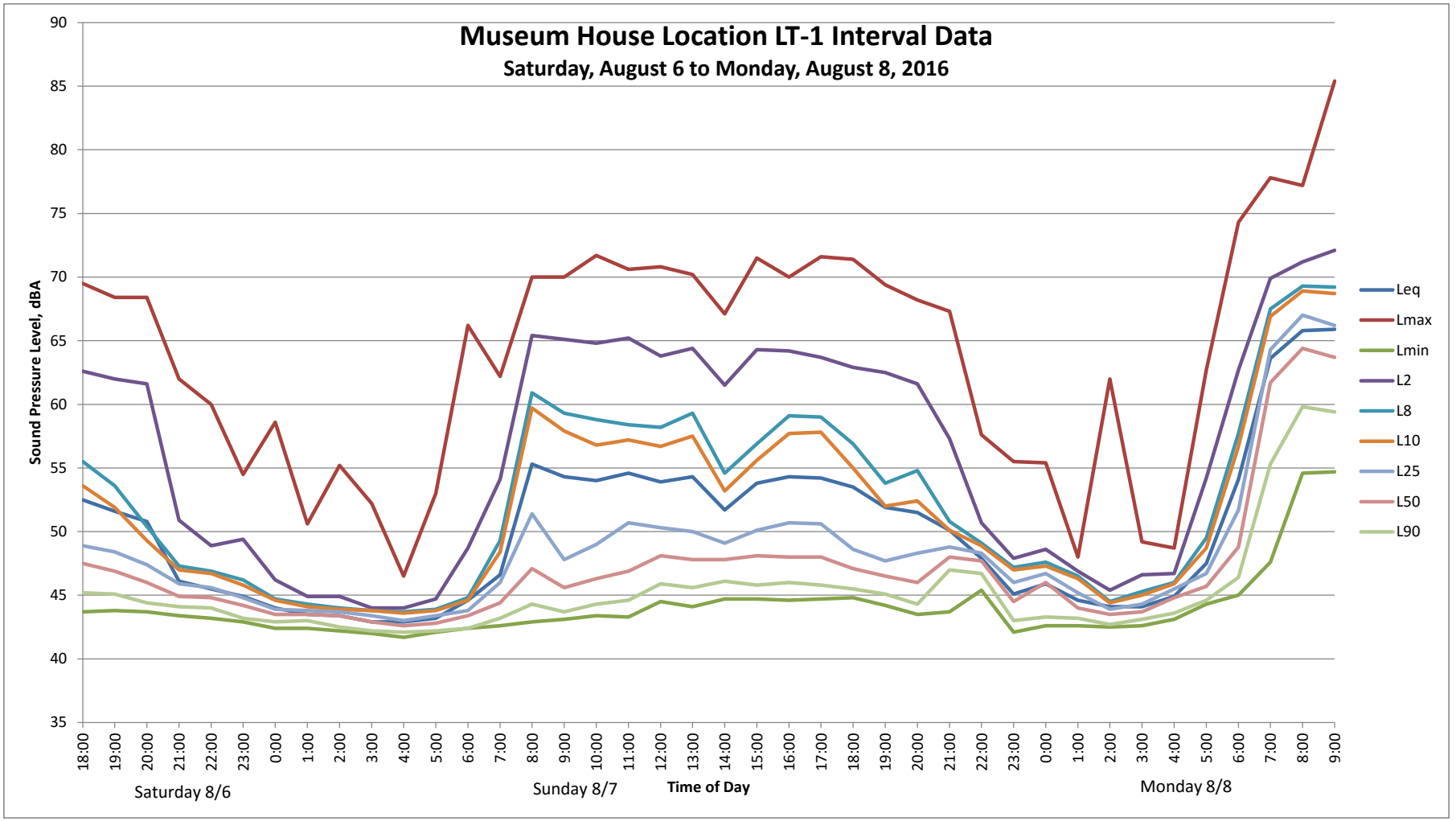
Lowest Leq on Sunday, August 7 = 42.9

LT-1 24-Hour Calculations

Date	Time	Leq	Ldn Adjustment	Ldn	CNEL Adjustment	CNEL
7-Aug-16	0:00:00	44.0	10	54.0	10	54.0
7-Aug-16	1:00:00	43.5	10	53.5	10	53.5
7-Aug-16	2:00:00	43.4	10	53.4	10	53.4
7-Aug-16	3:00:00	42.9	10	52.9	10	52.9
7-Aug-16	4:00:00	42.9	10	52.9	10	52.9
7-Aug-16	5:00:00	43.2	10	53.2	10	53.2
7-Aug-16	6:00:00	44.6	10	54.6	10	54.6
7-Aug-16	7:00:00	46.6	0	46.6	0	46.6
7-Aug-16	8:00:00	55.3	0	55.3	0	55.3
7-Aug-16	9:00:00	54.3	0	54.3	0	54.3
7-Aug-16	10:00:00	54.0	0	54.0	0	54.0
7-Aug-16	11:00:00	54.6	0	54.6	0	54.6
7-Aug-16	12:00:00	53.9	0	53.9	0	53.9
7-Aug-16	13:00:00	54.3	0	54.3	0	54.3
7-Aug-16	14:00:00	51.7	0	51.7	0	51.7
7-Aug-16	15:00:00	53.8	0	53.8	0	53.8
7-Aug-16	16:00:00	54.3	0	54.3	0	54.3
7-Aug-16	17:00:00	54.2	0	54.2	0	54.2
7-Aug-16	18:00:00	53.5	0	53.5	0	53.5
7-Aug-16	19:00:00	51.9	0	51.9	5	56.9
7-Aug-16	20:00:00	51.5	0	51.5	5	56.5
7-Aug-16	21:00:00	50.1	0	50.1	5	55.1
7-Aug-16	22:00:00	47.9	10	57.9	10	57.9
7-Aug-16	23:00:00	45.1	10	55.1	10	55.1

24-hr Leq	Ldn	CNEL
51.6	**53.8**	**54.4**


Museum House Location LT-1 Time History Data
Saturday, August 6 to Monday, August 8, 2016
Sound Pressure Level, dBA Leq
80
75
70
65
60
55
50
45
40
35
18:00
19:00
20:00
21:00
22:00
23:00
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
Saturday 8/6
Sunday 8/7
Monday 8/8
Time of Day


Museum House Location LT-1 Interval Data
Saturday, August 6 to Monday, August 8, 2016
Sound Pressure Level, dBA
90
85
80
75
70
65
60
55
50
45
40
35
18:00
19:00
20:00
21:00
22:00
23:00
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
Saturday 8/6
Sunday 8/7
Monday 8/8
Time of Day
Leq
Lmax
Lmin
L2
L8
L10
L25
L50
L90

Project: CNB-17 Museum House **LT-1**
Client: Newport Beach **Job #:**

Location ID: behind museum **Photos:** **Sketch:**
Location details: property line to N between museum + apts.
Lattitude: N **Elev:** (GPS) (Kestrel)
Longitude: W **Terrain:** hard soft mixed flat hilly

SETUP

Date: 8/6/16 **Start Time:** 5:25 **Duration:** min **Period:** M D E N

Temp °F	% RH	Press.	Wind Spd	Gust Spd	Wind Dir
82	68		0-2		

Winds: Calm Whisper Light Moderate Strong Variable — *See ST- for SLM info*
Sky: Sunny Dark Clear Prtly Cldy Ovrcst Fog Drizzle Rain Snow
Other:

Instrument: LD 820 s/n: 1547 **pre-cal:** 93.7 dBA @ 1kHz ✓☒ Δ ☐
Calib'r: s/n: **post-cal:** 93.7 dBA @ 1kHz ✓☒ Δ ☐
Settings: A-wtd Slow Fast Impulse Frontal Random Other Windscreen: ☒

	Leq(A)	Lmax(A)	Lmin(A)	L1(A)	L10(A)	L50(A)	L90(A)	L99(A)	Register
Overall Noise:									

Primary Noise Sources: amb ind'l comm'l traffic aircraft rail other:
Sec'y Noise Sources: o/h <AIRCRAFT> dist near <TRAFFIC> dist near <RAIL> dist HVAC
near <LANDSCAP'G> dist near <KIDS> dist rustling trees/bushes near <DOGS> dist birds bugs
Other Noise Sources: ~~likely some construction on Mon AM~~ see below

END

PICK-UP

Date: 8/8/16 **Start Time:** 10:01 **Duration:** min **Period:** M D E N

Temp °F	% RH	Press.	Wind Spd	Gust Spd	Wind Dir	Leq(A)	Register
76	64		0				

Winds: Calm Whisper Light Moderate Strong Variable
Sky: Sunny Dark Clear Prtly Cldy Ovrcst Fog Drizzle Rain Snow

Primary Noise Sources: amb ind'l comm'l traffic aircraft rail other: const
Sec'y Noise Sources: o/h <AIRCRAFT> dist near <TRAFFIC> dist near <RAIL> dist HVAC
near <LANDSCAP'G> dist near <KIDS> dist rustling trees/bushes near <DOGS> dist birds bugs
Other Noise Sources: construction (workers, equip, beeping)

Date: **Start Time:** **Duration:** min **Period:** M D E N

Temp °F	% RH	Press.	Wind Spd	Gust Spd	Wind Dir	Leq(A)	Register

Winds: Calm Whisper Light Moderate Strong Variable
Sky: Sunny Dark Clear Prtly Cldy Ovrcst Fog Drizzle Rain Snow

Primary Noise Sources: amb ind'l comm'l traffic aircraft rail other:
Sec'y Noise Sources: o/h <AIRCRAFT> dist near <TRAFFIC> dist near <RAIL> dist HVAC
near <LANDSCAP'G> dist near <KIDS> dist rustling trees/bushes near <DOGS> dist birds bugs
Other Noise Sources:

Project: CNB-17 Museum House **ST-** 1

Client: **Job #:**

Location ID: Santa Maria + San Clemente **Photos:** Yes **Sketch:**

Location details:

Lattitude: N **Elev:** (GPS) (Kestrel)

Longitude: W **Terrain:** hard soft mixed flat hilly

Date: 8/2/16 **Start Time:** 1:01 PM **Duration:** 15 min **Period:** M D E N

Temp °F	% RH	Press.	Wind Spd	Gust Spd	Wind Dir
75	69		3-5		

Winds: Calm Whisper Light Moderate Strong Variable

Sky: Sunny Dark Clear Prtly Cldy Ovrcst Fog Drizzle Rain Snow

Other:

Instrument: LD 820 s/n: 1545 **pre-cal:** 93.8 dBA @ 1kHz ✓☒ Δ☐

Calib'r: s/n: **post-cal:** dBA @ 1kHz ✓☐ Δ☐

Settings: A-wtd Slow Fast Impulse Frontal Random Other Windscreen: ☐

	Leq(A)	Lmax(A)	Lmin(A)	L1(A)	L10(A)	L50(A)	L90(A)	L99(A)	Register
Overall Noise:									

	63	125	250	500	1k	2k	4k	8k	OA(A)
OB Noise:									

Primary Noise Sources: amb ind'l comm'l traffic aircraft rail other:

Sec'y Noise Sources: o/h <AIRCRAFT> dist near <TRAFFIC> dist near <RAIL> dist HVAC

near <LANDSCAP'G> dist near <KIDS> dist rustling trees/bushes near <DOGS> dist birds bugs

Other Noise Sources: S.C. cars: |||| |||| |||| |||| ||||

~~Near~~ distant traffic on San Clemente + Santa Maria (near)

o/h planes: |||| emergency vehicles far + Santa Barbara

Date: **Start Time:** **Duration:** min **Period:** M D E N

Temp °F	% RH	Press.	Wind Spd	Gust Spd	Wind Dir

Winds: Calm Whisper Light Moderate Strong Variable

Sky: Sunny Dark Clear Prtly Cldy Ovrcst Fog Drizzle Rain Snow

Other:

Instrument: s/n: **pre-cal:** dBA @ 1kHz ✓☐ Δ☐

Calib'r: s/n: **post-cal:** dBA @ 1kHz ✓☐ Δ☐

Settings: A-wtd Slow Fast Impulse Frontal Random Other Windscreen: ☐

	Leq(A)	Lmax(A)	Lmin(A)	L1(A)	L10(A)	L50(A)	L90(A)	L99(A)	Register
Overall Noise:									

	63	125	250	500	1k	2k	4k	8k	OA(A)
OB Noise:									

Primary Noise Sources: amb ind'l comm'l traffic aircraft rail other:

Sec'y Noise Sources: o/h <AIRCRAFT> dist near <TRAFFIC> dist near <RAIL> dist HVAC

near <LANDSCAP'G> dist near <KIDS> dist rustling trees/bushes near <DOGS> dist birds bugs

Other Noise Sources:

Project: CNB-17 Museum House
Client: City of Newport Beach **Job #:** _____ **ST-2**
Location ID: Santa Barbara + San Clemente **Photos:** Yes **Sketch:** _____
Location details: _____
Lattitude: N _____ Elev: _____ (GPS) _____ (Kestrel)
Longitude: W _____ **Terrain:** hard soft mixed flat hilly

Date: 8/2/16 **Start Time:** 1:20 PM **Duration:** 15 min **Period:** M D E N

Temp °F	% RH	Press.	Wind Spd	Gust Spd	Wind Dir
76	68		2-5		

Winds: Calm Whisper Light Moderate Strong Variable
Sky: Sunny Dark Clear Prtly Cldy Ovrcst Fog Drizzle Rain Snow
Other:

Instrument: LD 820 s/n: 1545 **pre-cal:** 93.8 dBA @ 1kHz ✓☒ Δ ☐
Calib'r: _____ s/n: _____ **post-cal:** _____ dBA @ 1kHz ✓☐ Δ ☐
Settings: A-wtd Slow Fast Impulse Frontal Random Other **Windscreen:** ☒

	Leq(A)	Lmax(A)	Lmin(A)	L1(A)	L10(A)	L50(A)	L90(A)	L99(A)	Register
Overall Noise:									

	63	125	250	500	1k	2k	4k	8k	OA(A)
OB Noise:									

Primary Noise Sources: amb ind'l comm'l traffic aircraft rail other: _____
Sec'y Noise Sources: o/h <AIRCRAFT> dist near <TRAFFIC> dist near <RAIL> dist HVAC
near <LANDSCAP'G> dist near <KIDS> dist rustling trees/bushes near <DOGS> dist birds bugs
Other Noise Sources: traffic (near, constant) on Santa Barbara + San Clemente dist traffic on Jamboree
o/h planes: 1

Date: _____ **Start Time:** _____ **Duration:** _____ min **Period:** M D E N

Temp °F	% RH	Press.	Wind Spd	Gust Spd	Wind Dir

Winds: Calm Whisper Light Moderate Strong Variable
Sky: Sunny Dark Clear Prtly Cldy Ovrcst Fog Drizzle Rain Snow
Other: _____

Instrument: _____ s/n: _____ **pre-cal:** _____ dBA @ 1kHz ✓☐ Δ ☐
Calib'r: _____ s/n: _____ **post-cal:** _____ dBA @ 1kHz ✓☐ Δ ☐
Settings: A-wtd Slow Fast Impulse Frontal Random Other **Windscreen:** ☐

	Leq(A)	Lmax(A)	Lmin(A)	L1(A)	L10(A)	L50(A)	L90(A)	L99(A)	Register
Overall Noise:									

	63	125	250	500	1k	2k	4k	8k	OA(A)
OB Noise:									

Primary Noise Sources: amb ind'l comm'l traffic aircraft rail other: _____
Sec'y Noise Sources: o/h <AIRCRAFT> dist near <TRAFFIC> dist near <RAIL> dist HVAC
near <LANDSCAP'G> dist near <KIDS> dist rustling trees/bushes near <DOGS> dist birds bugs
Other Noise Sources: _____

Construction Generated Vibration

Vibration Annoyance Criteria

Receptor:	Average Vibration Level - Apartments to north	Average Distance (feet):	230
Equipment	Approximate Velocity Level at 25 ft, VdB	Approximate Velocity Level, VdB	
Vibratory Roller	94	75	
Caisson Drill	87	68	
Large bulldozer	87	68	
Small bulldozer	58	39	
Jackhammer	79	60	
Loaded trucks	86	67	
	Criteria	78	

Receptor:	Average Vibration Level - Colony Apartments	Average Distance (feet):	260
Equipment	Approximate Velocity Level at 25 ft, VdB	Approximate Velocity Level, VdB	
Vibratory Roller	94	74	
Caisson Drill	87	67	
Large bulldozer	87	67	
Small bulldozer	58	38	
Jackhammer	79	59	
Loaded trucks	86	66	
	Criteria	78	

Receptor:	Average Vibration Levels - Big Canyon houses	Average Distance (feet):	950
Equipment	Approximate Velocity Level at 25 ft, VdB	Approximate Velocity Level, VdB	
Vibratory Roller	94	62	
Caisson Drill	87	55	
Large bulldozer	87	55	
Small bulldozer	58	26	
Jackhammer	79	47	
Loaded trucks	86	54	
	Criteria	78	

Receptor:	Average Vibration Levels - Island Hotel	Average Distance (feet):	1100
Equipment	Approximate Velocity Level at 25 ft, VdB	Approximate Velocity Level, VdB	
Vibratory Roller	94	61	
Caisson Drill	87	54	
Large bulldozer	87	54	
Small bulldozer	58	25	
Jackhammer	79	46	
Loaded trucks	86	53	
	Criteria	78	

Structural Damage Criteria

Receptor:	Maximum Vibration Levels - apts to north	Closest Distance (feet):	70
Equipment	Approximate RMS a Velocity at 25 ft, inch/second	Approximate RMS Velocity Level, inch/second	
Vibratory Roller	0.210	0.045	
Caisson Drill	0.089	0.019	
Large bulldozer	0.089	0.019	
Small bulldozer	0.003	0.001	
Jackhammer	0.035	0.007	
Loaded trucks	0.076	0.016	
	Criteria	0.200	

Receptor:	Maximum Vibration Levels - Colony Apartments	Closest Distance (feet):	110
Equipment	Approximate RMS a Velocity at 25 ft, inch/second	Approximate RMS Velocity Level, inch/second	
Vibratory Roller	0.210	0.023	
Caisson Drill	0.089	0.010	
Large bulldozer	0.089	0.010	
Small bulldozer	0.003	0.000	
Jackhammer	0.035	0.004	
Loaded trucks	0.076	0.008	
	Criteria	0.200	

[1] Determined based on use of jackhammers or pneumatic hammers that may be used for pavement demolition at a distance of 25 feet

Notes: RMS velocity calculated from vibration level (VdB) using the reference of one microinch/second.

Source: Based on methodology from the United States Department of Transportation Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*

Construction Generated Vibration

Vibration Annoyance Criteria

Receptor:	Average Vibration Level - UBS Financial Services Bldg	Average Distance (feet):	140

Equipment	Approximate Velocity Level at 25 ft, VdB	Approximate Velocity Level, VdB
Vibratory Roller	94	79
Caisson Drill	87	72
Large bulldozer	87	72
Small bulldozer	58	43
Jackhammer	79	64
Loaded trucks	86	71
	Criteria	**78**

Noise Levels During Construction

Reference Levels: Construction Noise at 50 Feet (dBA Leq)[1]					Drop Off hard=0; soft=0.5
Construction Phase	Distance: Receptor to center of activity	Average Level (dBA Leq)[2]	Distance: Receptor to border of site	Maximum Level (dBA Lmax)[3]	
Demolition	50	86	50	90	0
Site Prep		80		84	
Excavation		80		84	
Utility Trenching + Fine Grading		81		84	
Building Construction		80		81	
Building Construction + Paving		83		84	
Finishing / Landscaping		80		84	

Construction Noise at Apartments to North				
Construction Phase	Distance: Receptor to center of activity	Average Level (dBA Leq)[2]	Distance: Receptor to border of site	Maximum Level (dBA Lmax)[3]
Demolition	230	72	70	87
Site Prep		67		81
Excavation		67		81
Utility Trenching + Fine Grading		68		81
Building Construction		67		78
Building Construction + Paving		70		81
Finishing / Landscaping		67		81

Construction Noise at Colony Apartments				
Construction Phase	Distance: Receptor to center of activity	Average Level (dBA Leq)[2]	Distance: Receptor to border of site	Maximum Level (dBA Lmax)[3]
Demolition	260	71	110	83
Site Prep		66		77
Excavation		66		77
Utility Trenching + Fine Grading		67		77
Building Construction		66		74
Building Construction + Paving		69		77
Finishing / Landscaping		66		77

Construction Noise at Big Canyon homes				
Construction Phase	Distance: Receptor to center of activity	Average Level (dBA Leq)[2]	Distance: Receptor to border of site	Maximum Level (dBA Lmax)[3]
Demolition	950	60	730	66
Site Prep		54		61
Excavation		54		61
Utility Trenching + Fine Grading		55		61
Building Construction		54		57
Building Construction + Paving		58		61
Finishing / Landscaping		54		61

Construction Noise at Island Hotel				
Construction Phase	Distance: Receptor to center of activity	Average Level (dBA Leq)[2]	Distance: Receptor to border of site	Maximum Level (dBA Lmax)[3]
Demolition	1100	59	680	67
Site Prep		53		61
Excavation		53		61
Utility Trenching + Fine Grading		54		61
Building Construction		53		58
Building Construction + Paving		57		61
Finishing / Landscaping		53		61

[1] Calculations based on the Roadway Construction Noise Model with the construction information provided by the applicant.
[2] Average daily noise level including all equipment in use simultaneously considering utilization factors.
[3] Maximum instanteneous noise level from the loudest equipment used during the construction phase.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 03/24/2016
Case Description: demolition

**** Receptor #1 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
receptor at 50 feet	Residential	60.0	60.0	60.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0
Excavator	No	40		80.7	50.0	0.0
Tractor	No	40	84.0		50.0	0.0
Backhoe	No	40		77.6	50.0	0.0

Results

	Calculated (dBA)		Noise Limits (dBA)				Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Saw	89.6	82.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	84.0	80.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	89.6	85.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 03/24/2016
Case Description: excavation

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
receptor at 50 feet	Residential	60.0	60.0	60.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84.0		50.0	0.0

Results

Equipment	Calculated (dBA) Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Noise Limit Exceedance (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Tractor	84.0	80.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	84.0	80.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 03/24/2016
Case Description: excavation

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
receptor at 50 feet	Residential	60.0	60.0	60.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84.0		50.0	0.0

Results

Equipment	Calculated (dBA) Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Noise Limit Exceedance (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Tractor	84.0	80.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	84.0	80.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 03/24/2016
Case Description: utility trenching+ fine grading

**** Receptor #1 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
receptor at 50 feet	Residential	60.0	60.0	60.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84.0		50.0	0.0
Backhoe	No	40		77.6	50.0	0.0

Results

Equipment	Calculated (dBA) Lmax	Calculated (dBA) Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Noise Limit Exceedance (dBA) Day Lmax	Noise Limit Exceedance (dBA) Day Leq	Noise Limit Exceedance (dBA) Evening Lmax	Noise Limit Exceedance (dBA) Evening Leq	Noise Limit Exceedance (dBA) Night Lmax	Noise Limit Exceedance (dBA) Night Leq
Tractor	84.0	80.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	84.0	80.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 03/24/2016
Case Description: building construction

**** Receptor #1 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
receptor at 50 feet	Residential	60.0	60.0	60.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16	80.6	50.0	0.0	
Generator	No	50	80.6	50.0	0.0	
Compressor (air)	No	40	77.7	50.0	0.0	

Results

	Calculated (dBA)		Noise Limits (dBA)				Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	80.6	72.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	80.6	77.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	77.7	73.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	80.6	80.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 03/24/2016
Case Description: building construction + paving

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
receptor at 50 feet	Residential	60.0	60.0	60.0

Equipment

Description	Impact Device	Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
Crane	No	16	80.6	50.0	0.0	
Generator	No	50	80.6	50.0	0.0	
Compressor (air)	No	40	77.7	50.0	0.0	
Tractor	No	40	84.0	50.0	0.0	
Roller	No	20	80.0	50.0	0.0	

Results

Equipment	Calculated (dBA) Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Noise Limit Exceedance (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Crane	80.6	72.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	80.6	77.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	77.7	73.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	84.0	80.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	80.0	73.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	84.0	83.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 03/24/2016
Case Description: finishing - landscaping

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
receptor at 50 feet	Residential	60.0	60.0	60.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84.0		50.0	0.0

Results

Equipment	Calculated (dBA) Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Noise Limit Exceedance (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Tractor	84.0	80.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	84.0	80.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A