4.11.1 INTRODUCTION

This section discusses existing noise conditions in Hermosa Beach, noise standards relevant to PLAN Hermosa, and potential noise impacts associated with buildout of the city in accordance with the proposed Land Use Map.

NOP Comments: No comments were received in response to the Notice of Preparation (NOP) addressing noise and vibration concerns. Comments included written letters and oral comments provided at the NOP scoping meeting.

Reference Information: Information for this resource section is based on numerous sources, including the PLAN Hermosa Technical Background Report (TBR) and other publicly available documents. The TBR is attached to this document as **Appendix C**. **Appendix F** to this EIR provides the noise modeling data used to complete this analysis.

4.11.2 ENVIRONMENTAL SETTING

Appendix C-15 describes the basic science of acoustics and specific acoustic practices related to environmental noise and vibration, summarizes how noise affects humans in the built environment, and includes information on noise levels and descriptions of the existing noise sources and sensitive receptors in the city.

FUNDAMENTALS OF SOUND AND ENVIRONMENTAL NOISE

Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the physical intensity of the pressure vibrations which make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Because the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel (dBA) scale compensates by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise, on the other hand, is typically defined as unwanted sound because of its potential to disrupt sleep, to interfere with speech communication, and to damage hearing. A typical noise environment consists of a base of steady "background" noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources, which can vary from an occasional aircraft or train passing by to virtually continuous noise from, for example, traffic on a major highway.

AMPLITUDE

Amplitude is the difference between ambient air pressure and the peak pressure of the sound wave. Amplitude is measured in decibels on a logarithmic scale. Laboratory measurements correlate a 10 dB increase in amplitude with a perceived doubling of loudness and establish a 3 dB change in amplitude as the minimum audible difference perceptible to the average person.

FREQUENCY

Frequency is the number of fluctuations of the pressure wave per second. The unit of frequency is the Hertz. One Hertz equals one cycle per second. To approximate this sensitivity, environmental sound is usually measured in A-weighted decibels. On this scale, the normal range of human hearing extends from about 10 dBA to about 140 dBA. Common community noise sources and associated noise levels, in dBA, are shown in **Appendix C-15**.

ADDITION OF DECIBELS

Because decibels are logarithmic units, sound levels cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3 dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions. Under the decibel scale, three sources of equal loudness together would produce an increase of 5 dB.

SOUND PROPAGATION AND ATTENUATION

Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics. No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. For line sources, an overall attenuation rate of 3 dB per doubling of distance is assumed.

Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dBA or more.

NOISE DESCRIPTORS

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise, as well as the time of day when the noise occurs. The L_{eq} is a measure of ambient noise, while the L_{dn} and CNEL are measures of community noise. Each is applicable to this analysis and defined below.

- L_{eq}, the equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} 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 rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- L_{dn}, the Day-Night Average Level, is a 24-hour average L_{eq} with a 10 dBA "weighting" added to noise during the hours of 10:00 PM to 7:00 AM to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.
- CNEL, the Community Noise Equivalent Level, is a 24-hour average L_{eq} with a 5 dBA "weighting" during the hours of 7:00 PM to 10:00 PM and a 10 dBA "weighting" added to noise during the hours of 10:00 PM to 7:00 AM to account for noise sensitivity in the

evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.7 dBA CNEL.

- L_{min} is the minimum instantaneous noise level experienced during a given period of time.
- L_{max} is the maximum instantaneous noise level experienced during a given period of time.
- Percentile Noise Level (L_n) is the noise level exceeded for a given percentage of the measurement time. For example, L_{10} is the noise level exceeded for 10 percent of the measurement duration, and L_{50} is the noise level exceeded for 50 percent of the measurement duration.

HUMAN RESPONSE TO NOISE

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night, or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60 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). Regarding increases in A-weighted noise levels (dBA), the following relationships should be noted for understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1 dB cannot be perceived by humans.
- Outside of the laboratory, a 3 dB change is considered a just-perceivable difference.
- A change in level of at least 5 dB is required before any noticeable change in community response would be expected. An increase of 5 dB is typically considered substantial.
- A 10 dB change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

EXISTING CONDITIONS

Noise-Sensitive Receptors

Noise-sensitive land uses are those that may be subject to stress and/or interference from excessive noise. Noise-sensitive land uses include schools, hospitals, churches, and museums. Typically, residential uses are also considered noise-sensitive receptors. Industrial and commercial land uses are generally not considered sensitive to noise. In Hermosa Beach, noise-sensitive residential uses, schools, and other institutional uses are located throughout the city, occupying approximately 67 percent of the city's total land area.

The city has a number of noise sources that are common to urbanized communities, including traffic on local streets, commercial/industrial activities, construction/demolition activities, refuse collection, bars and restaurants, and public and private events and parties. Construction and demolition operations are the only significant sources of groundborne vibration in the city, although heavy trucks traveling over potholes or other discontinuities in the pavement can cause vibration at sufficient levels to generate complaints from nearby residents.

A community noise survey was conducted in August 2014 to document the existing noise environment at noise-sensitive receptors in the city. During the survey, average ambient hourly noise levels ranged from 56.2 dBA to 72.3 dBA (L_{eq}), 24-hour ambient noise levels ranged from 68.7 dB to 71.3 dB CNEL, and maximum noise levels ranged from 65.0 dBA to 93.5 dBA maximum noise level (L_{max}). Maximum noise levels were attributable to backup alarms, car horns, large trucks, and motorcycles.

Traffic Noise

Traffic noise is the dominant noise source in the city, originating from major roads such as Aviation Boulevard and Pacific Coast Highway. To document the existing traffic noise conditions, measurements were obtained at 10 locations in the city, including along Hermosa Avenue, Pacific Coast Highway, and Pier Avenue, to obtain a representative sample of existing noise conditions in the city. The measurements were taken during the summer months to account for increased visitor traffic over a continuous 24-hour period. The results of the noise measurements are summarized in **Table 4.11-1 (Summary of Noise Measurement Results)**.

TABLE 4.11-1
SUMMARY OF NOISE MEASUREMENT RESULTS

Location #	Location Description	Measurement Period	Average Noise Level, dBA	CNEL, dB
1	2703 El Oeste Dr.	12:21 PM to 12:46 PM	67.1	Not measured
2	2491 Valley Dr.	11:36 AM to 12:00 PM	63.5	Not measured
3	1838 Hermosa Ave.	4:27 PM to 4:47 PM	63.6	Not measured
4	1901 Pacific Coast Hwy.	24 hours	56.2–72.3	71.3
5	237 Pier Ave.	10:59 AM to 11:21 AM	56.3	Not measured
6	1021 Bonnie Brae St.	10:18 AM to 10:40 AM	66.0	Not measured
7	420 Ardmore Ave.	1:07 PM to 1:38 PM	56.2	Not measured
8	104 Hermosa Ave.	3:52 PM to 4:14 PM	63.2	Not measured
9	540 1st St.	3:00 PM to 3:25 PM	62.7	Not measured
10	117 Prospect Ave.	24 hours	58.2–65.7	68.7

Source: City of Hermosa Beach 2014

As shown in **Table 4.11-2 (Comparison of Noise Measurement Results with City's Policies),** the measured ambient noise levels are well above the City's existing policy for maximum traffic noise levels.

TABLE 4.11-2
COMPARISON OF NOISE MEASUREMENT RESULTS WITH CITY'S POLICIES

Location #	Location Description	Zone	Measured Noise Level, dBA	City's Policy for Maximum Traffic Noise Level, dBA[1]
1	2703 El Oeste Dr.	R-1	67.1	50 or below
2	2491 Valley Dr.	R-1A	63.5	50 or below
3	1838 Hermosa Ave.	R-2	63.6	55 or below
4	1901 Pacific Coast Hwy.	R-3	56.2–72.3	60 or below
5	237 Pier Ave.	SPA-11 (used as R-1)	56.3	50 or below
6	1021 Bonnie Brae St.	C-3 (used as R-1)	66.0	50 or below
7	420 Ardmore Ave.	M-1(used as R-1)	56.2	50 or below
8	104 Hermosa Ave.	R-3	63.2	60 or below
9	540 1st St.	SPA-4 (used as R-2 or R-3)	62.7	55-60 or below
10	117 Prospect Ave.	R-1	58.2–65.7	50 or below

Source: City of Hermosa Beach 2014

Note: The City's current General Plan states that maximum traffic noise levels should be restricted in residential areas to no more than 5 dBA above ambient standard levels. The ambient standard levels are 45 dBA or below for R-1 zones, 50 dBA or below for R-2 zones, and 55 dBA or below for R-3 zones.

The results of the noise measurements, together with data provided by the City's traffic consultant on observed traffic counts modeled on peak traffic volumes, were used to analyze the existing traffic noise environment in Hermosa Beach. **Table 4.11-3 (Distance to Existing Unmitigated CNEL Contour Lines)** summarizes the results of the analysis. The results are presented in terms of an unmitigated CNEL at the distance of the nearest existing receptor from the centerline of the roadway. Also provided in the table are the distances from the roadway centerlines to the unmitigated 60 dB, 65 dB, and 70 dB noise contour lines.

The California Building Code standards require that all multi-family residential dwellings be designed to achieve a CNEL of 45 dB within the interior of all habitable spaces. The City of Hermosa Beach extends this requirement to include all single-family residential dwellings. Typically, residential construction in California provides about 20 dB of noise reduction with all windows and doors closed. Therefore, it may be reasonably assumed that all residential dwellings located in an area where the exterior CNEL is 65 dB or less will be exposed to an interior CNEL of 45 dB or less, complying with both the State's standard and the City's policies. The existing CNEL is estimated to be 65 dB or less at the exterior of all residential dwellings adjacent to the analyzed street segments, with the following exceptions: adjacent to Aviation Boulevard between Pacific Coast Highway and Prospect Avenue, and adjacent to Pacific Coast Highway between Artesia Boulevard and 2nd Street. At these locations, ambient noise levels are above established City noise standards.

In compliance with California Government Code Section 65302(f), **Figure 4.11-1 (Existing Noise Contours in Hermosa Beach)** shows the CNEL contours for the existing traffic noise environment in Hermosa Beach. The CNEL contours on the map range from 60 dB to 70 dB in 5 dB increments. The CNEL contours were developed utilizing SoundPLAN version 7.3 software, which uses the prediction algorithms developed by the Federal Highway Administration (FHWA) for its Traffic Noise Model.

TABLE 4.11-3
DISTANCE TO EXISTING UNMITIGATED CNEL CONTOUR LINES

Arterial/Segment	CNEL at Nearest Sensitive Receptor	Distance to Unmitigated CNEL Contours from Roadway Centerline		
		60 dB	65 dB	70 dB
8th Street				
Hermosa to Valley	57 dB	R/W	R/W	R/W
PCH to Prospect	47 dB	R/W	R/W	R/W
Ardmore Avenue				
16th to 11th	58 dB	R/W	R/W	R/W
8th to 2nd	57 dB	R/W	R/W	R/W
Artesia Boulevard				
PCH to Prospect	65 dB	429′	157′	52′
Aviation Boulevard				
PCH to Prospect	70 dB	358′	126′	40′
Gould Avenue				
Ardmore to PCH	64 dB	79′	R/W	R/W
Hermosa Avenue				
27th to 22nd	62 dB	71′	R/W	R/W
22nd to 16th	62 dB	65′	R/W	R/W
16th to 8th	62 dB	76′	R/W	R/W
8th to Herondo	62 dB	76′	R/W	R/W
Herondo Street				
Hermosa to Valley	65 dB	156′	50′	R/W
Pacific Coast Highway				
Artesia to 16th	72 dB	557′	214′	67′
16th to Aviation	67 dB	419′	152′	48′
Aviation to 2nd	68 dB	484′	180′	57′
Pier Avenue				
Hermosa to Valley	62 dB	91′	R/W	R/W
Ardmore to PCH	65 dB	147′	46′	R/W
Prospect Avenue				
Artesia to Aviation	59 dB	R/W	R/W	R/W
Aviation to 2nd	63 dB	62′	R/W	R/W
Valley Drive				
Gould to Pier	59 dB	R/W	R/W	R/W
Pier to 8th	60 dB	R/W	R/W	R/W

Note: R/W signifies that the noise contour falls within the right-of-way of the street.

Source: City of Hermosa Beach 2014

FIGURE 4.11-1
EXISTING NOISE CONTOURS IN HERMOSA BEACH

Source: City of Hermosa Beach 2014

Bar and Restaurant Noise

Noise from bars and restaurants is a frequent source of complaints in Hermosa Beach. The noise level produced by a bar or restaurant varies widely, depending on a number of factors. Measurements indicate that average noise levels within the building can range from 75 A-weighted decibels (dBA) (with low background music or no music at all) to over 95 dBA (with entertainment). Maximum noise levels can be up to 20 dBA higher than these average levels. Typical building construction will reduce these noise levels by about 10 dB with windows and doors open, or by about 20 dB with windows and doors closed. Outdoor dining areas can produce average noise levels of 65 dBA to 70 dBA and maximum noise levels of 85 dBA to 90 dBA at a distance of 20 feet from the center of the dining area. The City of Hermosa Beach does not have quantitative standards by which to assess the impact of noise from bars and restaurants.

Public and Private Event and Party Noise

Hermosa Beach plays host to a number of public and private events throughout the year, as many as 75 days of events during the summer in recent years. For the most part, the public events take place at the beach or around the pier, with occasional events held Downtown or in a park. Some of these public events (for example, the summer concerts at the beach) can generate significant levels of noise that can be heard throughout much of the city. To identify typical noise levels that can be generated by a summer concert, a measurement was obtained on The Strand in front of the closest residence to the pier. The results of the measurement indicated an average noise level of 73.6 dBA and a maximum noise level of 81.8 dBA.

Commercial/Industrial Activity Noise

In Hermosa Beach, industrial uses are generally concentrated along Cypress Avenue between 8th Street and South Park. These sites are occupied by various light manufacturing facilities, warehouses, construction supply sites, a surfboard manufacturing use, auto shops, air conditioning and heating manufacturing uses, and the City's maintenance yard. Surrounding these industrial properties are various residential properties, commercial properties, and South Park.

Another industrial site is located on Valley Drive adjacent to a mobile home park and Hermosa Valley School. Commercial properties are generally concentrated along Pacific Coast Highway, Pier Avenue, Hermosa Avenue, Aviation Boulevard, and Artesia Boulevard. Noise-sensitive residential properties are typically located adjacent to these commercial properties.

The primary complaints associated with commercial/industrial properties relate to noise generated by trucks and heavy equipment, loading dock operations, trucks entering and leaving the area, and mechanical equipment located both inside and outside the buildings. Commercial/industrial noise impacts primarily result when activities occur during noise-sensitive times of the day (early morning, evening, or nighttime hours) or the activities occur in areas immediately adjoining noise-sensitive land uses. The City identifies "noise tolerance standards" for various types of land uses in the city, ranging from 45 dBA or below for R-1 zones (including schools, hospitals, nurseries, and rest homes) to 65 dBA or below for M zones. It is likely that the City's General Plan noise tolerance standards are currently being exceeded at many residential properties.

Construction/Demolition Activity Noise

Construction activities generate considerable amounts of noise, especially during the demolition phase and during the construction of project infrastructure when heavy equipment is used. Noise levels resulting from construction depend on the number and types of construction equipment being used and the timing and duration of noise-generating activities. The highest maximum noise levels generated by project construction would typically range from about 90 to 105 dBA at a distance of 50 feet from the noise source. Typical hourly average construction-generated noise levels are about 81 to 89 dBA measured at a distance of 50 feet from the center of the site during busy construction periods, such as when earth-moving equipment and impact tools are being used.

Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (early morning, evening, or nighttime hours), when construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction durations last over extended periods of time. The City of Hermosa Beach regulates noise by limiting the hours when construction can occur. Municipal Code Section 8.24.050 limits construction activity to between 8:00 AM and 6:00 PM, Monday through Friday (except national holidays), and between 9:00 AM and 5:00 PM on Saturdays. Construction activity is prohibited at all other hours and on Sundays and national holidays.

Refuse Collection Noise

Trash pickup and compacting vehicles typically use hydraulic equipment to raise and lower the trash bins and to compact their contents. Typical noise levels range from 80 to 85 dBA at 50 feet during raising, lowering, and compacting operations. A typical trash pickup takes approximately 3 minutes, with the higher noise levels occurring during about half of the operation. While noise associated with refuse collection is not explicitly regulated by the City of Hermosa Beach, the City's Municipal Code regulates the times in which refuse may be collected. Refuse may not be collected between the hours of 6:00 PM and 7:00 AM, and may not be collected in residential areas on Saturdays or Sundays.

Construction/Demolition Vibration

The only significant vibration source in Hermosa Beach is construction equipment. Construction activities may include demolition of existing structures, site preparation work, excavation of below-grade levels, foundation work, pile driving, and framing. Depending on the proximity of existing structures to each construction site, the structural soundness of the existing buildings, and the methods of construction used, vibration levels caused by pile driving or other impact work may be high enough to damage existing structures. Other construction activities, such as caisson drilling, the use of jackhammers, rock drills, and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.), may also generate substantial vibration in the immediate vicinity of the site.

Table 4.11-4 (Damage to Buildings for Continuous or Frequent Intermittent Vibration Levels) displays reactions of people and the effects on buildings that continuous vibration levels produce.

TABLE 4.11-4
DAMAGE TO BUILDINGS FOR CONTINUOUS OR FREQUENT INTERMITTENT VIBRATION LEVELS

Velocity Level, PPV (in/sec)	Human Reaction	Effects on Buildings
0.01	Barely perceptible	No effect
0.04	Distinctly perceptible	Vibration unlikely to cause damage of any type to any structure
0.08	Distinctly perceptible to strongly perceptible	Recommended upper level of the vibration to which runs and ancient monuments should be subjected
0.01	Strongly perceptible	Virtually no risk of damage to normal buildings
0.3	Strongly perceptible to severe	Threshold at which there is a risk of damage to older residential dwellings such as plastered walls or ceilings
0.5	Severe – Vibrations considered unpleasant	Threshold at which there is a risk of damage to newer residential structures

Source: Caltrans 2004

4.11.3 REGULATORY SETTING

Federal, state, and local laws, regulations, and policies regulate noise in the planning area. They provide the regulatory framework for addressing all aspects of noise that would be affected by implementation of PLAN Hermosa. The regulatory setting for noise is discussed in detail in **Appendix C-15**. While federal and state guidelines outline noise requirements, specific noise policies are enacted at the local level.

LOCAL

- **City of Hermosa Beach General Plan Noise Element:** The current Noise Element of the City's General Plan was adopted in October 1979 and has the following stated goals:
  - Reduce transportation noise to a level that does not jeopardize health and welfare.
  - Minimize noise levels of future transportation facilities.
  - Establish compatible land use adjacent to transportation facilities.
  - Allocate noise mitigation costs among those who produce the noise.
  - Alert the public regarding the potential impact of transportation noise.
  - Protect areas that are presently quiet from future noise impact.

To achieve these goals, the existing Noise Element identifies a number of policies and implementation programs to guide the City's actions. The existing Noise Element further states that "City policy should be geared to the following maximum ambient noise levels."

TABLE 4-11-5
HERMOSA BEACH MAXIMUM AMBIENT NOISE LEVELS

Zoning	Maximum Ambient Noise Levels
R-1	45 or below (also schools, hospitals, nurseries and rest homes)
R-2	50 or below (also parks and playgrounds)
R-3	55 or below
C-1	55 or below
C-2/C-3	60 or below
M	65 or below

Source: City of Hermosa Beach 1979

Maximum traffic noise should be restricted to no more than 5dBA above the ambient standard levels in residential areas, and to no more than 10 dBA above the ambient standard levels in commercial and manufacturing areas.

The Noise Element also includes a program that extends the acoustical requirements of the California Building Code (Title 24, Part 2, of the California Code of Regulations) to include single-family dwellings. This extension requires all single-family residential dwellings exposed to a CNEL of 60 dB or greater to have an acoustical study performed that shows how an interior CNEL of 45 dB or less will be achieved in habitable rooms.

- **City of Hermosa Beach Municipal Code:** The City's Municipal Code does not provide any quantitative noise standards. However, Municipal Code Chapter 8.24 establishes the City's policy toward noise. The chapter's stated purpose is "to strike a balance between normal, everyday noises that are unavoidable in an urban environment and those noises that are so excessive and annoying that they must be curtailed in order to protect the comfort and tranquility of all persons who live and work in the city." Chapter 8.24 uses the following methods to achieve its purpose: (1) establishing general standards by which to determine whether a noise is annoying and unreasonable; (2) placing limits on the audibility of certain noise sources or on the hours during which certain noise sources may be audible; (3) restricting the hours during which certain activities can produce noise; (4) prohibiting the use of leaf blowers; and (5) requiring that doors and windows at businesses on Pier Plaza be closed when amplified music is being played.

  Municipal Code Chapter 9.28 establishes the City's policies regarding parties, events, and gatherings on private property. With regard to noise, an event may not produce a noise level that exceeds 95 dBA at the property line at any time. Such events may only take place on weekends (from 5:00 PM on Fridays through 10:00 PM on Sundays).

  Municipal Code Section 17.42.150(D)(5) states that amplified entertainment at temporary minor special events shall be limited to the hours of 10:00 AM to 9:00 PM and may not last more than four hours in any day. Noise levels may not exceed 80 dBA at the property line and may not constitute a nuisance or violate the requirements of Chapter 8.24. Additionally, the chapter states that amplified music and live entertainment shall be permitted notwithstanding the provisions of Chapter 8.24 for a maximum duration of four hours (start to finish) and shall cease no later than 11:45 PM on Friday and Saturday nights, and 9:45 PM on Sundays. The event shall conclude not later than 12:00 midnight on Friday and Saturday nights, and 10:00 PM on Sundays.

4.11.4 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

For the purposes of this EIR, a significant impact would occur if implementation of PLAN Hermosa would:

1) Expose persons to or generate noise levels in excess of the standards established in the City's General Plan, Zoning Ordinance, or Noise Ordinance, or applicable standards of other agencies.

2) Expose persons or structures to or generate excessive groundborne vibration or groundborne noise levels.

3) Create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

4) Create a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

5) Expose people residing or working in the project vicinity to excessive noise levels associated with public and private aircraft operations.

There are no airports located within 5 miles of the city; therefore, impacts associated with exposure of persons to excessive aircraft noise will not be evaluated.

ANALYSIS APPROACH

This analysis of the existing and future noise environments is based on noise prediction modeling and empirical observations. The residential uses in the project vicinity are considered noise-sensitive receptors, while the commercial land uses are not.

Short-Term Construction Noise

Predicted noise levels at nearby noise-sensitive land uses were calculated using typical noise levels and usage rates associated with construction equipment, derived from representative data obtained from similar projects. Construction noise levels were predicted assuming an average noise attenuation rate of 6 dB per doubling of distance from the source.

Groundborne Vibration

Groundborne vibration levels associated with potential construction-related activities as well as operations were evaluated using typical groundborne vibration levels associated with construction equipment and heavy-duty trucks, obtained from the Caltrans 2004 guidelines (Caltrans 2004). Potential groundborne vibration impacts were evaluated taking into account the distance from construction activities to nearby structures and typically applied criteria for structural damage.

Long-Term Traffic Noise

The project's potential to permanently increase traffic noise is addressed under the following scenarios: the existing plus project and the cumulative plus project. The analysis of future traffic noise levels in Hermosa Beach was conducted using data developed by Fehr & Peers for PLAN Hermosa. Two future (Year 2040) traffic scenarios were analyzed. The first scenario assumes that the city continues to develop based on the policies identified in the current General Plan (October 1979), while the second scenario assumes that the city develops in the future based on the objectives, goals, and policies outlined in PLAN Hermosa. The analysis used SoundPLAN

version 7.3 software, which uses the traffic noise prediction algorithms developed by the Federal Highway Administration for its Traffic Noise Model.

Long-Term Operational Stationary-Source Noise

Predicted noise levels associated with on-site stationary noise sources were calculated based on representative data obtained from existing literature and noise assessments prepared for development projects with land uses similar to those that could be development under PLAN Hermosa. Operational noise levels were predicted assuming an average noise attenuation rate of 6 dB per doubling of distance from the source. Expected operational were used for comparison to the City's noise standards.

DRAFT PLAN HERMOSA POLICIES AND IMPLEMENTATION ACTIONS

PLAN Hermosa policies and implementation actions, all from the Public Safety Element, that address noise and vibration impacts include the following:

Policies

Public Safety Element

- **7.1 Noise standards.** Adopt, maintain, and enforce planning guidelines that establish the acceptable noise standards identified in Table 6.3 [shown in **Table 4.11-6** below].
- **7.2 Noise compatibility.** Utilize the Land Use/Noise Compatibility Matrix shown in Table 6.4 [shown in **Table 4.11-7** below] as a guide for future planning and development decisions.
- **7.3 Noise analysis and mitigation.** Require all proposed development projects and modifications to existing developments are compatible with the existing and future noise levels by using the Land Use/Noise Compatibility matrix shown in Table 6.4. Where proposed projects are not located in an area that is "clearly compatible," the City will require that an acoustical study be prepared as a condition of building permit approval demonstrating compliance with the noise standards shown in Table 6.3.
- **7.4 Condominium conversions.** Require conversion projects from existing apartments into condominiums submit an acoustical analysis demonstrating compliance with the State of California Noise Insulation Standards.
- **7.4 Transportation facility compatibility.** The City will periodically review County, regional, and local plans for transportation facilities and new developments to minimize or avoid land use/noise conflicts prior to project approval.
- **7.5 Noise ordinance.** Establish a quantitative noise ordinance based on Chapter 12.08 of the Los Angeles County Code.
- **8.1 Alternative modes of transportation.** Reduce noise impacts by encouraging the use of walking, biking, carpooling, use of public transit, and other alternative modes of transportation.
- **8.2 Traffic calming.** Where roadway noise levels exceed the "normally compatible" range shown in the Land Use/Noise Compatibility Matrix (Figure 3), consider the implementation of traffic calming measures such as reduced speed limits or roadway design features to reduce noise levels through reduced vehicle speeds and/or diversion of vehicular traffic.
- **8.3 Enforcement.** Enforce the posted speed limit and the noise standards included in the State's Motor Vehicle Code to reduce noise impacts from vehicles, particularly in residential areas.

- **8.4 Public transit.** Work with Beach Cities Transit and MTA to establish bus routes that meet public transportation needs and minimize noise impacts in residential areas.

PLAN Hermosa additionally includes noise standards for interior and exterior levels, as depicted in **Table 4.11-6 (Interior and Exterior Noise Standards)** and **Table 4.11-7 (Land Use/Noise Compatibility Matrix).**

TABLE 4.11-6
INTERIOR AND EXTERIOR NOISE STANDARDS
[TABLE 6.3 IN PLAN HERMOSA]

Land Use	CNEL	
	Exterior[1]	Interior[2]
Residential	65 dB	45 dB
Hotels/Motels	65 dB	45 dB
Schools, Libraries, Churches, Hospitals, Nursing Homes	65 dB	45 dB
Auditoriums, Concert Halls, Amphitheaters	65 dB	45 dB
Sports Arena, Outdoor Spectator Sports	65 dB	N/A
Playgrounds, Neighborhood Parks	70 dB	N/A
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75 dB	N/A
Office Buildings, Business Commercial and Professional	70 dB	50 dB
Industrial, Manufacturing, Utilities, Agriculture	75 dB	65 dB

1. *Outdoor environment limited to private yard of single-family residences; private patios of multi-family residences that are accessed by a means of exit from inside the unit; mobile home park; hospital patio; park picnic area; school playground; and hotel and motel recreation areas.*
2. *Interior environment excludes bathrooms, toilets, closets, and corridors. Noise level requirement is with windows closed. Mechanical ventilation system or other means of natural ventilation shall be provided pursuant to the requirements of the Uniform Building Code (UBC).*

TABLE 4.11-7
LAND USE/NOISE COMPATIBILITY MATRIX
[TABLE 6.4 IN PLAN HERMOSA]

Uses	Community Noise Equivalent Level (CNEL)						
	< 55 dB	55 dB	60 dB	65 dB	70 dB	75 dB	80+ dB
Single-, multi-family	A	A	B	B	C	D	D
Mobile home	A	A	B	C	C	D	D
Hotel, motel, transient lodging	A	A	B	B	C	C	D
Retail, bank, restaurant, movie theater	A	A	A	A	B	B	C
Office building, research & development, professional office	A	A	A	B	B	C	D
Amphitheater, concert hall, auditorium, meeting hall	B	B	C	C	D	D	D
Children's amusement park, miniature golf, go-cart track, health club, equestrian center	A	A	A	B	B	D	D
Service station, auto dealer, manufacturing, warehousing, wholesale, utilities	A	A	A	A	B	B	B
Hospital, church, library, school classrooms	A	A	B	C	C	D	D
Parks	A	A	A	B	C	D	D
Golf course, nature center, cemetery, wildlife reserve, wildlife habitat	A	A	A	A	B	C	C
Agriculture	A	A	A	A	A	A	A

Zone A, Clearly Compatible. The specified land use is satisfactory, based upon the assumption that buildings 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 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 normally be discouraged. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and needed noise insulation features must be included in the design.

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

Implementation Actions

- NOISE-1. Incorporate or request the inclusion of soundwalls, earthen berms, or other acoustical barriers as part of any roadway improvement project adjacent to a residential area, school, or other sensitive land use, where necessary to mitigate identified adverse significant noise impacts.
- NOISE-2. Enforce and periodically evaluate truck and bus movements and routes to reduce impacts on sensitive areas, and promote coordination between the Police Department and the California Highway Patrol to enforce the State Motor Vehicle noise standards, to minimize or reduce noise impacts on residential and other sensitive land uses.
- NOISE-3. Apply the Noise Element standards of compatibility described in PLAN Hermosa to new development proposals. Require the mitigation of anticipated impacts through design features such as building orientation and acoustical barriers, to ensure compatibility.

- NOISE-4. Require new multi-family development, single-family development, and condominium conversion projects to meet the California Noise Insulation Standards (Title 24 of the California Administrative Code) for interior and exterior noise levels.
- NOISE-5. Acoustical analysis reports prepared by a qualified acoustical consultant shall be required for new sensitive land uses within noise impact areas (i.e., those areas where the existing or future CNEL exceeds 60 dB).
- NOISE-6. Adopt and enforce a quantitative Noise and Vibration Ordinance to reduce excessive noise and vibration from site-specific sources such as construction activity, mechanical equipment, landscaping maintenance, loud music, truck traffic, loading and unloading activities, and other sources.
- NOISE-7. Periodically review adopted noise standards, policies and regulations affecting noise in order to conform to changes in legislation and/or technologies.
- NOISE-8. Comply with all state and federal OSHA noise standards, and all new equipment purchases shall comply with state and federal noise standards.

IMPACTS AND MITIGATION MEASURES

IMPACT 4.11-1 ***Would PLAN Hermosa Expose Persons to or Generate Noise Levels in Excess of Standards?*** *PLAN Hermosa would guide future development and reuse projects in the city in a manner that may expose persons to or generate noise levels in excess of the standards established in the General Plan, Zoning Ordinance, or Noise Ordinance or in applicable standards of other agencies. However, PLAN Hermosa policies and implementation actions would reduce this impact to* ***less than significant.***

For the purpose of this analysis, a significant noise impact would be assessed if implementation of PLAN Hermosa would expose people to construction, operational and traffic noise levels in excess of the proposed standards listed in **Table 4.11-6 (Interior and Exterior Noise Standards)**.

PLAN Hermosa Proposed Standards

As described above, PLAN Hermosa would include several policies proposing new noise standards to be implemented by the City. Policy 7.1 states that the City shall adopt, maintain, and enforce planning guidelines that establish the acceptable noise standards identified in Table 6.3 [included as **Table 4.11-6** above]. Policy 7.2 states that the City will utilize the Land Use/Noise Compatibility Matrix shown in Table 6.4 [included as **Table 4.11-7** above] as a guide for future planning and development decisions.

The existing Noise Element defines the maximum ambient noise standards as shown above in **Table 4.11-5**: 45 dB for family residential (R-1); maximum 50 dB for two-family residences (R-2); maximum 55 dB for multi-family residential and neighborhood commercial (R-3 and C-1); maximum 60 dB for general commercial (C-2 and C-3); and maximum 65 for light manufacturing (M). The existing Noise Element also states that maximum traffic noise should be restricted to no more than 5 dBA above the ambient standard levels in residential areas and to no more than 10 dBA above the ambient standard levels in commercial and manufacturing areas. The existing Noise Element was established in 1979; thus, it is not a clear reflection of the existing ambient noise levels in the city and does not reflect city's development.

By comparing the proposed ambient (exterior) noise standards of existing and proposed regulations, PLAN Hermosa's new noise standards would exceed current established standards. As described above, documentation of the existing noise environment at noise-sensitive receptors in the city showed average ambient hourly noise levels ranged from 56.2 dBA to 72.3

dBA (L_{eq}), 24-hour ambient noise levels ranged from 68.7 dB to 71.3 dB CNEL, and maximum noise levels ranged from 65.0 dBA to 93.5 dBA maximum noise level (L_{max}). Because existing ambient noises in the city are above existing guidelines, PLAN Hermosa would align City policies with existing ambient noise levels and better reflect the existing ambient noise setting in the city. Nonetheless, with implementation of Policy 7.2, uses would be placed in areas with compatible noise sources, thus minimizing potential exposure of sensitive users in areas with excessive noise standards. Policy 7.2 would minimize siting conflicts and potential noise impacts that would arise from improper siting of land uses. Policy 7.3 requires proper siting of uses and the preparation of an acoustic study when such siting is not apparent.

Additionally, PLAN Hermosa includes Policy 7.5, which directs the City to establish a quantitative noise ordinance modeled on Chapter 12.08 of the Los Angeles County Code. The City does not currently have a quantitative noise ordinance, as described above in the Regulatory Setting subsection. Los Angeles County Code Chapter 12.08 establishes noise zones based on user sensitivity, interior and exterior noise standards, and corrections for certain types of sounds. For example, the Los Angeles County Code establishes an interior noise standard from 7 AM to 10 PM for residential land uses of 45 dB. Enacting a quantitative noise measurement would further protect sensitive noise users from exposure to excessive noise levels.

Although PLAN Hermosa proposes policies that would allow for increases in acceptable ambient noise levels, it also includes policies that would ensure proper siting of noise-generating uses and noise-sensitive uses through the implementation of quantitative policies. Therefore, because the City would establish quantitative noise regulations that would protect sensitive users, PLAN Hermosa would have a **less than significant** impact due to noise in excess of regulations.

Traffic Noise

As discussed in Section 4.14, Transportation, future (Year 2040) traffic scenarios were analyzed for Hermosa Beach. The first scenario assumes that the city continues to develop based on the policies identified in the current General Plan (October 1979), while the second scenario assumes that the city develops in the future based on the objectives, goals, and policies outlined in PLAN Hermosa. **Figure 4.11-2 (Future (2040) Noise Contours with Implementation of PLAN Hermosa)** is a noise contour map for the PLAN Hermosa scenario.

Table 4.11-8 (Existing and Future Traffic Noise Levels at the Nearest Sensitive Receptors) summarizes the results of the analyses for the existing and future traffic scenarios. The results are presented in terms of unmitigated exterior CNEL at the distance to the nearest existing receptor from the centerline of the roadway segment. Referring to the table, implementation of PLAN Hermosa would not generate an exterior CNEL in excess of the existing General Plan noise standards identified in **Table 4.11-5** at most of the existing sensitive receptors adjacent to the roadway segments considered in the noise study. Therefore, the impact is **less than significant** at these locations.

While the future exterior CNEL at existing sensitive receptors adjacent to Pacific Coast Highway appears to exceed the standards, the impact is considered to be **less than significant** for the following reasons: (1) the existing CNEL at these receptors already exceeds the standards, and (2) the future CNEL at these receptors will be the same as or lower than the existing CNEL. Additionally, none of the projected increases are over 3 dB (a 3 dB change is perceptible to the human ear), which would be a significant impact.

Construction Noise

Typical residential construction in California provides about 20 dB of noise reduction with all windows and doors closed. Therefore, it may be reasonably assumed that the interior CNEL at the existing sensitive receptors would be about 20 dB lower than the values identified in **Table**

4.11-8. Referring to the table, implementation of PLAN Hermosa would not generate an interior CNEL in excess of the standards identified in **Table 4.11-5** at most of the existing sensitive receptors adjacent to the roadway segments considered in the noise study. Therefore, the impact is **less than significant** at these locations.

TABLE 4.11-8
EXISTING AND FUTURE TRAFFIC NOISE LEVELS AT THE NEAREST SENSITIVE RECEPTORS

Roadway/Segment	Unmitigated Exterior CNEL	
	Existing Year	Year 2040 with PLAN Hermosa
8th Street		
Hermosa to Valley	57 dB	57 dB
PCH to Prospect	47 dB	45 dB
Ardmore Avenue		
16th to 11th	58 dB	58 dB
8th to 2nd	57 dB	56 dB
Artesia Boulevard		
PCH to Prospect	65 dB	65 dB
Aviation Boulevard		
PCH to Prospect	70 dB	69 dB
Gould Avenue		
Ardmore to PCH	64 dB	63 dB
Hermosa Avenue		
27th to 22nd	62 dB	63 dB
22nd to 16th	62 dB	62 dB
16th to 8th	62 dB	62 dB
8th to Herondo	62 dB	63 dB
Herondo Street		
Hermosa to Valley	65 dB	65 dB
Pacific Coast Highway		
Artesia to 16th	72 dB	71 dB
16th to Aviation	67 dB	67 dB
Aviation to 2nd	68 dB	67 dB
Pier Avenue		
Hermosa to Valley	62 dB	62 dB
Ardmore to PCH	65 dB	64 dB
Prospect Avenue		
Artesia to Aviation	59 dB	60 dB
Aviation to 2nd	63 dB	63 dB
Valley Drive		
Gould to Pier	59 dB	58 dB
Pier to 8th	60 dB	59 dB

While the future interior CNEL at sensitive receptors adjacent to Pacific Coast Highway appears to exceed the standards, the impact is considered to be **less than significant** for the following reasons: (1) the existing CNEL at these receptors already exceeds the standards, and (2) the future CNEL at these receptors will be the same as or lower than the existing CNEL.

Operational Noise and Sensitive Receptors

Under PLAN Hermosa, new developments would be located adjacent to roadways. Depending on how close these developments are to roadways, they might be exposed to excessive future noise levels. **Table 4.11-9 (Future Noise Impact Zones Adjacent to Roadways)** identifies the distances from the roadway centerlines within which various types of new development could be exposed to noise levels exceeding the noise standards identified in **Table 4.11-5**. If a new development were to occur within the distances shown in **Table 4.11-9**, the impact of the roadway noise exposure could be potentially significant.

TABLE 4.11-9
FUTURE NOISE IMPACT ZONES ADJACENT TO ROADWAYS

Roadway/Segment	Distance from Roadway Centerline Within Which Development May Be Exposed to a Significant Impact				
	Residential, School, Library, Church, Hospital, Nursing Home	Hotel, Motel, Auditorium, Concert Hall, Amphitheater, Sports Arena, Outdoor Sports	Auditorium, Concert Hall, Amphitheater	Office Building, Business Commercial & Professional, Playground, Park	Industrial, Manufacturing, Utility, Agriculture
8th Street					
Hermosa to Valley	—	—	—	—	—
PCH to Prospect	—	—	—	—	—
Ardmore Avenue					
16th to 11th	—	—	—	—	—
8th to 2nd	—	—	—	—	—
Artesia Boulevard					
PCH to Prospect	159 feet	159 feet	159 feet	52 feet	—
Aviation Boulevard					
PCH to Prospect	100 feet	-—	—	—	—
Gould Avenue					
Ardmore to PCH	—	—	—	—	—
Hermosa Avenue					
27th to Herondo	—	—	—	—	—
Herondo Street					
Hermosa to Valley	45 feet	45 feet	45 feet	—	—
Pacific Coast Highway					
Artesia to 16th	186 feet	59 feet	—	—	—
16th to Aviation	130 feet	41 feet	—	—	—
Aviation to 2nd	142 feet	45 feet	—	—	—

Roadway/Segment	Distance from Roadway Centerline Within Which Development May Be Exposed to a Significant Impact				
	Residential, School, Library, Church, Hospital, Nursing Home	Hotel, Motel, Auditorium, Concert Hall, Amphitheater, Sports Arena, Outdoor Sports	Auditorium, Concert Hall, Amphitheater	Office Building, Business Commercial & Professional, Playground, Park	Industrial, Manufacturing, Utility, Agriculture
Pier Avenue					
Hermosa to Valley	—	—	—	—	—
Ardmore to PCH	44 feet	—	—	—	—
Prospect Avenue					
Artesia to 2nd	—	—	—	—	—
Valley Drive					
Gould to 8th	—	—	—	—	—

"—" indicates that there is no distance within which a proposed development will experience a significant impact.

Nonetheless, the PLAN Hermosa Public Safety Element includes actions to reduce noise-related conflicts for new sensitive land uses located adjacent to roadways or commercial/industrial properties. Policy 7.2 requires the Land Use/Noise Compatibility Matrix (Table 6.4 in PLAN Hermosa [Table 4.11-7, above]) be used as a guide for future planning and redevelopment decisions. Policy 7.3 requires all proposed development projects and modifications to existing developments to be compatible with the existing and future noise levels by using the Land Use/Noise Compatibility Matrix. If proposed projects are not located in an area that is "clearly compatible" in Table 6.4 in PLAN Hermosa, the City will require that an acoustical study be prepared as a condition of building permit approval demonstrating compliance with the noise standards shown in Table 6.3 (Interior and Exterior Noise Standards [Table 4.11-6, above]) in PLAN Hermosa.

FIGURE 4.11-2
FUTURE (2040) NOISE CONTOURS WITH IMPLEMENTATION OF PLAN HERMOSA

To reduce noise levels to meet the adopted standards and criteria, projects may be required to include berms, walls, and sound-attenuating architectural design and construction methods, and the City would only permit development if noise standards and regulations would be met. Such decisions would be made on a case-by-case basis through project design review as required by the City to address potential aesthetic impacts. Policy 7.3 requires all proposed development projects and modifications to existing developments to be compatible with the existing and future noise levels by using the Land Use/Noise Compatibility Matrix. If proposed projects are not located in an area that is "clearly compatible" in Table 6.4 in PLAN Hermosa,

the City will require that an acoustical study be prepared as a condition of building permit approval demonstrating compliance with the noise standards shown in Table 6.3 (Interior and Exterior Noise Standards [Table 4.11-6, above]) in PLAN Hermosa. Policy 7.5 would establish a quantitative noise ordinance to regulate noise impacts from stationary sources.

With adherence to and implementation of these PLAN Hermosa policies and implementation actions, program-level stationary noise source and land use conflict noise impacts would be **less than significant**.

Mitigation Measures

None required.

IMPACT 4.11-2 ***Would PLAN Hermosa Expose Persons to or Generate Excessive Groundborne Vibration or Groundborne Noise Levels?*** *PLAN Hermosa would guide future development and reuse projects in the city in a manner that may expose persons to or generate excessive groundborne vibration or groundborne noise levels. This is a* ***potentially significant*** *impact.*

PLAN Hermosa would guide development, the construction of which could generate significant groundborne vibration that could expose building occupants to vibration levels in excess of 0.01 inches per second. **Table 4.11-10 (Typical Vibration Source Levels for Construction Equipment)** identifies the distance within which typical construction equipment generates a vibration velocity level exceeding 0.01 inches per second. If equipment operates within these distances from an occupied building, a significant impact would result.

TABLE 4.11-10
TYPICAL VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Vibration Velocity Level at 25 Feet, in/sec	Distance from Equipment Within Which the Standard is Exceeded
Pile driver (impact)	0.158	158 feet
Pile driver (sonic)	0.045	68 feet
Clam shovel drop (slurry wall)	0.050	74 feet
Hydro mill (slurry wall)	0.002–0.006	9–17 feet
Vibratory roller	0.050	74 feet
Hoe ram	0.022	43 feet
Large bulldozer	0.022	43 feet
Caisson drilling	0.022	43 feet
Loaded trucks	0.020	40 feet
Jackhammer	0.009	24 feet
Small bulldozer	0.001	5 feet

Source: FTA 2006

Nonetheless, as described in PLAN Hermosa implementation action NOISE-6, the City would adopt and enforce a quantitative Noise and Vibration Ordinance to reduce excessive noise and vibration from site-specific sources such as construction activity, mechanical equipment, landscaping maintenance, loud music, truck traffic, loading and unloading activities, and other sources. Additionally, mitigation measure **MM 4.11-2** would be required to further reduce the potential impact from groundborne vibration.

Mitigation Measures

MM 4.11-2 For development located at a distance within which acceptable vibration standards would be exceeded, the City shall require the applicant to have a structural engineer prepare a report demonstrating the following:

- Vibration level limits based on building conditions, soil conditions, and planned demolition and construction methods to ensure vibration levels would not exceed acceptable levels where damage to structures using vibration levels in Draft EIR Table 4.11-4 as standards.
- Specific measures to be taken during construction to ensure the specified vibration level limits are not exceeded.
- A monitoring plan to be implemented during demolition and construction that includes post-construction and post-demolition surveys of existing structures that would be impacted.

Examples of measures that may be specified for implementation during demolition or construction include but are not limited to:

- Prohibition of certain types of impact equipment.
- Requirement for lighter tracked or wheeled equipment.
- Specifying demolition by non-impact methods, such as sawing concrete.
- Phasing operations to avoid simultaneous vibration sources.
- Installation of vibration measuring devices to guide decision-making for subsequent activities.

Significance After Mitigation

Implementation of mitigation measure **MM 4.11-2** would minimize impacts on sensitive structures from groundborne vibration to acceptable levels. Therefore, this impact would be reduced to **less than significant**.

IMPACT 4.11-3 ***Would PLAN Hermosa Generate Substantial Permanent Increases in Ambient Noise Levels?*** *PLAN Hermosa would guide future development and reuse projects in the city in a manner that would not create a substantial permanent increase in ambient noise levels above existing levels. The impact would be* ***less than significant.***

There are two types of noise that can lead to an increase in ambient noise levels: traffic noise from new development and operational noise.

Traffic Noise

Implementation of PLAN Hermosa would lead to an increase of vehicular traffic on local roadways, resulting in increased traffic noise. Traffic noise levels throughout Hermosa Beach were modeled to determine how changes in vehicular traffic volumes would affect traffic noise levels. Traffic noise levels were projected for the buildout year of 2040.

Noise impacts resulting from PLAN Hermosa buildout were assessed by comparing future noise levels to the existing condition, as well as to the future condition that would result assuming that the city continues to develop based on the policies identified in the current General Plan (October 1979). **Table 4.11-11 (Estimated Changes in Traffic Noise Levels Compared to Existing Conditions)** and **Table 4.11-12 (Estimated Changes in Traffic Noise Levels Compared to Future**

Without Project Conditions) compare PLAN Hermosa buildout to the existing and future without project conditions, and provide the estimated increases in traffic noise levels that would occur throughout the city.

TABLE 4.11-11
ESTIMATED CHANGES IN TRAFFIC NOISE LEVELS COMPARED TO EXISTING CONDITIONS

Roadway/Segment	Estimated CNEL at Nearest Sensitive Receptor		Estimated Increase or Decrease in CNEL
	2014	Year 2040 with PLAN Hermosa	
8th Street			
Hermosa to Valley	57 dB	57 dB	0 dB
PCH to Prospect	47 dB	45 dB	-2 dB
Ardmore Avenue			
16th to 11th	58 dB	58 dB	0 dB
8th to 2nd	57 dB	56 dB	-1 dB
Artesia Boulevard			
PCH to Prospect	65 dB	65 dB	0 dB
Aviation Boulevard			
PCH to Prospect	70 dB	69 dB	-1 dB
Gould Avenue			
Ardmore to PCH	64 dB	63 dB	-1 dB
Hermosa Avenue			
27th to 22nd	62 dB	63 dB	1 dB
22nd to 16th	62 dB	62 dB	0 dB
16th to 8th	62 dB	62 dB	0 dB
8th to Herondo	62 dB	63 dB	1 dB
Herondo Street			
Hermosa to Valley	65 dB	65 dB	0 dB
Pacific Coast Highway			
Artesia to 16th	72 dB	71 dB	-1 dB
16th to Aviation	67 dB	67 dB	0 dB
Aviation to 2nd	68 dB	67 dB	-1 dB
Pier Avenue			
Hermosa to Valley	62 dB	62 dB	0 dB
Ardmore to PCH	65 dB	64 dB	-1 dB
Prospect Avenue			
Artesia to Aviation	59 dB	60 dB	1 dB
Aviation to 2nd	63 dB	63 dB	0 dB
Valley Drive			
Gould to Pier	59 dB	58 dB	-1 dB
Pier to 8th	60 dB	59 dB	-1 dB

TABLE 4.11-12
ESTIMATED CHANGES IN TRAFFIC NOISE LEVELS COMPARED TO FUTURE WITHOUT PROJECT CONDITIONS

Roadway/Segment	Estimated CNEL at Nearest Sensitive Receptor		Estimated Increase or Decrease in CNEL
	Year 2040 without PLAN Hermosa	Year 2040 with PLAN Hermosa	
8th Street			
Hermosa to Valley	57 dB	57 dB	0 dB
PCH to Prospect	45 dB	45 dB	0 dB
Ardmore Avenue			
16th to 11th	58 dB	58 dB	0 dB
8th to 2nd	57 dB	56 dB	-1 dB
Artesia Boulevard			
PCH to Prospect	65 dB	65 dB	0 dB
Aviation Boulevard			
PCH to Prospect	69 dB	69 dB	0 dB
Gould Avenue			
Ardmore to PCH	64 dB	63 dB	-1 dB
Hermosa Avenue			
27th to 22nd	63 dB	63 dB	0 dB
22nd to 16th	63 dB	62 dB	-1 dB
16th to 8th	63 dB	62 dB	-1 dB
8th to Herondo	63 dB	63 dB	0 dB
Herondo Street			
Hermosa to Valley	65 dB	65 dB	0 dB
Pacific Coast Highway			
Artesia to 16th	72 dB	71 dB	-1 dB
16th to Aviation	67 dB	67 dB	0 dB
Aviation to 2nd	67 dB	67 dB	0 dB
Pier Avenue			
Hermosa to Valley	62 dB	62 dB	0 dB
Ardmore to PCH	65 dB	64 dB	-1 dB
Prospect Avenue			
Artesia to Aviation	61 dB	60 dB	-1 dB
Aviation to 2nd	64 dB	63 dB	-1 dB
Valley Drive			
Gould to Pier	59 dB	58 dB	-1 dB
Pier to 8th	60 dB	59 dB	-1 dB

Referring to **Table 4.11-11**, PLAN Hermosa would increase the CNEL by at most 1 dB and only at existing residential properties adjacent to Hermosa Avenue between 27th and 22nd streets, between 8th and Herondo streets, and at existing residences adjacent to Prospect Avenue between Artesia and Aviation boulevards. However, the increase in CNEL would not be a significant impact using established noise criteria of 3 dB over existing noise levels (a 3 dB change in noise level is perceptible to the human ear).

Additionally, PLAN Hermosa Public Safety Element policies include actions to ensure that traffic noise levels do not increase significantly in the future. Policy 8.1 directs the City to reduce noise impacts by encouraging the use of alternative transportation, including walking, biking, and public transit, to help reduce roadway noise levels. Policy 8.2 directs the City to consider implementing traffic calming measures where roadway noise levels exceed the normally compatible noise limits. Policy 8.4 requires working with Beach Cities Transit and MTA to establish bus routes that minimize impacts to residential areas.

Operational Noise

Implementation of PLAN Hermosa would result in the construction of new residential and commercial uses throughout the city. These types of uses would also be affected by stationary noise sources. Large-scale heating, ventilating, and air conditioning (HVAC) systems would be installed on the new residential and commercial buildings located in the city. Large HVAC systems associated with new buildings can result in noise levels that average between 50 and 65 dBA L_{eq} at 50 feet from the equipment. However, these HVAC units are usually mounted within HVAC wells on the rooftops of the proposed buildings and would therefore provide a buffer around the HVAC systems. According to the Federal Transit Administration (2006), such screening buffers can reduce noise levels by an average of 5–10 dBA depending on the distance to the receiver; therefore, noise levels would not impact sensitive receptors on or off the project site. Additionally, noise from mechanical equipment associated with operation of the project would be required to comply with California Building Code requirements pertaining to noise attenuation and with City regulations requiring adequate buffering of such equipment.

Operation of new commercial uses that would be developed with PLAN Hermosa implementation within the city would also involve the delivery of goods, as well as refuse pickup. Two noise sources would be identified with delivery operations: the noise of the diesel engines of the semi-trailer trucks and the backup beeper alarm that sounds when a truck is put in reverse, as required and regulated by the California Department of Occupational Safety and Health (Cal/OSHA). The noise generated by idling diesel engines typically ranges between 64 and 66 dBA L_{eq} at 75 feet. This noise would be temporary in nature, typically lasting no more than 5 minutes. Further, backup beepers are required by Cal/OSHA to be at least 5 dBA above ambient noise levels. These devices are highly directional in nature, and when in reverse, the trucks and the beeper alarms would be directed toward the loading area and adjacent commercial structures. Backup beepers are, of course, intended to warn people who are behind the vehicle when it is backing up. These noises associated with commercial operations would be temporary and short in duration. Therefore, there would not have a lasting impact on ambient noise levels.

As such, PLAN Hermosa implementation would have a **less than significant** impact on ambient noise levels.

Mitigation Measures

None required.

IMPACT 4.11-4 ***Would PLAN Hermosa Generate a Substantial Temporary or Periodic Increase in Ambient Noise Levels?*** *PLAN Hermosa would guide future development and reuse projects, as well as temporary events on public property, in a manner that could create a substantial temporary or periodic increase in ambient noise levels above levels existing without the project. However, implementation of PLAN Hermosa policies and implementation actions would reduce this impact to* ***less than significant.***

Temporary increases in noise levels are generally associated with construction activities and with public or private parties and events.

Construction Noise

For the purpose of this analysis, construction noise impacts were evaluated as they relate to compliance with Hermosa Beach Municipal Code Section 8.24.050, which limits construction activity to a period between 8:00 AM and 6:00 PM Monday through Friday (except national holidays), and a period between 9:00 AM and 5:00 PM on Saturdays. Construction activity is prohibited during all other hours and on Sundays and national holidays.

Development allowed under PLAN Hermosa may result in new construction activity, which could temporarily elevate noise levels at adjacent noise-sensitive uses. As discussed above, Hermosa Beach Municipal Code Section 8.24.050 regulates construction noise by limiting the days and times during which construction is permitted to occur. The City considers any construction noise that occurs during these permitted days and times to be generally acceptable. Exceptions occur depending on the extent of project construction activity and the impact on adjoining sensitive receptors and may require mitigation for project-specific construction noise irrespective of the Municipal Code. The City of Hermosa Beach will apply this section of the Municipal Code to all new developments under PLAN Hermosa and enforce its compliance. Additionally, construction impacts with prolonged noise covering more than six months will be evaluated on a case-by-case basis under CEQA. Therefore, the impact is **less than significant**.

Public and Private Event Noise

The City of Hermosa Beach does not regulate the noise levels generated by public and private events held on public property other than to require that a permit be obtained prior to the use of sound amplification equipment. The permit application does not require the applicant to identify the noise levels that would be generated by the equipment. In general, the Chief of Police must approve the application and has the power to revoke such a permit if, among other things, he or she determines that issuance of the permit would substantially interfere with the peace and quiet of the neighborhood or community.

Implementation of PLAN Hermosa is not expected to increase the number of public and private events or parties that occur in the city. However, some of these events and parties are generating sufficiently high noise levels to cause some residents to complain to the City and to call the Hermosa Beach Police Department. Municipal Code Sections 9.28 and 17.42 establishes the City's limitations on noise from parties, events, and gatherings on private property by regulating noise levels, permitted times, and a limit on the number of hours amplified sound may be used per day. In addition, Policy 7.5 requires the adoption of a quantitative noise ordinance that regulates the intrusion of noise from parties and events onto sensitive land uses. It is expected that the ordinance would establish noise standards consistent with the PLAN Hermosa noise standards and provide further direction on acceptable noise levels for noise-sensitive hours (e.g., nighttime hours) as well as notification and enforcement measures such as fines and/revocation of use permits for nonresidential uses that are the noise source. With adherence

to existing Municipal Code regulations pertaining to noise and implementation of PLAN Hermosa policies and implementation actions, program-level noise impacts would be **less than significant**.

Mitigation Measures

None required.

CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

Noise is by definition a localized phenomenon and significantly reduces in magnitude as distance from the source increases. Consequently, only projects and growth due to occur in the Hermosa Beach area would be likely to contribute to cumulative noise impacts. The geographic extent of the cumulative setting for noise consists of Hermosa Beach and neighboring cities.

IMPACT 4.11-5 *Would PLAN Hermosa Contribute to Cumulative Effects of Noise Sources? PLAN Hermosa implementation, in addition to anticipated growth in the region, would result in additional construction activity, as well as stationary and mobile noise sources throughout the city and in adjacent jurisdictions, thereby increasing overall ambient noise levels. Adoption and implementation of PLAN Hermosa policies and implementation actions would reduce the effects of increased noise levels on nearby sensitive receptors. This impact would be* ***less than cumulatively considerable****.*

Implementation of PLAN Hermosa would not generate new stationary noise sources outside of the city and would not therefore result in cumulatively considerable noise impacts involving stationary sources. Additionally, groundborne vibration impacts are localized and would not result in a cumulatively considerable impact.

PLAN Hermosa implementation would generate additional traffic in Hermosa Beach and neighboring cities. Additional traffic volumes associated with future growth in the city would combine with regional traffic on major interjurisdictional roads and highways leading to Hermosa Beach that would contribute to cumulative effects involving roadway noise. The level of traffic noise attributable to Hermosa Beach–based trips that will occur outside of the city will increase gradually over a long period of time and would not result in cumulatively considerable changes in roadway noise levels in the context of regional traffic growth. Therefore, implementation of PLAN Hermosa would have a **less than cumulatively considerable** impact on regional traffic noise.

Mitigation Measures

None required.

4.11.5 REFERENCES

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