Section 3.11
Noise

3.11.1 Introduction

This section addresses potential noise impacts that could result from the proposed Project and alternatives. The environmental setting, applicable regulations, and impacts and mitigation are discussed in Section 3.11.2 through 3.11.4.

3.11.2 Environmental Setting

3.11.2.1 Noise Fundamentals

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound can be caused by its *pitch* or its *loudness*. *Pitch* of a tone or sound depends on the relative rapidity (frequency) of the vibrations by which it is produced. *Loudness* is the amplitude of sound waves combined with the reception characteristics of the ear. Amplitude may be compared with the height of an ocean wave. Technical acoustical terms commonly used in this section are defined in Table 3.11-1.

3.11.2.1.1 Decibels and Frequency

In addition to the concepts of pitch and loudness, there are several noise measurement scales that are used to describe noise. The *decibel (dB)* is a unit of measurement, which indicates the relative amplitude of a sound. Zero on the decibel scale is based on the lowest sound pressure that a healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a 10-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its level. Each 10-decibel increase in sound level is perceived as approximately a doubling of loudness over a wide range of amplitudes. Since decibels are logarithmic units, sound pressure levels are not added arithmetically. When two sounds of equal sound pressure level are added, the result is a sound pressure level that is 3 dB higher. For example, if the sound level were 70 dB when 100 cars pass by, then it would be 73 dB when 200 cars pass the observer. Doubling the amount of energy would result in a 3 dB increase to the sound level.

Table 3.11-1. Definitions of Acoustical Terms

Term	Definition
Decibel (dB)	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20 micro Pascals.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals in air). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sounds are below 20 Hz and ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level (dBA)	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level (L_{eq})	The average A-weighted noise level during the measurement period. The hourly L_{eq} used for this report is denoted as dBA $L_{eq[h]}$.
Community Noise Equivalent Level (CNEL)	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels to sound levels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels in the night between 10:00 pm and 7:00 am.
Day/Night Noise Level (L_{dn})	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, time of occurrence, and tonal or informational content as well as the prevailing ambient noise level.

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Frequency relates to the number of pressure oscillations per second, or *Hertz (Hz)*. The range of sound frequencies that can be heard by healthy human ears is from about 20 Hz at the low frequency end to 20,000 Hz (20 kilohertz [kHz]) at the high frequency end.

There are several methods for characterizing sound. The most common is the *A-weighted sound level* or *dBA*. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Studies have shown that the A-weighted level is closely correlated with annoyance to noise. Other frequency weighting networks, such as *C weighting or dBC*, have been devised to describe noise levels for specific types of noise (e.g., explosives). Table 3.11-2 shows typical A-weighted noise levels that occur in human environments.

Table 3.11-2. Typical Noise Levels in the Environment

Common Outdoor Noise Source	Noise Level (dBA)	Common Indoor Noise Source
	120 dBA	
Jet fly-over at 300 meters		Rock concert
	110 dBA	
Pile driver at 30 meters	100 dBA	
		Night club with live music
	90 dBA	
Large truck passes by at 15 meters		
	80 dBA	Noisy restaurant
		Garbage disposal at 1 meter
Gas lawn mower at 30 meters	70 dBA	Vacuum cleaner at 3 meters
Commercial/Urban area daytime		Normal speech at 1 meter
Suburban expressway at 90 meters	60 dBA	
Suburban daytime		Active office environment
	50 dBA	
Urban area nighttime		Quiet office environment
	40 dBA	
Suburban nighttime		
Quiet rural areas	30 dBA	Library
		Quiet bedroom at night
Wilderness area	20 dBA	
	10 dBA	Quiet recording studio
Threshold of human hearing	0 dBA	Threshold of human hearing

3.11.2.1.2 Noise Descriptors

Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations is utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called L_{eq}. A common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration. The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within approximately plus or minus 1 dBA. Two metrics describe the 24-hour average, L_{dn}, and CNEL. Both include penalties for noise during the nighttime, and CNEL penalizes noise during the evening. CNEL and L_{dn} are normally within 1 dBA of each other and are used interchangeably in this section.

3.11.2.1.3 Human Response to Noise

Studies have shown that under controlled conditions in an acoustics laboratory, a healthy human ear is able to discern changes in sound levels of 1 dBA. In the normal environment, the healthy human ear can detect changes of about 2 dBA; however, it is widely accepted that changes of 3 dBA in the normal environment are considered just noticeable to most people. A change of 5 dBA is readily perceptible, and a change of 10 dBA is perceived as being twice as loud.

Noise and Health

A number of studies have linked increases in noise with health effects, including hearing impairment, sleep disturbance, cardiovascular effects, psychophysiological effects, and potential impacts to fetal development (Babisch, 2005). Potential health effects appear to be caused by both short- and long-term exposure to very loud noises and long-term exposure to lower levels of sound. Acute sounds of $L_{AF} > 120$ dB ("L_{AF}" is the A-weighted sound level measured at a "fast" response rate) can cause mechanical damage to hair cells of the cochlea (the auditory portion of the inner ear) and hearing impairment (Babisch, 2005). As discussed in Section 3.11.2.1.1, $L_{AF} > 120$ dB is equivalent to a rock concert or a plane flying overhead at 300 meters. The World Health Organization and the USEPA consider $L_{Aeq} = 70$ dB(A) to be a safe daily average noise level for the ear. However, even this "ear-safe" level may cause disturbance to sleep and concentration and may be linked to chronic health impacts such as hypertension and heart disease (Babisch, 2006). A number of studies have looked at the potential health effects from the sound of chronic lower noise levels, such as traffic, especially as these noise levels affect children. In a study of school children in Germany, blood pressure was found to be 10 mmHg higher in a group of students exposed to road traffic noise from high traffic transit routes (Babisch, 2006). A study by Kwanda (2004) showed that in pregnant women, exposure to airplane noise was found to be associated with decreased fetal body weight.

3.11.2.1.4 Sound Propagation

When sound propagates over a distance, it changes in both level and frequency content. The manner in which noise is reduced with distance depends on the following important factors:

Geometric spreading. Sound from a single source (i.e., a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern. The

sound level attenuates (or drops off) at a rate of 6 dBA for each doubling of distance. Highway noise is not a single stationary point source of sound. The movement of vehicles on a highway makes the source of the sound appear to emanate from a line (i.e., a "line" source) rather than from a point. This results in cylindrical spreading rather than the spherical spreading resulting from a point source. The change in sound level from a line source is 3 dBA per doubling of distance.

Ground absorption. Usually the noise path between the source, and the observer is very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation because of geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is done for simplification only; for distances of less than 60 meters (200 feet), prediction results based on this scheme are sufficiently accurate. For acoustically "hard" sites (i.e., sites with a reflective surface, such as a parking lot or a smooth body of water, between the source and the receiver), no excess ground attenuation is assumed. For acoustically absorptive or "soft" sites (i.e., sites with an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dBA per doubling of distance is normally assumed. When added to the geometric spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dBA per doubling of distance for a line source and 7.5 dBA per doubling of distance for a point source.

Atmospheric effects. Research by Caltrans and others has shown that atmospheric conditions can have a major effect on noise levels. Wind has been shown to be the single most important meteorological factor within approximately 150 meters (500 feet), whereas vertical air temperature gradients are more important over longer distances. Other factors, such as air temperature, humidity, and turbulence, also have major effects. Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lower noise levels. Increased sound levels can also occur because of temperature inversion conditions (i.e., increasing temperature with elevation).

Shielding by natural or human-made features. A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by this shielding depends on the size of the object, proximity to the noise source and receiver, surface weight, solidity, and the frequency content of the noise source. Natural terrain features (such as hills and dense woods) and human-made features (such as buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction. A higher barrier may provide as much as 20 dB of noise reduction.

3.11.2.2 Existing Noise Environment

The Berth 97-109 Container Terminal is located adjacent to the San Pedro District of the Port and is roughly bordered by the Southwest Slip on the north; John S. Gibson Boulevard and Pacific Avenue on the west; Knoll Hill, Front Street, and the Vincent Thomas Bridge on the south; and the West Basin Channel on the east. Existing noise levels in the area result from vehicular traffic on the local street network and the freeways, train movements along the various railroad lines in the area, industrial noise sources, and activities at the Port of Los Angeles. The noise environment at any particular location

depends upon proximity to the various noise sources, although traffic noise is the predominant noise source in the project area. Noise-sensitive receivers are also located along the rail corridors in the environs of the Port of Los Angeles.

For the purpose of this report, noise-sensitive receivers are defined as residences, schools, hospitals, libraries, places of worship, and public parks. Figure 3.11-1 shows noise-sensitive receivers in the Project vicinity include residences southwest of Pacific Avenue on Knoll Hill overlooking Berth 100 (also includes an off-leash dog park with two runs), residences north of the Harry Bridges Boulevard and along C Street in the Wilmington District, and residences located on upper Cabrillo Avenue west of I-110. The dog runs will be relocated to the bottom of the hill by the end of December 2007. Two new temporary baseball fields, a T-ball field, and parking will be developed at the top of Knoll Hill at the site of the current dog runs. The temporary baseball and T-ball fields would be used for up to 3 years after completion (estimated at the end of 2007).

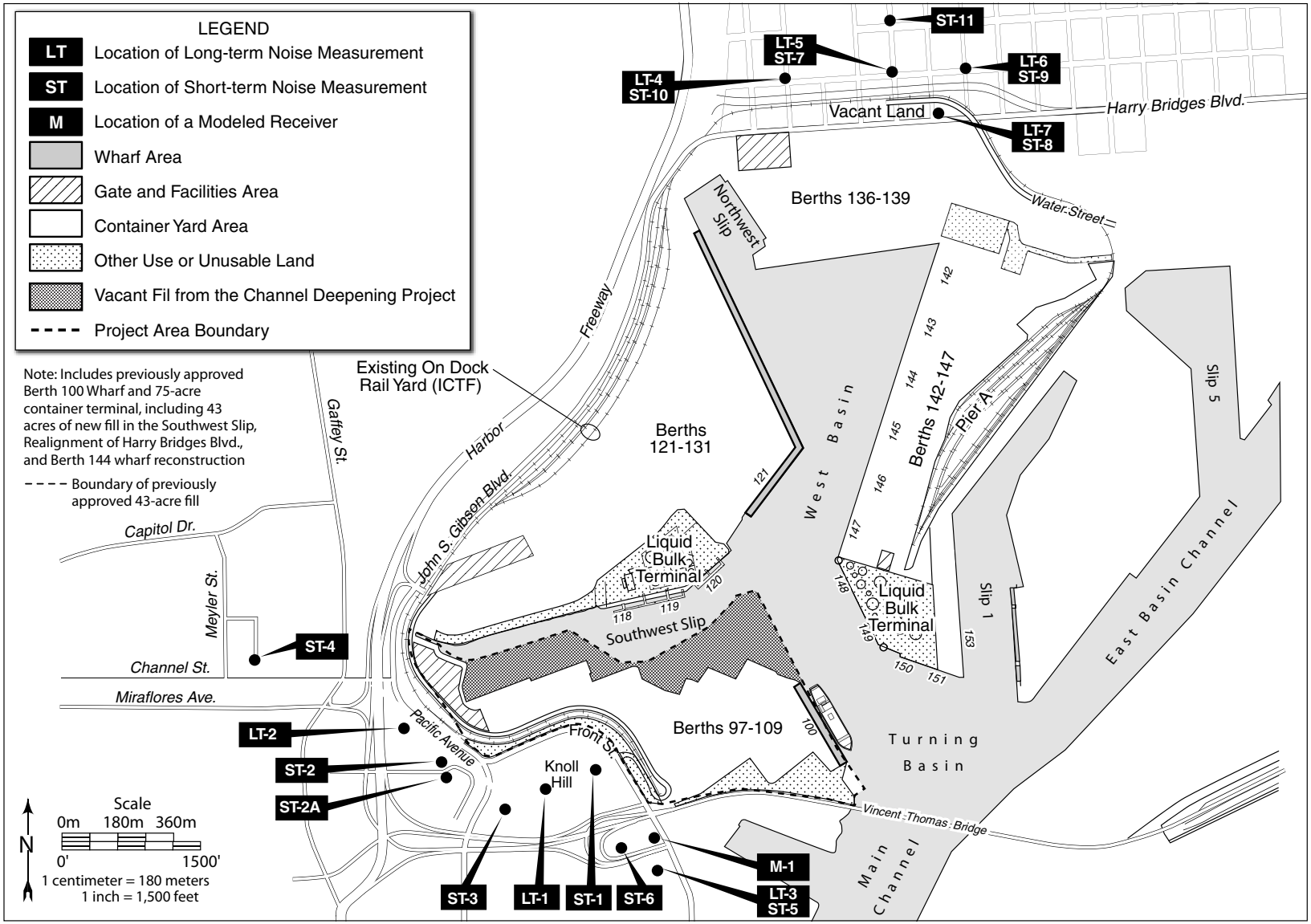
3.11.2.2.1 Noise Monitoring

Noise monitoring surveys were conducted in April 2002, October 2002 and November 2003 to quantify existing ambient noise levels at representative locations near Knoll Hill in San Pedro, including residences in the Pacific Avenue and Front Street neighborhoods, and in Wilmington. Noise levels were monitored during the daytime, evening, and nighttime in consecutive hourly intervals at several locations: LT-1, LT-2, L3, LT-4, LT-5, LT-6 and LT-7. The results of the noise measurements are shown in Figures 3.11-2 through 3.11-8. The figures provide the range of noise levels measured during each hour depicted by the statistical descriptors L_{90}, L_{50}, L_{10}, and L_{01}, as well as the maximum noise level and the energy average or equivalent sound level, $L_{eq(h)}$. Although not required, the statistical noise levels (L_n) were obtained to provide further perspective on background noise levels. The measured CNEL, the 24-hour (day/evening/night) average noise level, also is shown in each figure.

The measured existing CNEL on top of Knoll Hill was 65 dBA at Site LT-1. Hourly noise levels were typically between 55 and 60 dBA $L_{eq(h)}$. Noise levels were steady over the entire 24-hour period, with the exception of occasional local noises resulting from vehicular traffic or dogs in the dog park.

Measurement location LT-2 was on Shields Drive on the top of the slope overlooking Pacific Avenue and most of the West Basin. Major sources of noise at this monitoring site included vehicular traffic on Pacific Avenue, vehicular traffic on the I-110, and truck traffic circulating inside the Port property paralleling Pacific Avenue. Freight trains on the railroad tracks within the Port are also audible, but did not contribute in a major way to measured noise levels. Measured maximum noise levels during several hours resulted from local traffic near the microphone. At this measurement location on Shields Drive, the measured CNEL was 72 dBA.

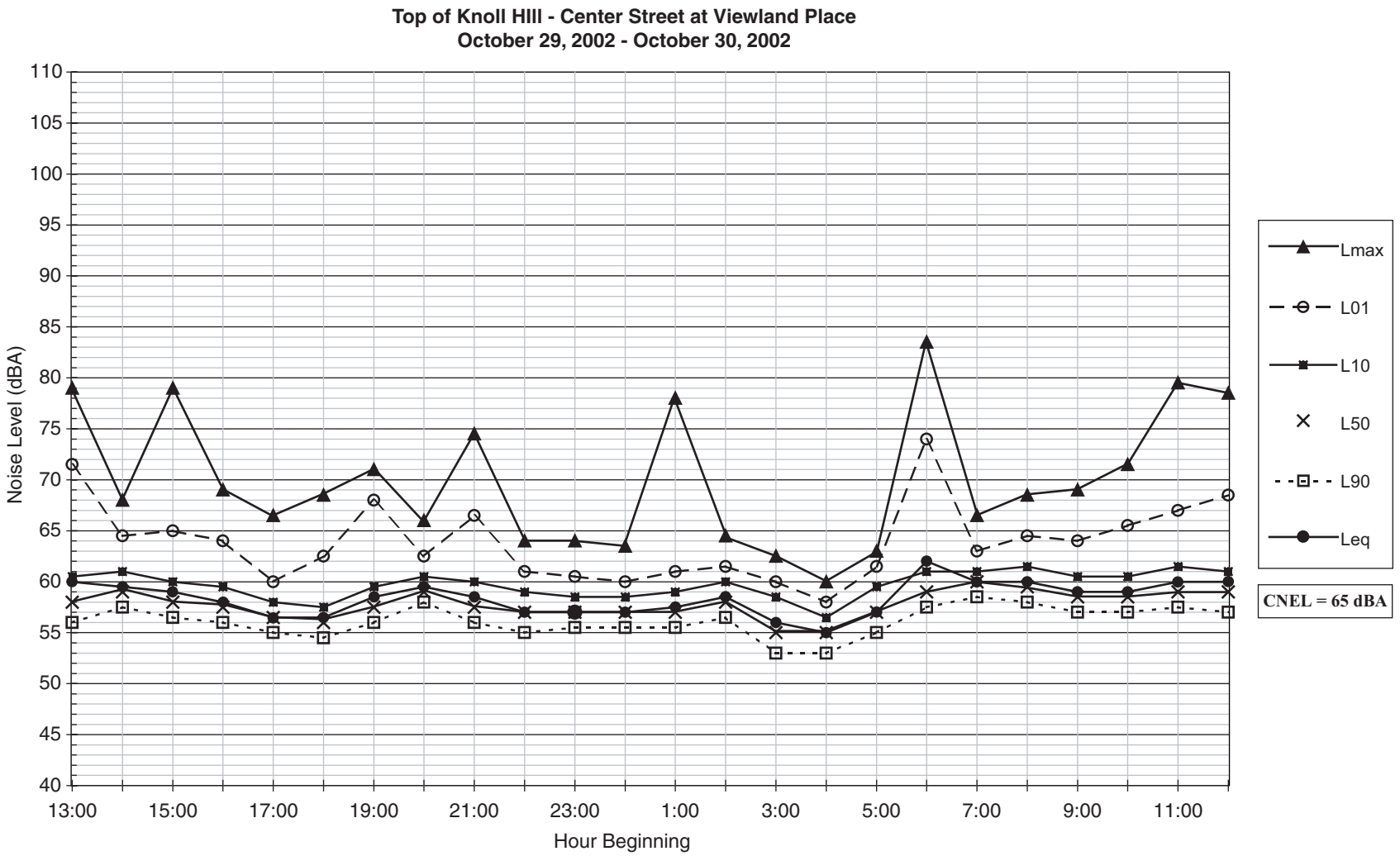
Measurement location LT-3 was near 207 West Amar Street, a site that overlooks the West Basin area. The L_{eq24hr} for the long-term measurement location (LT-3) in this area was 55 dBA and the CNEL was 61 dBA. Major sources of noise at this monitoring site included vehicular traffic on Harbor Boulevard, SR-47 (Vincent Thomas Bridge), and SR-47 on/off-ramps. Trains on the railroad tracks within the Port also were audible but did not contribute considerably to measured noise levels. Maximum noise levels during several hours resulted from local traffic near the microphone.



Source: POLA, 2003

Figure 3.11-1
Noise Measurement Locations
Berth 97-109 Container Terminal Project EIS/EIR

CH2MHILL



Source: POLA, 2003

Figure 3.11-2
Hourly Noise Levels at LT-1
Berth 97-109
Container Terminal Project EIS/EIR

CH2MHILL

T032005004SCO180121.01.03 CSnoiseLT1 ai 6/05

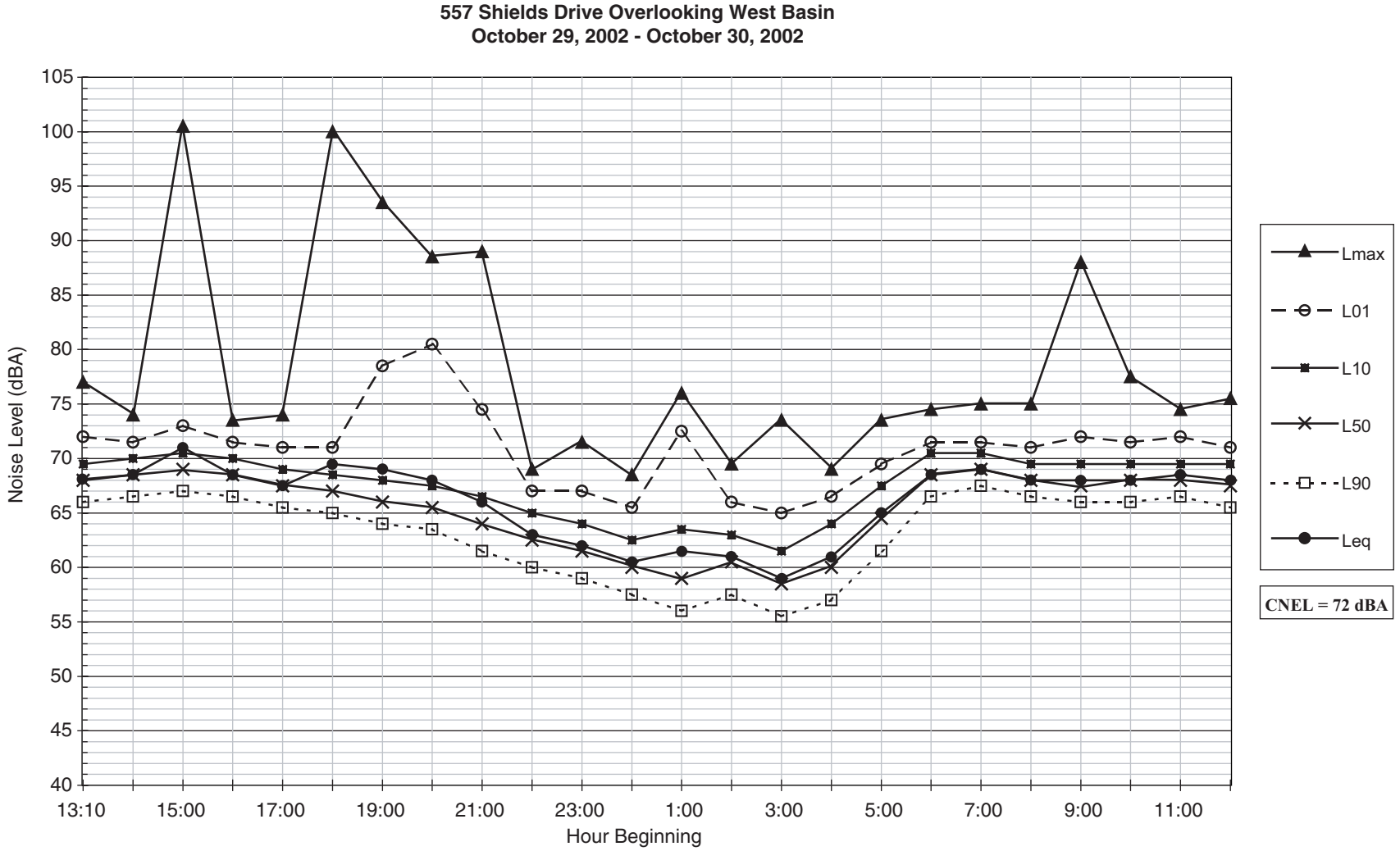
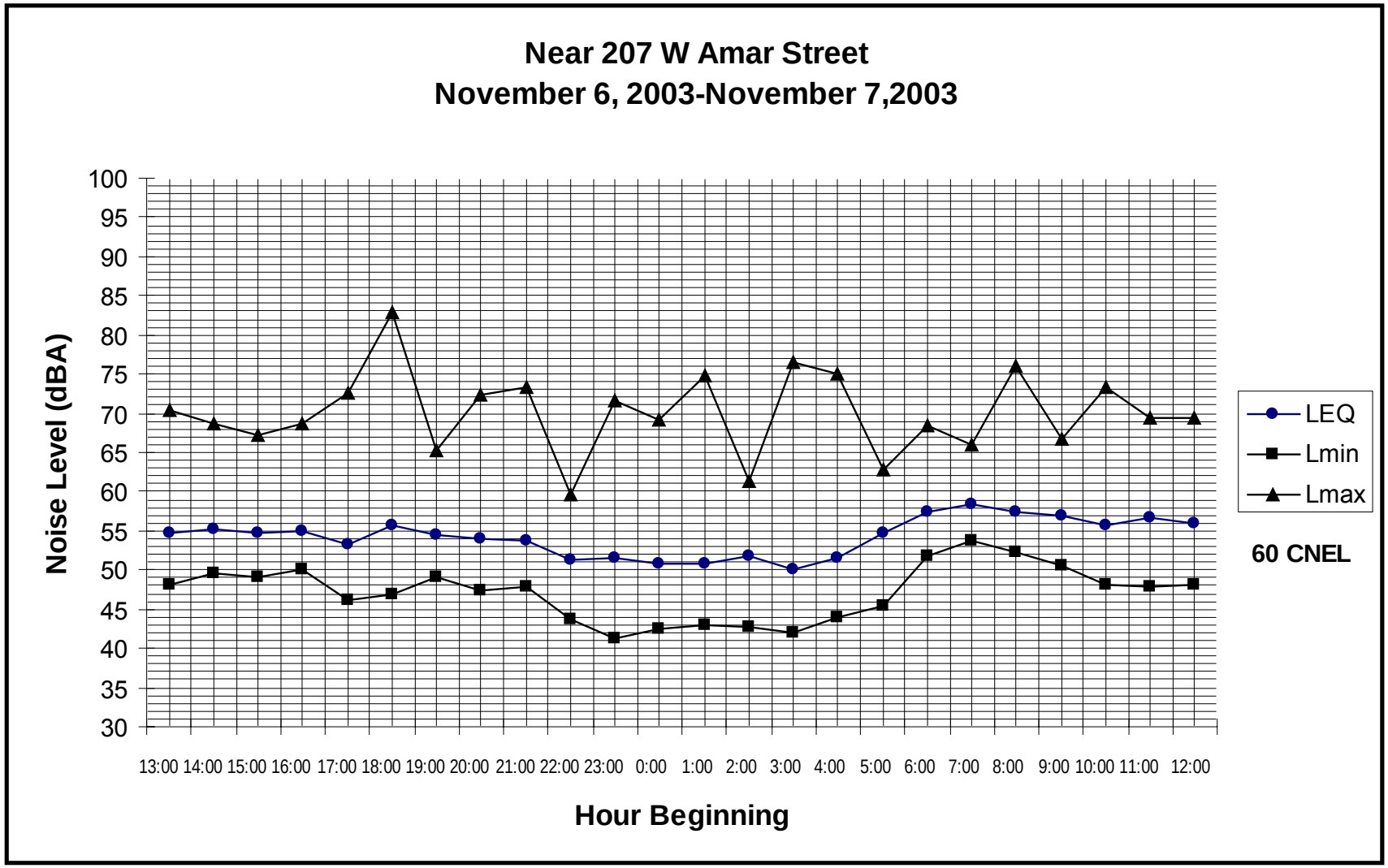


Figure 3.11-3
Hourly Noise Levels at LT-2
Berth 97-109
Container Terminal Project EIS/EIR

Source: POLA, 2003

CH2MHILL

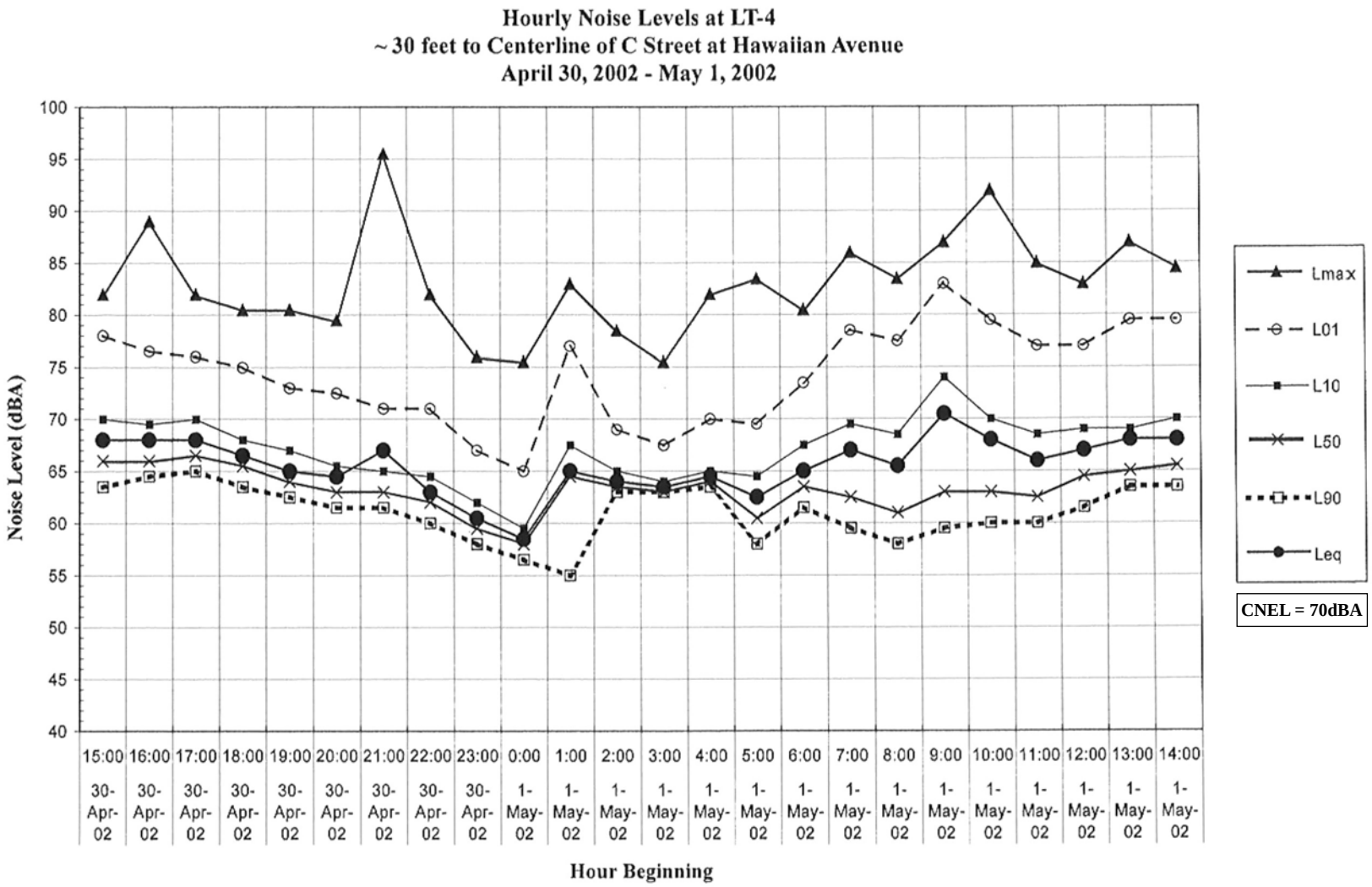
T032005004SCO180121.01.03 CSnoiseLT2 ai 6/05



Source: POLA, 2003

Figure 3.11-4
Hourly Noise Levels at LT-3
Berth 97-109 Container Terminal Project EIS/EIR

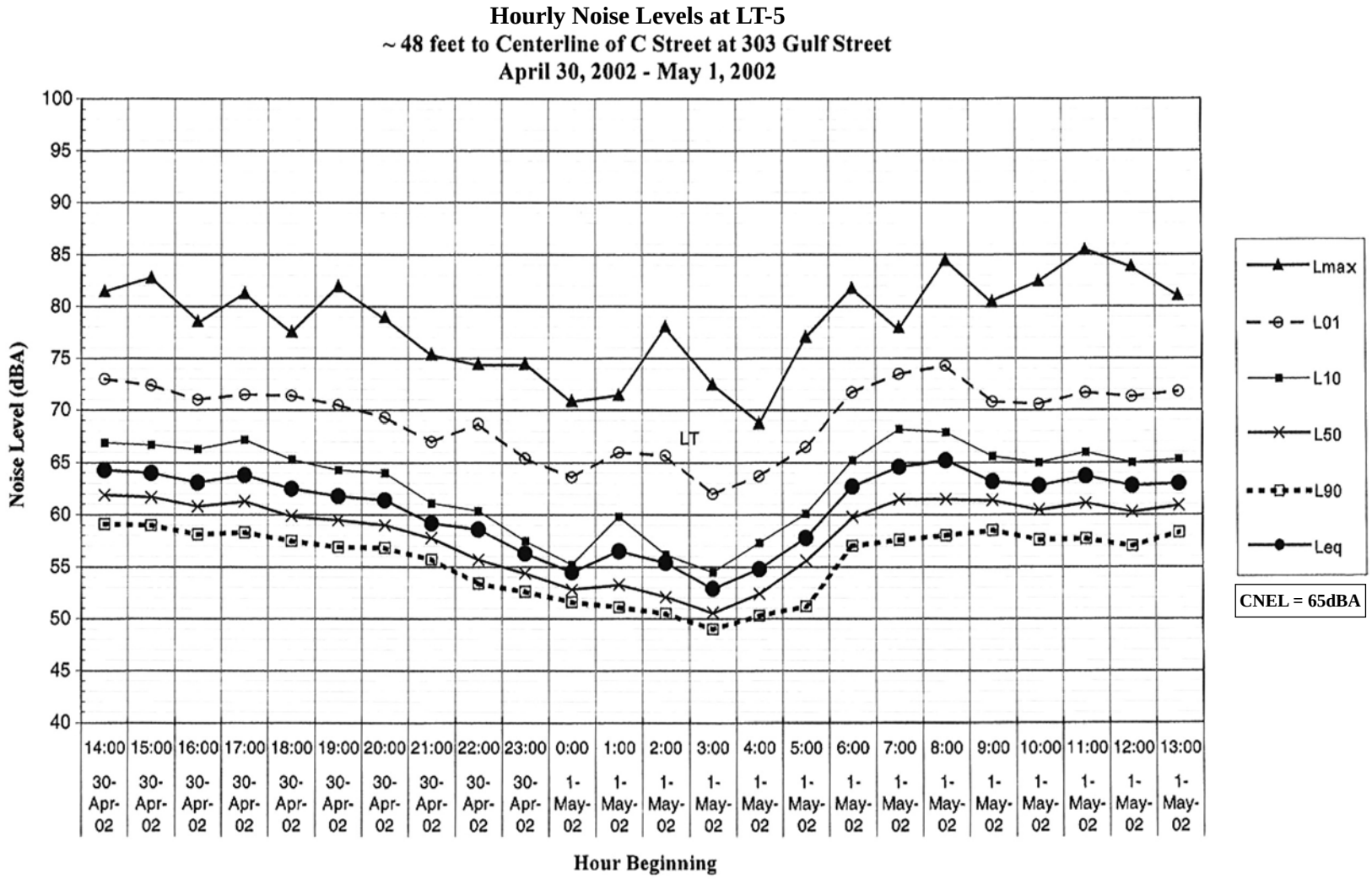
CH2MHILL



Source: Illingworth & Rodkin, 2002.

Figure 3.11-5
Hourly Noise Levels at LT-4
Berth 97-109
Container Terminal Project EIS/EIR

CH2MHILL

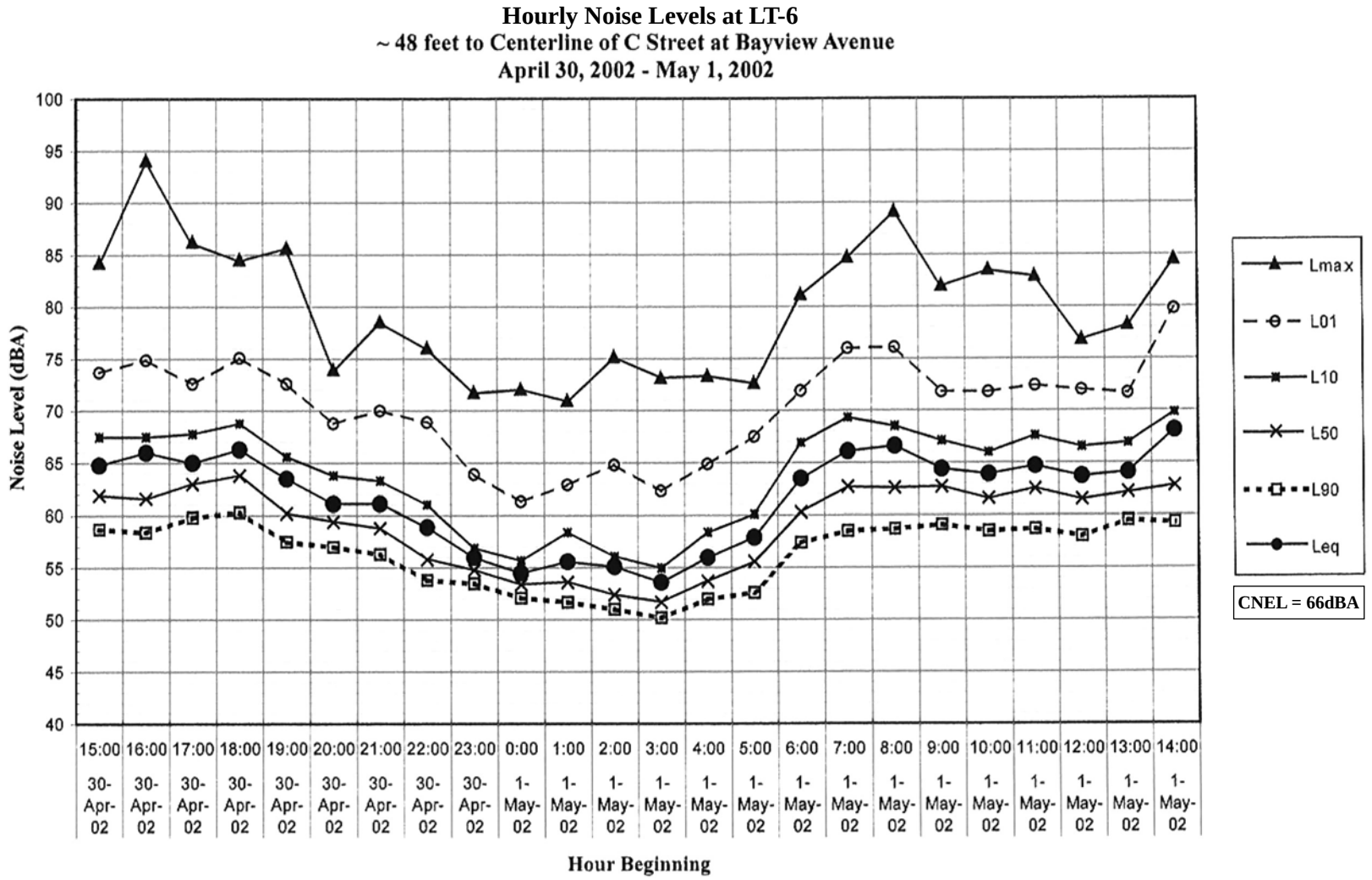


Source: Illingworth & Rodkin, 2002.

Figure 3.11-6
Hourly Noise Levels at LT-5
Berth 97-109
Container Terminal Project EIS/EIR

CH2MHILL

T032005004SCO180121.01.03 CSnoiseLT5 ai 10/05

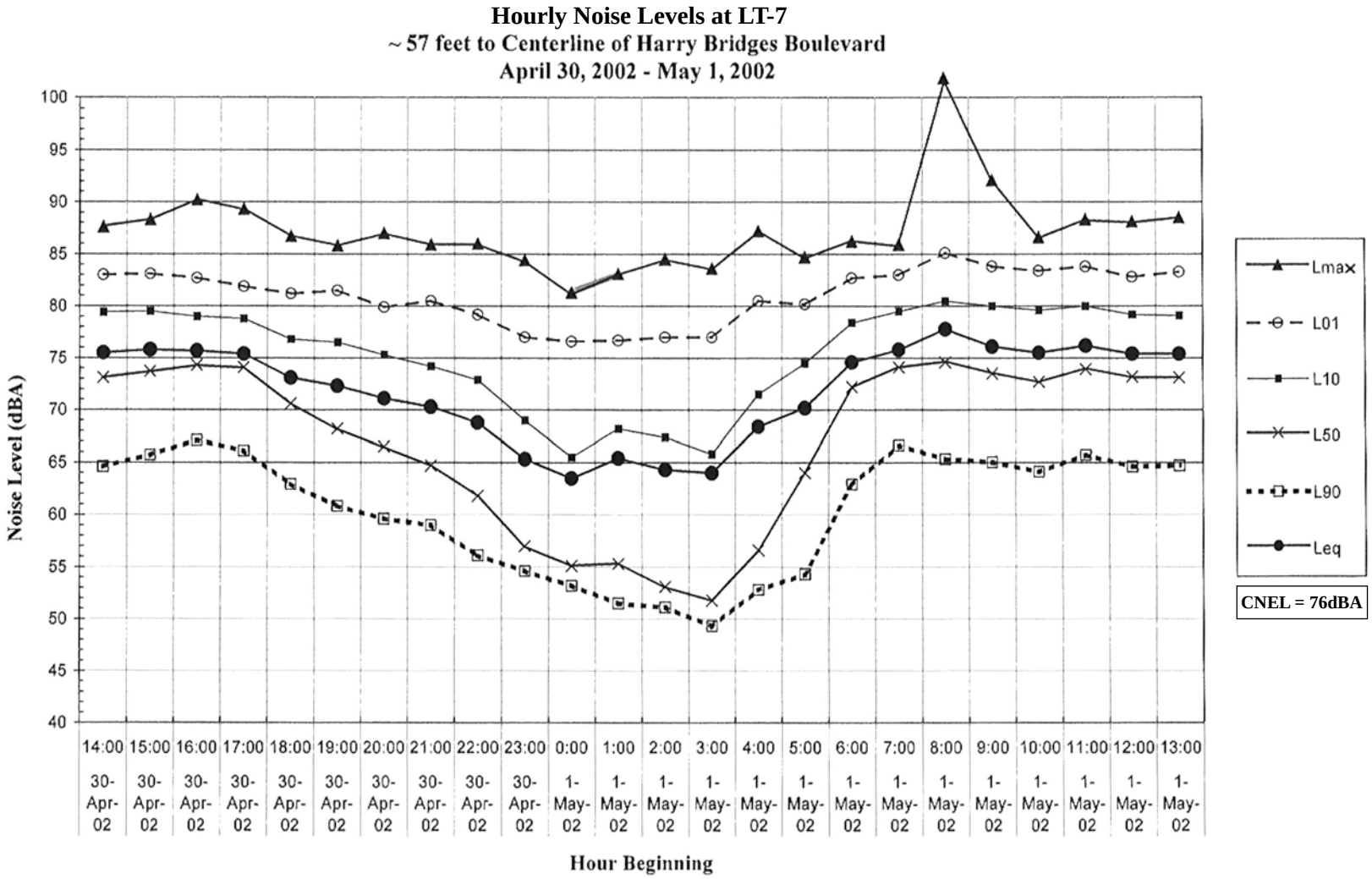


Source: Illingworth & Rodkin, 2002.

Figure 3.11-7
Hourly Noise Levels at LT-6
Berth 97-109
Container Terminal Project EIS/EIR

CH2MHILL

T032005004SCO180121.01.03 CSnoiseLT6 ai 10/05



Source: Illingworth & Rodkin, 2002.

Figure 3.11-8
Hourly Noise Levels at LT-7
Berth 97-109
Container Terminal Project EIS/EIR

CH2MHILL

Measurements at locations LT-4, LT-5, and LT-6 were taken in the Wilmington area. A reference noise measurement was also conducted at location LT-7 adjacent to the current Harry Bridges Boulevard. The CNEL at LT-4 at the western end of the study area near I-110 was 70 dBA. Noise from a nearby remaining commercial/light industrial land use also contributed to measured noise levels. The existing CNEL values along C Street in the central and eastern portion of the study area (LT-5 and LT-6) were 65 and 66 dBA. The existing CNEL at measurement location, LT-7, which is 57 feet from the centerline of Harry Bridges Boulevard, was 76 dBA; and the peak-hour average noise level was 77 to 78 dBA L_{eq}.

Short-term, 15-minute-duration, noise measurements were made at representative locations (depicted as Sites ST-1 through ST-11 in Figure 3.11-1). The results of the short-term noise level measurements are summarized in Table 3.11-3. Site ST-1 is at the east end of the top of Knoll Hill overlooking Berth 100 and the intersection of Front Street and a truck access to West Basin. Truck traffic on these roadways was the dominant source of noise generating typical maximum levels of 62 to 64 dBA. A helicopter flying overhead during the mid-day measurement generated a maximum noise level of 68 dBA, and a truck horn during the late afternoon measurement generated a maximum noise level of 74 dBA. The higher noise levels during the late afternoon measurement resulted from heavier truck traffic.

Site ST-2 is located near the intersection of Elberon, Summerland, and MacArthur in the residential area west of Knoll Hill. The noise environment at this location is similar to the noise environment at location LT-2. The measurement site selected was at the top of the slope with an unobstructed view of traffic on Pacific Avenue, Front Street, and the Port as well as the freeway and more distant sources of noise in the area. For comparison, a supplementary measurement was made 100 feet from the top of the slope along Elberon across from 409 Elberon.

One short-term measurement was made at the Harbor Occupational Center, located on Pacific Avenue south of Knoll Hill and shown as Site ST-3. Vehicular traffic on SR-47 is the dominant noise source at this location.

Another site that potentially could be affected by the Project is located on upper Cabrillo Avenue west of I-110. This neighborhood is elevated above the freeway and has views of the freeway and the West Basin. Measurement location ST-4, located at the south end of the street near 1130 Cabrillo Avenue, was selected as a representative location to characterize noise levels in this neighborhood. Vehicular traffic on I-110 dominated the noise environment during the measurements. Sounds from Port activities were indistinguishable from other traffic noise. Background noise levels at this location are very steady, characteristic of distant freeway noise with noise levels typically ranging from 54 to 60 dBA, with occasional slight excursions above and below this range.

Measurement site ST-5 is at the east end of Amar Street, which forms the north edge of a residential neighborhood that overlooks Harbor Boulevard. Site ST-6 is in the parking lot of the Samoan Sea Apartments, which is nestled between Front Street to the east and the westbound off-ramp from SR-47. ST-5, ST-6, and other outdoor use areas at the Samoan Sea Apartments are exposed to noise from SR-47, its eastbound and westbound ramps, and Front Street.

Table 3.11-3. Short-Term Noise Monitoring Results

Site	Location	Date	Time	Lmax	Lmin	Leq
ST-1	East end Knoll Hill at end of Viewland	10/29/02	12:06	68	59	62
		10/29/02	15:45	74	61	64
		10/30/02	9:30	69	59	64
ST-2	Elberon, Summerland, MacArthur intersection, top of slope	10/29/02	16:20	75	61	67
		10/30/02	9:55	73	62	67
ST-2A	Elberon, Summerland, MacArthur intersection, 100 feet back from top of slope	10/30/02	10:10	67	54	58
ST-3	Harbor Occupational Center near Metals Building	10/29/02	16:40	64	54	58
ST-4	End of Cabrillo Avenue at 1130 Cabrillo Avenue	10/30/02	10:45	62	53	57
ST-5	Near 207 West Amar Street	11/06/03	7:05	72	63	67
ST-6	West end of parking lot at Samoan Sea Apartments	11/07/03	7:35	79	60	69
ST-7	48 feet to centerline of C Street at 303 Gulf Street	4/30/2002	15:50	77	54	62
ST-8	57 feet to centerline of Harry Bridges Boulevard	4/30/2002	15:30	87	58	75
ST-9	48 feet to centerline of C Street at Bayview Avenue	4/30/2002	16:10	70	55	60
ST-10	30 feet to centerline of C Street at Hawaiian Avenue	4/30/2002	16:30	74	60	65
ST-11	Northwest corner of Gulf Avenue and D Street	4/30/2002	16:50	66	54	58

Notes:
L_{max} is the maximum sound level.
L_{min} is the minimum sound level.
Source: Illingworth & Rodkin, Inc., 2003; Entech Northwest, 2003

In addition to the long-term measurements, several short-term, 15-minute-duration noise measurements were conducted in the Wilmington area. At Site ST-7, neighborhood noise from stereos and voices reached 55 dBA. Harry Bridges Boulevard traffic was audible, but the dominant source of noise was local traffic on C Street. Trucks on Harry Bridges Boulevard generated maximum noise levels up to 65 dBA. Local traffic on C Street generated typical maximum noise levels in the range of 72 to 77 dBA.

At Site ST-8, located north of Harry Bridges Boulevard, heavy truck traffic was the dominant source of noise. Truck traffic generated typical maximum noise levels of 83 dBA to 87 dBA as trucks passed by the measurement site. A train also passed by at a speed of approximately 5 mph. The train generated a steady noise level of 69 to 70 dBA.

At Site ST-9, at the corner of the park located at the intersection of C Street and Bayview Avenue, Harry Bridges Boulevard traffic was audible with trucks generating maximum noise levels of 58 to 61 dBA. Local traffic on C Street generated maximum noise levels of 68 to 70 dBA. Children on skateboards in the parking lot across Bayview Avenue from the monitoring site generated noise levels of 60 to 61 dBA.

At Site ST-10, at the intersection of C Street and Hawaiian Avenue, heavier C Street traffic and freeway traffic on I-110 dominated the measured noise levels. Vehicular traffic noise levels on C Street were typically in the range of 65 to 74 dBA. Noise levels from freeway traffic were steady at about 62 dBA, with maximum levels ranging from 63 to 65 dBA when louder trucks passed by on the freeway.

Site ST-11 was near the intersection of Gulf Avenue and D Street to measure ambient noise levels farther north in the Wilmington neighborhood. At this location, freeway traffic on I-110 was steady at about 55 dBA. Activities at the Port of Los Angeles were inaudible. Other sources of noise contributing to the measured noise levels included occasional local traffic, birds in the trees, and the sounds of children playing. Traffic on local roadways generated maximum noise levels of 60 to 66 dBA as vehicles passed through the intersection.

3.11.2.2.2 Noise Baseline Adjustments

CEQA guidelines require a description and quantification of the physical environmental conditions in the surrounding Project area prior to the start of the China Shipping Project; i.e., the year prior to March 2001. These conditions help determine the significance of the noise impacts that the proposed Project could cause to the surrounding environment. There are no available noise measurement data recorded prior to the beginning of the Project; however, noise measurements in the vicinity of the Project area were taken in 2002 and 2003. Adjustments to these noise measurements to remove noise from activities that did not occur in 2001 have been made to estimate CEQA baseline background noise levels that could be utilized for assessment of potential noise impacts caused by the proposed Project.

During the noise monitoring survey dates, limited construction activities were observed occurring at Berth 100 that made no measurable or audible impact to the existing noise levels; however, there were slight changes in traffic between the noise monitoring survey dates and the CEQA baseline year. Traffic changes were determined by comparing the number of trucks entering and leaving the Yang Ming and TraPac terminals in 2001 to 2002. On a daily basis, there were 29 percent more trucks in 2002/2003 than in 2001. Conservatively, this translates into approximately 1 dBA decrease in noise resulting from truck traffic based on modeling utilizing the FHWA's Traffic Noise Model. This is a conservative approach because port-related traffic is not the only source of background noise in the areas of concern. Typically, the dominant contributor to community noise is vehicular traffic generated by residential and various commercial uses in the area. Because the neighborhoods in the area are well developed, it is not likely for noise levels from sources outside the port to have changed much in a span of approximately 1 year. Applying a 1-dBA adjustment to background noise levels assumes that similar increases in noise from other sources occurred between the baseline and monitoring time periods.

Therefore, a 1-dBA adjustment was made to the 2002 monitoring data to account for changes in truck traffic from 2001 to 2002 in order to calculate the estimated CEQA baseline noise levels.

Table 3.11-4 summarizes the adjustments to the 2002/2003 monitoring data and the resulting estimated CEQA baseline noise levels.

Table 3.11-4. Summary of Adjustments to 2002 Monitoring Data (dBA, Leq)

Site	2002 Measured Noise Levels	2002 Truck Traffic Noise Level Increase over 2001	2001 CEQA Baseline Noise Levels with reduced truck traffic
ST-1	64	1	63
ST-2	67	1	66
ST-2a	58	1	57
ST-3	58	1	57
ST-4	57	1	56
ST-5	67	1	66
ST-6	69	1	68
ST-7	62	1	61
ST-8	75	1	74
ST-9	60	1	59
ST-10	65	1	64
ST-11	58	1	57

3.11.3 Applicable Regulations

The *Los Angeles CEQA Thresholds Guide* (City of Los Angeles, 2006) includes the following checklist questions regarding environmental noise impacts:

a. Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b. Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

c. Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above the existing without the project?

e. For a project located within an airport land use plan, or where such a plan has not been adopted within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Significance criteria are established to address questions a, c, and d for potential noise impacts during each of the two stages of construction and operation proposed for this

project. Questions b, e, and f are not applicable to this assessment. Background information is presented in the following paragraphs regarding applicable or related regulations adopted by the City of Los Angeles or other agencies.

3.11.3.1 City of Los Angeles Municipal Code

Section 41.40 of the City of Los Angeles Municipal Code establishes when construction work is prohibited. The Municipal Code section states the following:

> *(a) No person shall between the hours of 9:00 pm and 7:00 am of the following day perform any construction or repair work of any kind upon or any excavating for, any building or structure, where any of the foregoing entails the use of any power-driven drill, driven machine, excavator, or any other machine, tool, device, or equipment which makes loud noises to the disturbance of persons occupying sleeping quarters in any dwelling, hotel, or apartment or other place of residence. In addition, the operation, repair or servicing of construction equipment and the jobsite delivering of construction materials in such areas shall be prohibited during the hours herein specified. Any person who knowingly and willfully violates the foregoing provision shall be deemed guilty of a misdemeanor punishable as elsewhere provided in this code.*

The code section then provides certain provisions for exceptions and exemptions.

Chapter 11 of the Municipal Code sets forth noise regulations, including regulations applicable to construction noise impacts. Section 112.05 establishes maximum noise levels for powered equipment or powered hand tools. This section states:

> *Between the hours of 7:00 am and 10:00 pm in any residential zone of the City or within 500 feet thereof, no person shall operate or cause to be operated any powered equipment or powered hand tool that produces a maximum noise level exceeding the following noise limits at a distance of 50 feet there from (a) 75 dBA for construction, industrial and agricultural machinery including crawler tractors, dozers, rotary drills and augers, loaders, power shovels, cranes, derricks, motor graders, paving machines, off-highway trucks, ditchers, trenchers, compactors, scrapers, wagons, pavement breakers, depressors, and pneumatic or other powered equipment; (b) 75 dBA for powered equipment of 20 horsepower or less intended for infrequent use in residential areas including chain saws, log chippers, and powered hand tools; and (c) 65 dBA for powered equipment intended for repetitive use in residential areas including lawn mowers, backpack mowers, small lawn and garden tools, and riding tractors.*
>
> *The noise limits for particular equipment listed above in (a), (b) and (c) shall be deemed to be superseded and replaced by noise limits for such equipment from and after their establishment by final regulations adopted by the Federal Environmental Protection Agency and published in the Federal Register.*
>
> *Said noise limitations shall not apply where compliance therewith is technically infeasible. The burden of proving that compliance is technically infeasible shall be upon the person or persons charged with a*

violation of this section. Technical infeasibility shall mean that said noise limitations cannot be complied with despite the use of mufflers, shields, sound barriers, and/or other noise reduction device and techniques during the operation of the equipment.

Section 112.04 of the Municipal Code. "Powered equipment intended for repetitive use in residential areas and other machinery, equipment, and devices." That section establishes criteria for stationary noise source intrusion on neighboring lands. The applicable standard under this section is a 5-dBA increase at any sensitive property.

3.11.3.2 Federal and State Traffic Noise Standards

The Federal Highway Administration (FHWA) has adopted noise standards, regulations, and policies relating to traffic noise. California Department of Transportation (Caltrans) discusses these standards in detail and provides guidance in the *Caltrans Traffic Noise Analysis Protocol* (Caltrans, 1998). Federal regulations addressing highway noise are defined in 23 CFR Part 772. These standards are not directly applicable to this proposed Project because this is not a Type 1 federally funded highway improvement project. Nonetheless, the regulations identify Noise Abatement Criteria (NAC), which is another useful measure of the potential environmental noise effects of the proposed Project. Under FHWA regulations, noise abatement must be considered for a Type 1 project when the project results in a substantial noise increase (defined by Caltrans as 12 dBA above existing peak-hour noise levels) or when the predicted noise levels approach or exceed the noise abatement criterion for a particular land use. The noise abatement criteria, established by FHWA, for various land uses (called activity categories) are shown in Table 3.11-5. Caltrans has further defined noise levels "approaching" the noise abatement criterion to be 1 dBA below the NAC (e.g., 66 dBA is considered to approach the NAC for Category B activity areas).

Table 3.11-5. Federal (FHWA) Noise Abatement Criteria

Activity Category	Noise Abatement Criteria (dBA) $L_{eq(h)}$*	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to serve its intended purpose.
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	—	Undeveloped lands.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

*Noisiest hour expressed as the energy-average of the A-weighted noise level occurring during a 1-hour period or $L_{eq(h)}$.

3.11.4 Impacts and Mitigation Measures

3.11.4.1 Methodology

This section summarizes the methodology. Detailed supporting information for the tasks is presented in each section. The methodology to determine the significance of noise impacts resulting from construction and operation of the proposed Project included several tasks. Representative sensitive receiver locations were identified. For the purpose of this report, noise-sensitive receivers are defined as residences, schools, hospitals and nursing homes, libraries, places of worship, and public parks. The geographic scope of the study encompassed the neighborhoods proximate to the China Shipping site and Port property on the west, southwest, and north sides of the Port. Furthermore, impacts due to increases in rail operations were evaluated along the rail corridors in terms of the potential increases in noise levels due to incremental increases in number of additional train trips generated by various alternatives. From a traffic noise standpoint, impacts due to traffic noise increases were assessed for areas near the Port. Based on an assessment of distribution of project-related traffic in areas farther from the Port, any project-related traffic volume increases along various roadways would be dispersed at greater distances from the area and, therefore, would not have a potential for affecting background noise in areas far from the Port.

Project-related traffic would primarily travel along three corridors before converging on the China Shipping site. These corridors are I-110, Alameda Street, and I-710. A basic comparison of project traffic contributions to traffic volumes along these corridors shows slight and negligible noise increases due to project traffic relative to existing conditions. Along the I-110 near the Pacific Coast Highway (PCH), the project-induced increase above existing noise levels would be less than 1 dBA CNEL. Along Alameda Street, between Henry Ford and PCH, the project would cause a traffic noise increase of less than 0.5 dBA. Along I-710, project-related traffic would have no practical effect on existing noise levels. Therefore, the geographic scope of the study for the detailed noise analysis was limited to a 1- to 2-mile radius of the proposed project site in the Wilmington and San Pedro neighborhoods.

The noise-sensitive receivers were identified through field observations. The monitoring sites were selected to characterize noise exposures in the neighborhoods surrounding the proposed Project. Noise surveys were conducted to establish existing ambient noise levels at sensitive receiver locations in the study area. In addition to the April and October 2002 noise surveys described above, a noise survey was conducted in November 2003 by Entech Northwest, Inc. to establish ambient noise levels at the Knoll Hill and nearby sensitive receiver locations in the study area. All measured noise levels reported in this section were obtained utilizing Type I Larson Davis 814 integrating sound level meters equipped with precision microphones and wind screens. All instrumentation utilized for the measurements were factory calibrated and certified as of the dates of the measurements. Microphones were field calibrated with an acoustical calibrator before and after each measurement. Measurements were made by qualified personnel experienced in the selection of representative measurement sites, the accurate measurement of environmental sources, and proper field survey methods.

Measured noise levels during this period are not considered representative of the noise levels prior to March 2001 due to the 29 percent increase in truck traffic between March 2001 and November 2003 as previously mentioned in Section 3.11.2.2. However,

according to field personnel who conducted the measurements, construction activities at the Port did not contribute to measured noise levels during these noise measurements.

Further, a noise measurement survey was conducted during construction at Berth 100 to determine typical noise levels resulting from construction at the Port. Noise levels resulting from construction activities were estimated for each major phase of construction in each area using measured data from the noise survey and calculations of construction noise levels based on the numbers and types of pieces of equipment expected at the construction sites. A noise measurement survey was also conducted at the existing rail yard on Pier A in November 2005 to determine typical noise levels resulting from railroad operations. Operational noise levels from stationary sources were based upon previous data collected at the Port or from the literature.

Future transportation noise exposure and increases in transportation noise levels relative to existing conditions were calculated based on a comparison of existing and future traffic volumes on the roadway and railway corridors. Traffic noise level calculations were conducted using the FHWA Traffic Noise Model (TNM). Finally, noise impacts were assessed with respect to the significance thresholds established for the proposed Project (presented in Section 3.11.5.2).

3.11.4.1.1 CEQA Baseline

Section 15125 of the CEQA Guidelines requires EIRs to include a description of the physical environmental conditions in the vicinity of a project that exist at the time of the NOP. These environmental conditions normally would constitute the baseline physical conditions by which the CEQA lead agency determines if an impact is significant. For purposes of this Recirculated Draft EIS/EIR, the CEQA baseline for determining the significance of potential Project impacts are the conditions that existed prior to March 2001, pursuant to the ASJ described in Chapter 1, Section 1.4.3. The CEQA baseline for this proposed Project includes 45,135 TEUs/year that occurred on the project site in the year prior to March 2001. The noise conditions present in 2001 are described in Section 3.11.2.2.1.

The CEQA baseline represents the setting at a fixed point in time and differs from the No Project Alternative (discussed in Section 2.5) in that the No Project Alternative addresses what is likely to happen at the site over time, starting from the baseline conditions. The No Project Alternative allows for growth at the Project site that could occur without additional approvals.

Adjustments were made to noise measurements that were taken in 2002 and 2003 to account for higher Port operations in the West Basin area compared to 2001 as discussed in Section 3.11.2.2.2. The adjusted noise levels represent the CEQA baseline conditions.

3.11.4.1.2 NEPA Baseline

For purposes of this Recirculated Draft EIS/EIR, the evaluation of significance under NEPA is defined by comparing the proposed Project or other alternative to the NEPA baseline, which is defined by examining the full range of construction and operational activities the applicant could implement and is likely to implement absent a permit from the USACE. Therefore, unlike the CEQA baseline, the NEPA baseline for this project is not fixed. Rather, it is dynamic to account for the many activities and impacts expected to occur even in the absence of a USACE permit. For this project, the NEPA baseline includes construction and operation of backlands container operations on up to 117 acres, but precludes construction of wharves and bridges, dredging, and improvements that

would require a federal permit. The NEPA baseline would result in upland development, including additional acreage of container backlands over the 2001 baseline conditions (i.e., the 72 acres of backlands currently in use and another 45 acres resulting from the Channel Deepening Project). In addition, the NEPA baseline would store up to 632,500 TEUs on its site from the container terminal at Berths 121-131.

Unlike the CEQA baseline, which is defined by conditions at a point in time, the NEPA baseline is not bound by statute to a "flat" or "no growth" scenario. Therefore, the USACE may project increases in operations over the life of a project to properly describe the NEPA baseline condition. Normally, any ultimate permit decision would focus on direct impacts of the proposed Project to the aquatic environment, as well as indirect and cumulative impacts in the uplands determined to be within the scope of federal control and responsibility. Significance of the proposed Project or alternative is defined by comparing the proposed Project or alternative to the NEPA baseline (i.e., the increment). The NEPA baseline conditions are described in Section 2.1.

The NEPA baseline also differs from the "No Project" Alternative, where the Port would take no further action to construct and develop additional backlands (other than the 72 acres that are currently developed). Under the No Project Alternative, Phase I construction is applied, but no further construction impacts would occur other than removal of four A-frame cranes built as part of Phase 1. However, forecasted increases in cargo throughput would still occur as greater operational efficiencies are made.

3.11.4.2 Thresholds of Significance

The *City of Los Angeles CEQA Thresholds Guide* (City of Los Angeles, 2006) contains the following significance thresholds related to construction noise. Quantification of ambient noise levels (existing and projected at the time of construction) is measured in CNEL.

A project would normally have a significant impact on noise levels from construction during the *daytime* if:

NOI-1 Construction activities lasting more than 1 day would exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use; or if construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use.

A project would normally have a significant impact on noise levels from construction during the *nighttime* if:

NOI-2 Construction activities would exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9:00 pm and 7:00 am Monday through Friday, before 8:00 am or after 6:00 pm on Saturday, or at any time on Sunday.

The *City of Los Angeles CEQA Thresholds Guide* (City of Los Angeles, 2006) contains the following significance thresholds for operational noise impacts due to stationary sources, vehicular traffic, or increased railroad operations.

NOI-3 A project would normally have a significant impact on noise levels from project operations if the project causes the ambient noise level measured at the property line of affected uses to increase by 3 dBA in CNEL to or within the 'normally unacceptable' or 'clearly unacceptable category,' or any 5 dBA or greater noise increase.

Table 3.11-6 presents the land use noise compatibility guidelines.

Sensitive receivers in the Port area that are potentially affected by operational noise from the proposed Project include residential land uses (single- and multi-family housing, boats used as residences) and neighborhood parks. At these land uses, a significant impact would occur if the proposed Project causes CNEL noise levels to increase by (1) 5 dBA or greater where the existing CNEL is less than 70 dBA; or (2) 3 dBA or greater where the existing CNEL exceeds 70 dBA.

Table 3.11-6. Land Use Noise Compatibility Guidelines

Land Use	Community Noise Exposure CNEL, dB			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Single-Family, Duplex, Mobile Homes	50-60	55-70	70-75	above 70
Multifamily Homes	60-65	60-70	70-75	above 70
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-70	60-70	70-80	above 80
Playgrounds, Neighborhoods Parks	50-70	—	67-75	above 72

Normally Acceptable: Specified land use is satisfactory, based on the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

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

Clearly Unacceptable: New construction or development generally should not be undertaken.

Source: City of Los Angeles, 1998

3.11.4.3 Impacts and Mitigation

This section assesses potential for noise impacts from construction and operation of each project alternative to affect the noise environment at sensitive receiver locations in the surrounding Wilmington and San Pedro districts of the City of Los Angeles is assessed in this section.

3.11.4.3.1 Proposed Project

3.11.4.3.1.1 Proposed Project Construction Impacts

Table 3.11-7 shows the noise level ranges of typical construction equipment. During any construction project, the overall noise levels vary based on the level of construction activity, the types of equipment that are onsite, and when the equipment is being operated. The development that would occur under the proposed Project alternative would influence these factors and the amount of construction noise generated. Construction activities were determined for Phases I through III of the proposed Project alternative. Hourly average noise levels were estimated using the noise level data presented in Table 3.11-7 and based on the numbers and types of equipment that are expected to be

onsite to complete the various construction projects. Tables 3.11-8 through 3.11-10 present the computed hourly average noise levels at a reference distance of 100 feet for each of the major construction phases. These levels represent the noise levels that would occur during the noisiest phase of construction; for example, pile driving during wharf construction.

Table 3.11-7. Construction Equipment Noise Level Range

	A-Weighted Noise Level (dB) at 50 Feet
	60 70 80 90 100 110
Earth Moving:	
Compactors (Rollers)	
Front Loaders	
Backhoes	
Bulldozers	
Scrapers, Graders	
Pavers	
Trucks	
Materials Handling:	
Concrete Mixers	
Concrete Pumps	
Cranes (Movable)	
Cranes (Derrick)	
Stationary:	
Pumps	
Generators	
Compressors	
Impact Equipment:	
Pneumatic Wrenches	
Jackhammers & Rock Drill	
Pile Drivers (Peak)	
Others:	
Vibrators	
Saws	

Source: Harris (1979)

Table 3.11-8. Construction Noise Levels by Task for the Proposed Project Phase I

Location	Construction Activity	$L_{eq(h)}$ (dBA) at 100 Feet
China Shipping Site (Berths 100, 102)		
Berth 100	Wharf Construction, Pile Driving, install 4 cranes	95
Near Berth 100	Backlands Development	88
SW Slip	Build Bridge 1	88

Table 3.11-9. Construction Noise Levels by Task for the Proposed Project Phase II

Location	Construction Activity	$L_{eq(h)}$ (dBA) at 100 Feet
China Shipping Site (Berths 100, 102)		
Berth 102	Wharf Construction and Pile Driving	95
Behind Berth 102 Adjacent to SW Slip and Near Bridge 2	Backlands Development- 45 acres	88
Berth 100-109	Buildings	88
Bridge 2	Bridge Building	88

Table 3.11-10. Construction Noise Levels by Task for the Proposed Project Phase III

Location	Construction Activity	$L_{eq(h)}$ (dBA) at 100 Feet
Berth 100	Wharf Construction and Pile Driving	95
Berth 100	Backlands development-25 acres	88

A noise monitoring survey was conducted at Berth 100 in July 2002 during an active construction period. The noise survey included noise measurements close to specific pieces of equipment and community noise measurements on Knoll Hill and in the west of Knoll Hill neighborhood. Data are presented in Table 3.11-11. These data represent maximum construction noise levels expected at the Port during any phase of construction because they included pile driving during wharf construction. The wharf construction with pile driving generated an L_{eq} of approximately 90 dBA at 100 feet from the center of the pile-driving activity. This level is 5 dBA lower than the equivalent level shown in Table 3.11-8, demonstrating that those are conservative estimates accounting for all construction activities during wharf construction when accumulated and set to a reference distance of 100 feet.

Table 3.11-11. Berth 100 Wharf Construction Noise Levels Measured July 15, 2002

Noise Source and Measurement Location	L_{max} (dBA)	L_{eq} (dBA)
1. Caterpillar 973 Track Dozer at 200 feet	76	69
2. Diesel Hammer driving landside concrete piles at 160 feet	96	86
3. Komatsu PC200 Loader ripping dirt and rock at 50 feet	85	74
4. Manitowoc 888 Crane lifting materials at 50 feet	87	78
5. General construction including cranes, air compressors, trucks, loaders, hammering (no pile driving)	74	69
6. General construction including 5 cranes, 3 large loaders, 8-10 small loaders, water truck, numerous concrete trucks, pile driving measured on top of Knoll Hill (Site ST-6). Note: Dominant noise source was container trucks at Front Street entrance to Port; container truck horn	77-84	64
7. Same construction activity ongoing but inaudible at Site ST-2 in west of Knoll neighborhood at Summerhill, Elberon, MacArthur intersection; traffic noise dominates	79	66

Construction noise levels that would be experienced at sensitive receivers in the Knoll Hill, Pacific Avenue-Channel Street, and the Wilmington neighborhoods were calculated by determining the distance between the noise measurement sites in these areas (described in Table 3.11-3) and where the construction activity would occur. A standard acoustical formula was used to determine the attenuation of construction noise due to a particular distance. All of the construction activities were considered to be stationary or slow-moving noise sources whose noise would decrease by 6 dBA for every doubling of distance between the noise source and noise receiver. Each receiver was assumed to have a clear line-of-sight to the noise sources because most of the sensitive-receiver sites have an unobstructed view of Berths 100 and 102. Tables 3.11-12 to 3.11-14 present the predicted construction noise levels experienced at the various sensitive land uses during construction for Phases I, II, and III, respectively, of the proposed Project alternative.

Table 3.11-12. Hourly Average Construction Noise Levels at Sensitive Receivers for the Proposed Project (Phase I) [a]

Receiver	Ambient Noise Level L_{eq} (dBA)	Proposed Phase I L_{eq} (dBA)	Combined Noise Level (dBA)	Increase over Ambient (dBA)	Significance Criteria (dBA)	Significant Impact?
Knoll Hill Neighborhood						
ST-1	63	72	73	10	5	Yes
ST-3	57	68	68	11	5	Yes
Pacific Avenue-Channel Street Neighborhood						
ST-2	66	68	70	4	5	No
ST-2A [b]	57	59	61	4	5	No
ST-4	56	65	66	10	5	Yes
ST-5	66	70	71	5	5	Yes
ST-6	68	70	72	4	5	No
Wilmington Neighborhood						
ST-7	61	60	64	3	5	No
ST-8	74	61	74	0	5	No
ST-9	59	57	61	2	5	No
ST-10	64	60	65	1	5	No
ST-11	57	57	60	3	5	No

[a]Construction noise levels at sensitive-receiver sites do not include noise from other existing background sources.

[b]Top of slope provides shielding resulting in a 9-dBA reduction in noise.

1

Table 3.11-13. Hourly Average Construction Noise Levels at Sensitive Receivers for the Proposed Project (Phase II) [a]

Receiver	Ambient Noise Level L_{eq} (dBA)	Proposed Phase II L_{eq} (dBA)	Combined Noise Level (dBA)	Increase over Ambient (dBA)	Significance Criteria (dBA)	Significant Impact?
Knoll Hill Neighborhood						
ST-1	63	71	72	9	5	Yes
ST-3	57	69	69	13	5	Yes
Pacific Avenue-Channel Street Neighborhood						
ST-2	66	71	72	6	5	Yes
ST-2A[b]	57	61	62	5	5	Yes
ST-4	56	64	65	9	5	Yes
ST-5	66	61	67	1	5	No
ST-6	68	61	69	1	5	No
Wilmington Neighborhood						
ST-7	61	60	64	3	5	No
ST-8	74	60	74	0	5	No
ST-9	59	57	61	2	5	No
ST-10	64	60	66	2	5	No
ST-11	57	57	60	3	5	No

[a]Construction noise levels at sensitive-receiver sites do not include noise from other existing background sources.

[b]Top of Slope provides shielding resulting in a 9-dBA reduction in noise.

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Table 3.11-14. Hourly Average Construction Noise Levels at Sensitive Receivers for the Proposed Project (Phase III) [a]

Receiver	Ambient Noise Level L_{eq} (dBA)	Proposed Phase III L_{eq} (dBA)	Combined Noise Level (dBA)	Increase over Ambient (dBA)	Significance Criteria (dBA)	Significant Impact?
Knoll Hill Neighborhood						
ST-1	63	76	76	13	5	Yes
ST-3	57	68	68	11	5	Yes
Pacific Avenue-Channel Street Neighborhood						
ST-2	66	67	70	4	5	No
ST-2A[b]	57	58	61	4	5	No
ST-4	56	61	62	6	5	Yes
ST-5	66	68	70	4	5	No
ST-6	68	69	72	4	5	No
Wilmington Neighborhood						
ST-7	61	59	63	2	5	No
ST-8	74	60	74	0	5	No
ST-9	59	56	61	2	5	No
ST-10	64	59	65	1	5	No
ST-11	57	56	60	3	5	No

[a]Construction noise levels at sensitive-receiver sites do not include noise from other existing background sources.

[b]Top of slope provides shielding resulting in a 9-dBA reduction in noise.

1

Impact NOI-1: Construction activities would temporarily and periodically generate noise, which would substantially exceed existing ambient daytime noise levels at sensitive receivers near the Project site.

Construction activities would typically last more than 10 days in any 3-month period for all construction phases. Following the thresholds for significance, an impact would be considered significant if noise from these construction activities would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use.

Knoll Hill Neighborhood

The construction associated with Phases I and II of the proposed Project alternative would have the greatest influence on noise levels in the Knoll Hill residential neighborhood. Knoll Hill is the nearest residential neighborhood, but has only one occupied residence. This neighborhood has an unobstructed view and overlooks Berth 100. Phase I construction activities associated with the proposed Project alternative include Bridge 1 construction, wharf construction, and Berth 100 backlands development. These activities would generate typical hourly average construction noise levels of 68 to 72 dBA L_{eq}. When these levels are added to existing background noise levels, the combined noise level would exceed existing ambient noise level by more than 5 dBA and, therefore, would cause a significant impact.

Typical hourly average construction noise levels generated by wharf construction with pile driving, backlands development, bridge building, and rock placement during Phase II at the representative sensitive-receiver sites in the Knoll Hill neighborhood would be 70 to 71 dBA L_{eq}. Predicted construction noise levels combined with existing background noise levels would exceed existing ambient noise levels by more than 5 dBA and, therefore, would cause a significant impact.

During Phase III construction, Knoll Hill receivers would experience typical hourly average construction noise levels in the range of 68 to 76 dBA L_{eq}. Predicted construction noise levels combined with existing background noise levels would exceed existing ambient noise levels by more than 5 dBA and, therefore, would cause a significant impact.

Pacific Avenue – Channel Street Neighborhood

Phase I construction activities would cause receivers, ST-4 and ST-5 in the Pacific Avenue neighborhood to experience hourly construction noise levels of 65 and 70 dBA L_{eq}, respectively. These predicted construction noise levels, combined with existing ambient noise levels, would increase noise levels over ambient noise levels by more than 5 dBA and, therefore, would cause a significant impact.

For Phase II, receivers in the residential neighborhood near Pacific Avenue would experience hourly construction noise levels in the range of 63 to 72 dBA L_{eq}. These predicted construction noise levels from Phase II development would cause a significant impact due to a 6 to 8 dBA increase over ambient levels at receivers ST-2 and ST-2A, respectively.

Receiver ST-4 would experience lower construction noise levels than the other receiver sites in the Pacific Avenue neighborhood during Phase III construction of the proposed Project (Southwest Slip backlands development). However, predicted construction noise

levels would exceed ambient noise levels for sensitive-receiver ST-4 due to the relatively low existing ambient noise level of 56 dBA at that location.

Wilmington Neighborhood

Sensitive-receiver sites in the Wilmington neighborhood are located over a mile from the China Shipping site and, therefore, would experience relatively low construction noise levels. Increases in ambient noise levels during all construction phases would be less than significant.

Potential Health Impacts

As discussed in the section above, the Proposed Project construction noise levels at all nearby residences would be far below the $L_{AF} > 120$ dB acute noise levels. Therefore, noise from construction activities would not cause any hearing damage to residents in nearby communities. However, prolonged exposure to such levels may have the potential to contribute to health effects caused by lower noise levels over longer time frames (as discussed in Section 3.11.2.1.3).

CEQA Impact Determination

Construction noise levels for the China Shipping project would cause more than 5-dBA increases over the estimated 2001 ambient noise levels at sensitive receivers in the Knoll Hill and Pacific Avenue neighborhoods. This would be a significant impact. The construction activities involved in the development of the backlands areas would cause significant temporary and periodic noise level increases above existing ambient noise levels in the Knoll Hill and Front Street neighborhoods. The construction activities at Berths 100 and 102 are estimated to approach and exceed the estimated 2001 ambient noise levels. These significant impacts would be short term.

Mitigation Measures

NOI-1: The following mitigation measures would reduce impact of noise from construction activities:

a) Construction Hours. Limit construction to the hours of 7:00 a.m. to 9:00 p.m. on weekdays, between 8:00 a.m. and 6:00 p.m. on Saturdays, and prohibit construction equipment noise anytime on Sundays and holidays as prescribed in the City of Los Angeles Noise Ordinance.

b) Construction Days. Do not conduct noise-generating construction activities on weekends or holidays unless critical to a particular activity (e.g., concrete work).

c) Temporary Noise Barriers. When construction is occurring within 500 feet of a residence or park, temporary noise barriers (solid fences or curtains) should be located between noise-generating construction activities and sensitive receivers.

d) Construction Equipment. Properly muffle and maintain all construction equipment powered by internal combustion engines.

e) Idling Prohibitions. Prohibit unnecessary idling of internal combustion engines near noise-sensitive areas.

f) Equipment Location. Locate all stationary noise-generating construction equipment, such as air compressors and portable power generators, as far as practical from existing noise-sensitive land uses.

g) Quiet Equipment Selection. Select quiet construction equipment whenever possible. Comply where feasible with noise limits established in the City of Los Angeles Noise Ordinance.

h) Notification. Notify residents adjacent to the proposed Project site of the construction schedule in writing.

i) IHC Hydrohammer. The contractor shall use an IHC Hydrohammer (SC series with sound insulation system) pile driver or equivalent when constructing the berths.

j) Reporting. The Port shall clearly post the telephone number where complaints regarding construction-related disturbance can be reported.

The IHC Hydrohammer (SC series with sound insulation system) pile driver generates 86 $dBAL_{eq}$ at 100 feet compared to 95 $dBAL_{eq}$ for standard machines. This measure cannot be applied to Phase I construction, which was completed in 2003. The use of the IHC pile driver will reduce noise impacts by up to 2 dBA, reducing significant noise impacts at receivers ST-1 to ST-4 during Phase II and Phase III.

Residual Impacts

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate construction noise impacts.

NEPA Impact Determination

For determination of potential construction impacts from the Proposed Project under NEPA, baseline noise conditions under the NEPA baseline were estimated for the year of construction. NEPA baseline noise levels were then combined with the highest construction noise level that would occur at the noise-sensitive receivers during any construction phase. The resultant noise level at each location was then compared to the baseline noise level at that location to determine impacts. Table 3.11-15 summarizes the results of this analysis. Based on the results shown in this table, under NEPA, temporary significant noise impacts would occur at Knoll Hill and Pacific Avenue neighborhoods.

Mitigation Measures

Mitigation measures NOI-1 would apply under NEPA.

Residual Impacts

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate construction noise impacts.

Table 3.11-15. Highest Construction Noise Levels from the Proposed Project[a] Relative to NEPA Baseline (Leq, dBA)

Receiver	NEPA Baseline	Highest Construction L_{eq}	Combined Noise Level	Increase over Baseline	Significance Criterion	Significant Impact?
Knoll Hill Neighborhood						
ST-1	71	76	77	6	5	Yes
ST-3	64	69	70	6	5	Yes
Pacific Avenue-Channel Street and Front Street Neighborhoods						
ST-2	69	71	73	4	5	No
ST-2A[b]	60	61	64	4	5	No
ST-4	60	65	66	6	5	Yes
ST-5	70	70	73	3	5	No
ST-6	71	70	74	3	5	No
Wilmington Neighborhood						
ST-7	63	60	65	2	5	No
ST-8	76	61	76	0	5	No
ST-9	61	57	62	1	5	No
ST-10	66	60	67	1	5	No
ST-11	60	57	62	2	5	No

[a]Construction noise levels at sensitive-receiver sites do not include noise from other existing background sources.

[b]Top of slope provides shielding resulting in a 9-dBA reduction in noise.

Impact NOI-2: Noise levels from construction activities would not exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

No construction activities are planned to occur between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

CEQA Impact Determination

There would be no construction-related noise impacts during prohibited hours as described above; consequently, no impacts under CEQA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts.

NEPA Impact Determination

There would be no in-water or upland construction-related noise impacts during prohibited hours as described above; consequently, no impacts under NEPA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts.

3.11.4.3.1.2 Operational Impacts

Impact NOI-3: Operations would generate noise levels that exceed existing ambient noise levels at sensitive receivers by 3 dBA in CNEL to or within the 'normally unacceptable' or 'clearly unacceptable category,' or otherwise by 5 dBA or greater.

Onsite Operations

Operation activities that would generate noise would include truck and rail movements in the newly developed backland areas and container terminal operations, including movement of container ships and assist tugs, at the new wharves. The new Berths 100 and 102 would be located more than 2,500 feet from the Knoll Hill and Front Street and farther from residences located in the Wilmington neighborhood.

Noise levels resulting from container terminal operations were monitored at the Port of Los Angeles in June 1990 (I&R, 1990). These data represent noise levels of typical operations at a container terminal from typical/standard equipment including but not limited to: container ships, assist tugs, electric container cranes, yard hostlers, top picks, side picks, and heavy duty vehicles. These pieces of equipment are the same equipment that would be operating at the China Shipping terminal. Two ships were being unloaded simultaneously at the Evergreen Lines Terminal. Four large gantry cranes were operating simultaneously. Several straddle loaders were observed to be loading and unloading trucks. Many trucks were circulating at the terminal. Noise levels were monitored at a point directly across the main channel from the container terminal at a distance of about 1,100 feet from the container terminal. The cranes generated maximum noise levels of 56 to 57 dBA. The sounds of containers clanking reached a maximum noise level of 63 dBA. Truck horns were the most identifiable noise sources, with maximum levels reaching 70 dBA. The average noise level generated by the operations was 59 dBA L_{eq}.

Onsite operational noise levels for the proposed Project were derived from using the monitored noise levels at a reference distance of 1,100 feet, reference equipment noise levels, and the level of equipment use and container movements under the Proposed Project. A standard acoustical formula was used to determine the attenuation of onsite operational noise due to a particular distance. All of the onsite operational activities were considered to be stationary or slow-moving noise sources whose noise would decrease by 6 dBA for every doubling of distance between the noise source and noise receiver. Each receiver was assumed to have a clear line-of-sight to the noise sources because most of the sensitive-receiver sites have an unobstructed view of Berths 100 and 102. For calculation of CNEL values, it is assumed that operations would take place over the

entire 24 hours. Noise levels from onsite operations were calculated at those locations where 24-hour noise monitoring data was available. See Table 3.11-16 for a summary of calculated noise levels due to onsite operations.

Railway Corridor Noise

The implementation of the proposed Project would result in an increase in the number of rail movements into and out of the Port of Los Angeles along the Alameda Transportation Corridor. Proposed Project throughput comparisons presented in Table 2-1 of the project description include the number of annual rail trips generated from Berths 100-102 under the CEQA baseline (2001) condition, the NEPA baseline conditions, Alternatives 3-6 and the proposed Project in the year 2045. To determine the maximum possible increase in noise levels along the rail corridors resulting from the proposed Project, a comparison was made between the CEQA baseline of no annual rail trips and the year 2045 with the proposed Project of 817 annual rail trips. This is an increase of about three rail trips per day. There are currently approximately 68 peak rail trips per day in and out of the San Pedro Bay Ports excluding light engine switching operations (Parsons 2006). The greatest incremental increase in noise levels along the railroad corridors serving the Port of Los Angeles is calculated to be 0.8 dBA CNEL (at receiver ST-7/LT 4).

There would be about six more events per day when a train horn is sounded at the Henry Ford Avenue grade crossing north of the consolidated slip causing audible noise at the Leeward Bay Marina. Train horns are a part of the acoustical environment in the environs of the Port of Los Angeles. This project will not change the level of noise from a train horn, however, it will result in an increase in the number of times the horns are sounded because there would be about six more intermodal train movements per day through this crossing. The significance threshold is based on increased noise above the baseline level in terms of the CNEL noise metric, and this is a function of the level, duration, and time of noise occurrence; as well as the existing noise level. There are currently about 8 train movements per day through the Henry Ford grade crossing, distributed throughout the day and night. The project would add 6 movements distributed throughout the day and night. So, while there will be an increase in the number of audible train horns, this is a less than significant environmental impact.

Transportation/Traffic Noise

The Port is currently planning a number of transportation projects slated for the West Basin area including improvements to freeway ramp/arterial interchanges along SR-47 and I-110. These projects were developed as part of the ongoing Port of Los Angeles Roadway Transportation Study (Roadway Study). The Roadway Study has not been finalized, but several of the transportation projects contained in the study have been reviewed by Caltrans. Caltrans is the agency that owns, operates and controls these transportation facilities. Thus, implementation of any improvements at those locations must be approved by Caltrans before they can proceed. A major project development milestone is called the Project Study Report (PSR) which outlines the need for the project, describes the project components, analyzes the project and assesses project alternatives. After approval of the PSR, the project is considered to be approved by Caltrans for purposes of proceeding to the development of geometric plans, right-of-way maps, environmental studies and then construction.

All of the noted projects have been taken through the PSR process, and the PSR documents were approved by Caltrans. Additionally, funds have been earmarked for these projects. Because these projects have been approved by Caltrans through the PSR

process and have committed funding, the Port has determined that the environmental conditions that will be affected by the operational traffic impacts of the Project will include the following anticipated transportation improvement projects. Therefore, the analysis in Section 3.6, Transportation/Circulation, of this Recirculated Draft EIS/EIR assumes that these projects will be in place during the period in which the Project will have operational transportation impacts. The related transportation projects include:

+ Figueroa Street/C Street Interchange. The C Street/Figueroa Street interchange would reconfigure the northbound off-ramp to directly access Harry Bridges Boulevard, modify the northbound on-ramp, realign Harry Bridges Boulevard at this location, and combine the I-110 Ramps/C Street/Figueroa Street intersection and the John S. Gibson Boulevard/Harry Bridges Boulevard intersections. Horizon year for completion is 2015.

+ South Wilmington Grade Separation. An elevated grade separation would be constructed along a portion of Fries Avenue, over the existing rail line tracks, to eliminate vehicular traffic delays that would otherwise be caused by trains using the existing rail line and the new ICTF rail yard. The elevated grade would include a connection onto Water Street. There would be a minimum 24.5-foot clearance for rail cars traveling under the grade separation.

+ John S. Gibson Boulevard Intersection at I-110 Ramps. This transportation improvement would widen the I-110 on-ramp from John S. Gibson Boulevard, and widen John S. Gibson Boulevard at its intersection with the I-110 ramps. An additional left turn lane along southbound John S. Gibson Boulevard at the Yang Ming Terminal entrance would also be provided as well as some striping modifications. Widening of the John S. Gibson Boulevard Intersection at I-110 Ramps would utilize adjacent Port and City property. Horizon year for completion is 2015.

+ Additional Lane for SR-47 to Northbound I-110 Transition. The existing ramp connecting westbound SR-47 to northbound I-110 would be widened by 1 lane to the north to the John S. Gibson Boulevard Off-Ramp. The new lane would be at grade consistent with the existing ramp. The widening would occur on state property. Horizon year for completion is 2015.

+ Widening of SR-47/Harbor Boulevard Off-Ramp and Additional Right Turn Lane. The approach of the existing off-ramp from eastbound SR-47 to Harbor Boulevard would be widened to the south to accommodate an additional right turn lane. The approach would be restriped. This project would utilize state right-of-way. Horizon year for completion is 2015.

+ Additional Left Turn Lane on Harbor Boulevard to Eastbound SR-47. Harbor Boulevard would be widened at its intersection with Swinford Street to accommodate an additional northbound left turn lane from Harbor Boulevard to the existing eastbound SR-47 on-ramp. The widening would occur on Port, Caltrans, or City property and the roadway would be re-striped. Horizon year for completion is 2015.

+ Widening of Harbor Boulevard between Swinford Street and I-110 Northbound On-Ramp. Harbor Boulevard between Swinford Street and the northbound I-110 on-ramp would be widened to accommodate an additional left turn lane for the I-110 northbound ramp and a new traffic signal installed. The widening would occur on Port or City property and the roadway would be restriped. Horizon year for completion is 2015.

The incremental change in noise at the most affected sensitive receivers along Knoll Hill, Pacific Avenue-Channel Ave and Wilmington neighborhoods was determined by modeling the traffic noise generated by local streets around the Port of Los Angeles using TNM Version 2.5. Existing and future traffic data included in the Appendix F was used in the traffic noise modeling. In the baseline model, the existing roadway system was assumed. In the future models, a wider cross section for Harry Bridges Boulevard was assumed, with widening occurring to the north bringing some of the traffic closer to the C Street neighbors. Proposed Project-generated traffic for the year 2045 was then added to the baseline traffic to determine the incremental increase in noise generated by project-generated traffic. The calculated increase in noise levels along Harry Bridges Boulevard, Front Street, Harbor Street and Channel Street ranged from 0 to 1 dBA $L_{eq(h)}$, compared to the 2001 CEQA baseline. It is assumed that the hourly distribution of noise levels throughout the day and night would remain the same as it is today. The calculated increase in CNEL noise levels, therefore, also is calculated to be 0 to 1 dBA CNEL for the year 2045.

At the Wilmington neighborhood along C Street, Knob Hill and upper Cabrillo Street, the noise environment is affected by vehicular traffic on SR-47 and I-110, local traffic on C Street, and, to a lesser extent, vehicular traffic along Harry Bridges Boulevard, Front Street and Channel Street and activities at the Port. There would be no change in the character of the noise environment because the roadway traffic would not be moved closer to the community. Based on the noise monitoring and modeling completed for the proposed Project there is no evidence to indicate that any noise abatement would be required for the proposed Project. Furthermore, because of the distances involved between the residences and the existing local streets alignment, and parameters which affect performance of noise barriers, it is likely that a noise barrier would be of only minimal benefit in reducing noise from project-generated traffic.

The Transportation/Circulation Appendix includes turning movement volumes for 17 intersections located along roadways in the study area. Turning movement volumes for all 17 study intersections were reviewed to determine if any other roadway segments could experience a measurable increase in traffic noise as a result of project-generated traffic. The Traffic Noise Model incorporated 7 intersections to capture the noise impacts of project-generated traffic. This modeling indicates that traffic added by the proposed Project would cause a 0 to 1 dBA increase to the CNEL on all other roadway segments studied.

Overall Operational Noise Levels

Table 3.11-16 presents the overall operational noise levels for each sensitive receiver. The hourly onsite noise levels were converted into CNEL to evaluate community noise impacts at those locations where 24-hour noise monitoring data was available.

Table 3.11-16 shows that operational noise generated from the proposed Project due to container terminal loading, traffic, and rail operations would be above existing ambient noise levels near Knoll Hill and Front Street neighborhoods. Intermittent Port operational noises may be distinguishable from noise generated by traffic on the Port's perimeter roadways, local street traffic noise, and existing traffic movements within the Port. Assuming 24-hour-per-day continuous operations, the Port-related activities would cause, by themselves, a CNEL in the range of 58 to 69 dBA.

Table 3.11-16. Operational Noise Levels for Proposed Project (CNEL, dBA)

Receiver	Onsite Operations	Traffic	Railway	Combined Noise Level
Knoll Hill Neighborhood				
LT-1	68	59	46	69
Pacific Avenue/Front Street				
LT-2	65	60	46	66
LT-3	64	64	45	67
Wilmington Neighborhood				
LT-4	55	51	51	58

CEQA Impact Determination

As discussed in previous paragraphs and in Section 3.11.2.2.2, CEQA baseline noise levels range from 61 dBA CNEL to 71 dBA CNEL at the most affected sensitive receiver locations. Table 3.11-17 shows the overall future noise levels at nearby receivers due to the proposed Project. The overall CNEL from Port onsite operational, traffic and noise under the proposed Project alternative would generate noise levels slightly more than existing ambient noise levels. At LT-1, representing the Knoll Hill area, an increase above baseline of 6 dBA in CNEL would occur. At LT-3, which represents the residential neighborhood west of Front Street and south of Vincent Thomas Bridge, increase in CNEL above baseline would be 7 dBA. These are significant impacts.

Table 3.11-17. CEQA Operational Noise Impacts for Proposed Project (CNEL, dBA)

Receiver	CEQA Baseline	Proposed Project	Overall Noise Level	Increase over CEQA Baseline
Knoll Hill Neighborhood				
LT-1	64	69	70	6
Pacific Avenue/Front Street				
LT-2	71	66	72	1
LT-3	61	67	66	7
Wilmington Neighborhood				
LT-4	70	58	70	-0-

Operational noise levels would cause future ambient noise levels to be greater than 5 dBA above the 2001 baseline CNEL at receivers on the east side of Knoll Hill and sensitive receivers located west of Front Street and south of Vincent Thomas Bridge. These receivers would experience a significant noise impact from operations.

Mitigation Measures

NOI-2: Mitigation measures to reduce operational impacts would include installation of noise walls at the project site or residential property lines, if feasible, and/or soundproofing of impacted noise-sensitive structures. The Port would undertake noise monitoring at these residences after China Shipping is operational to determine the actual noise impact and then tailor specific mitigation measures.

Residual Impacts

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate construction noise impacts.

NEPA Impact Determination

For determination of operational noise impacts, baseline noise levels under the NEPA baseline conditions were calculated and combined with the proposed Project operational noise levels. Table 3.11-18 shows the summarized results of the NEPA noise impact assessment. Significant noise impacts would occur at the Knoll Hill location (LT-1), where Proposed Project operations would cause a 3-dBA increase in CNEL into the "normally unacceptable" range.

Table 3.11-18. NEPA Operational Noise Impacts for Proposed Project (CNEL, dBA)

Receiver	NEPA Baseline	Proposed Project	Overall Noise Level	Increase over NEPA Baseline
Knoll Hill Neighborhood				
LT-1	69	69	72	3
Pacific Avenue/Front Street				
LT-2	72	66	73	1
LT-3	65	67	69	4
Wilmington Neighborhood				
LT-4	71	58	71	0

Mitigation Measures

Impacts will be significant at one location, so mitigation measure **MM NOI-2** would be applied in the Knoll Hill area.

Residual Impacts

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate construction noise impacts.

Potential Health Impacts

In terms of operation, operational noise levels would cause the CNEL to be increased by greater than 5 dBA CNEL over the CEQA baseline level at two sensitive locations. Future ambient noise levels at the closest residential neighborhoods would be in the range from 66 dBA CNEL to 72 dBA CNEL with the proposed Project. Operational noise levels at residences, under both CEQA and NEPA, are below the $L_{AF} > 120$ dB acute noise levels discussed in Section 3.11.2.1.3 and will not contribute to hearing impairment. However, both existing noise levels and operational noise levels may contribute to chronic health impacts associated with lower noise levels. The proposed Project, however, would not alter long-term potential health impacts above baseline levels.

3.11.4.3.2 Alternatives

3.11.4.3.2.1 Alternative 1 – No Project

Under Alternative 1, Phase I construction is applied and, therefore, includes in-water construction activities, such as pile driving. The Port would not take further actions to construct or develop additional backlands (other than the 72 acres that currently exist). Furthermore, the four existing A-Frame cranes would be removed, the existing wharves (Berths 100-102) would cease to be used for ship berthing and container loading and unloading operations, and the 1.3 acres of fill placed as part of Phase I would remain. The bridge constructed during Phase I would be abandoned. This alternative would include the operation of 72 acres of backlands area for supplemental storage of containers by Berths 121-131.

3.11.4.3.2.1.1 Construction Impacts

Impact NOI-1: Construction activities at Berths 97-109 that would be implemented under the No Project Alternative would not generate noise levels that would exceed 2001 CEQA baseline noise levels at sensitive receivers.

The No Project Alternative would add 72 acres of backlands at the Project site (added as part of Phase I) and would remove the existing four A-frame cranes. This alternative would also include in-water construction activities, such as pile driving that occurred under Phase I.

CEQA Impact Determination

Predicted construction noise levels were calculated assuming that construction activities associated with backlands development and in-water pile driving would occur simultaneously. Table 3.11-19 presents the predicted construction noise levels experienced at the various sensitive land uses during construction for backland development under Alternative 1.

Table 3.11-19. Hourly Average Construction Noise Levels, No Project Alternative (Leq, dBA)

Receiver	CEQA Baseline	Construction[a]	Combined	Increase over Baseline	Significance Criterion	Significant Impact?
Knoll Hill Neighborhood						
ST-1	63	72	73	10	5	Yes
ST-3	57	68	68	11	5	Yes
Pacific Avenue-Channel Street Neighborhood						
ST-2	66	68	70	4	5	No
ST-2A[b]	57	59	61	4	5	No
ST-4	56	65	66	10	5	Yes
Front Street-Neighborhood						
ST-5	66	70	71	5	5	Yes
ST-6	68	70	72	4	5	No
Wilmington Neighborhood						
ST-7	61	60	63	2	5	No
ST-8	74	61	74	0	5	No
ST-9	59	57	61	2	5	No
ST-10	64	60	65	1	5	No
ST-11	57	57	60	3	5	No

[a]Construction noise levels at sensitive-receiver sites do not include noise from other existing background sources.
[b]Top of Slope provides shielding resulting in a 9-dBA reduction in noise.

Construction activities involved in the development of the backlands areas under Alternative 1 would cause temporary and periodic noise levels that would substantially exceed existing ambient noise levels in the Knoll Hill neighborhood, at homes adjoining Front Street and along Channel Street, resulting in significant impacts. These significant impacts would be short term.

Mitigation Measures

Noise attenuating measures identified in **NOI-1** were implemented during Phase I construction.

Residual Impacts

Impacts to Knoll Hill, Pacific Avenue-Channel Street, and Front Street residents resulting from Project construction would remain significant even after mitigation. While removal of the cranes would not be expected to be as loud as construction of the facilities, noise impacts would still be significant.

NEPA Impact Determination

Impacts of the No Project Alternative are not required to be analyzed under NEPA. NEPA requires the analysis of a No Federal Action Alternative (see Alternative 2 in this document).

Mitigation Measures

Mitigation is not applicable.

Residual Impacts

No residual impacts would occur.

Impact NOI-2: Construction activities would not exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

No construction activities are planned to occur between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

CEQA Impact Determination

There would be no construction-related noise impacts during prohibited hours as described above; consequently, no impacts under CEQA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts.

NEPA Impact Determination

The impacts of this No Project Alternative are not required to be analyzed under NEPA. NEPA requires the analysis of a No Federal Action Alternative (see Alternative 2 in this document).

Mitigation Measures

Mitigation is not applicable.

Residual Impacts

No residual impacts would occur.

3.11.4.3.2.1.2 Operational Impacts

Impact NOI-3: Operations would generate noise, but noise levels would not substantially exceed existing ambient noise levels at sensitive receivers.

Onsite Operations

Under the No Project Alternative, the existing 72 acres of backlands would be used for supplemental container storage and management by Berths 121-131 Container Terminal. The movement of containers between the two sites would occur via the internal road system. 457,100 TEUs from the Yang Ming Terminal could be stored on the 72 acres of backlands. No ship calls would occur at the proposed Project site; however, cargo handling would occur. Noise levels from backlands operations are shown in Table 3.11-20.

Railway Corridor Noise

There would be no increases in train movements under the No Project Alternative. Therefore, no noise impacts would occur from rail activity.

Traffic Noise

Alternative 1 would not result in additional truck trips, and no proposed Project-related changes will occur for this alternative that would result in a change from current conditions. Therefore, no project-related impacts would occur.

Overall Operational Noise Levels

Table 3.11-20 presents the overall operational noise levels for each sensitive receiver. The hourly onsite noise levels were converted into CNEL to evaluate community noise impacts at those locations where 24-hour noise monitoring data was available. Assuming 24-hour-per-day continuous operations, the Port-related activities would cause, by themselves, CNEL in the range of 54 to 67 dBA.

Table 3.11-20. Operational Noise Levels for Alternative 1 (CNEL, dBA)

Receiver	Onsite Operations	Traffic	Railway	Combined Noise Level
Knoll Hill Neighborhood				
LT-1	62	-0-	-0-	62
Pacific Avenue/Front Street				
LT-2	60	-0-	-0-	60
LT-3	59	-0-	-0-	59
Wilmington Neighborhood				
LT-4	49	-0-	-0-	49

CEQA Impact Determination

As discussed in previous paragraphs and in Section 3.11.2.2.2, CEQA baseline noise levels range from 61 dBA CNEL to 71 dBA CNEL at the most affected sensitive receiver locations. Table 3.11-21 shows the overall future noise levels at nearby receivers due to Alternative 1 operations. No significant impacts would occur.

Table 3.11-21. CEQA Operational Noise Impacts for Alternative 1 (CNEL, dBA)

Receiver	CEQA Baseline	Alternative 1	Overall Noise Level	Increase over CEQA Baseline
Knoll Hill Neighborhood				
LT-1	64	62	66	2
Front Street				
LT-2	71	60	71	0
LT-3	61	59	63	2
Wilmington Neighborhood				
LT-4	70	49	70	0

Mitigation Measures

Mitigation measures would not be required because there would be no significant impacts.

Residual Impacts

No residual impacts would occur.

NEPA Impact Determination

Impacts of the No Project Alternative are not required to be analyzed under NEPA. NEPA requires the analysis of a No Federal Action Alternative (see Alternative 2 in this document).

Mitigation Measures

Mitigation is not applicable.

Residual Impacts

No residual impacts would occur.

3.11.4.3.2.2 Alternative 2 – No Federal Action

As described in Chapter 2, the No Federal Action Alternative includes Phase I construction, but would not include additional terminal features that would require a federal permit or funding for either construction or operation. The 1.3 acres of fill placed as part of Phase I would remain, and the bridge constructed during Phase I would be abandoned. Further, four existing A-frame cranes would be removed and the existing wharves (Berths 100-102) would cease to be used for ship berthing and container loading and unloading operations. Alternative 2 would include a Port Action to increase backland

acreage to 117 acres. Under Alternative 2, up to 632,500 TEUs from the Yang Ming Terminal could be stored on the 117 acres of backlands.

3.11.4.3.2.2.1 Construction Impacts

Impact NOI-1: Construction activities would temporarily and periodically generate noise, and noise levels would substantially exceed existing ambient daytime noise levels at sensitive receivers near the Project site.

Alternative 2 would include in-water construction activities, such as pile driving that occurred under Phase I. Other construction noise levels from backland development would be associated with equipment used during grading, drainage, paving, striping, lighting, fencing, and the addition of utility facilities and equipment. Hourly average noise levels have been estimated based on the numbers and types of equipment that are expected to be on site during backlands development. These sources included landside equipment such as loaders, dozers, and trucks. Table 3.11-22 shows the computed hourly average noise levels at a reference distance of 100 feet.

Table 3.11-22. Construction Noise Levels for Backlands Development

Location	Construction Activity	Leq (h) (dBA) at 100 feet
China Shipping Site (Berths 100, 102)		
Berth 100	Wharf Construction, Pile Driving, install 4 cranes	95
Near Berth 100	Backlands Development	88
Behind Berth 102 Adjacent to SW Slip and Near Bridge 2	Backlands Development- 45 acres	88

Backland construction would have the greatest influence on the sensitive receivers in the Knoll Hill and the Pacific Avenue-Channel Street neighborhoods. The Wilmington neighborhood is located over 7,000 feet from the location of backland development; therefore, it is anticipated that construction impacts to this neighborhood would be minimal.

Construction noise levels that would be experienced at sensitive receivers in the Knoll Hill, Pacific Avenue-Channel Street, and the Wilmington neighborhoods were calculated utilizing the same acoustical formulas and methodology previously discussed in Section 3.11.4.3.1.1 for measurement sites in these areas (described in Table 3.11-3) and where the construction activity would occur.

CEQA Impact Determination

Predicted construction noise levels were calculated assuming that construction activities associated with backlands development would occur simultaneously. Tables 3.11-23 and 3.11-24 present the predicted construction noise levels under Alternative 2 experienced at the various sensitive land uses during Phase I and Phase II construction, respectively.

Table 3.11-23. Hourly Average Construction Noise Levels at Sensitive Receivers for Alternative 2 (Phase I) a

Receiver	CEQA Baseline	Construction[a]	Combined	Increase over Baseline	Significance Criterion	Significant Impact?
Knoll Hill Neighborhood						
ST-1	63	72	73	10	5	Yes
ST-3	57	68	69	11	5	Yes
Pacific Avenue-Channel Street Neighborhood						
ST-2	66	68	70	4	5	No
ST-2A[b]	57	59	61	4	5	No
ST-4	56	65	66	10	5	Yes
Front Street-Neighborhood						
ST-5	66	70	71	5	5	Yes
ST-6	68	70	72	4	5	No
Wilmington Neighborhood						
ST-7	61	60	64	3	5	No
ST-8	74	61	74	0	5	No
ST-9	59	57	61	2	5	No
ST-10	64	60	66	2	5	No
ST-11	57	58	61	4	5	No

[a]Construction noise levels at sensitive-receiver sites do not include noise from other existing background sources.

[b]Top of Slope provides shielding resulting in a 9-dBA reduction in noise.

1

Table 3.11-24. Hourly Average Construction Noise Levels at Sensitive Receivers for Alternative 2 (Phase II) [a]

Receiver	CEQA Baseline	Construction[a]	Combined	Increase over Baseline	Significance Criterion	Significant Impact?
Knoll Hill Neighborhood						
ST-1	63	71	72	9	5	Yes
ST-3	57	69	69	12	5	Yes
Pacific Avenue-Channel Street Neighborhood						
ST-2	66	70	71	5	5	Yes
ST-2A[b]	57	61	62	5	5	Yes
ST-4	56	64	65	9	5	Yes
Front Street-Neighborhood						
ST-5	66	61	67	1	5	No
ST-6	68	61	69	1	5	No
Wilmington Neighborhood						
ST-7	61	60	64	3	5	No
ST-8	74	60	74	0	5	No
ST-9	59	57	61	2	5	No
ST-10	64	60	65	1	5	No
ST-11	57	57	60	3	5	No

[a]Construction noise levels at sensitive-receiver sites do not include noise from other existing background sources.

[b]Top of Slope provides shielding resulting in a 9-dBA reduction in noise.

Construction activities involved in the development of the backlands areas under Alternative 2 would cause temporary and periodic noise levels that would substantially exceed existing ambient noise levels in the Knoll Hill and Pacific Avenue neighborhoods, resulting in significant impacts. These significant impacts would be short term.

Knoll Hill Neighborhood

Construction noise levels associated with backlands development for Alternative 2 would have the greatest impacts on the Knoll Hill residential neighborhood. Backlands construction would occur within approximately 800 feet to the nearest residential neighborhood. This neighborhood has an unobstructed view and overlooks Berth 100. Backland construction activities would generate typical hourly average construction noise levels of 68 to 72 dBA L_{eq}. When these levels are added to existing background noise levels, the combined noise level would exceed existing

ambient noise levels by more than 5 dBA and, therefore, would cause a significant impact.

Pacific Avenue – Channel Street Neighborhood

Sensitive receivers ST-2, ST-2A and ST-4 are in the Pacific Avenue neighborhood. Receiver ST-2A is located on a slope that provides shielding. These receivers would experience hourly construction noise levels between 60 dBA to 70 dBA L_{eq}. These predicted construction noise levels, combined with existing ambient noise levels, would increase noise levels between 5 to 6 dBA over ambient noise levels. An increase of 5 dBA or more is considered a significant impact.

Wilmington Neighborhood

Sensitive-receiver sites in the Wilmington neighborhood are located over a mile from the China Shipping site, and, therefore, would experience relatively low construction noise levels. Under Alternative 2, increases in ambient noise levels during the construction phase would be less than significant.

Potential Health Impacts

As discussed in the section above, construction associated with Alternative 2 would generate noise levels at residences far below the $L_{AF} > 120$ dB acute noise levels discussed in Section 3.11.2.1.3 and will not contribute to hearing impairment. However, such levels may contribute to chronic health effects caused by noise levels lower than acute levels over longer time frames.

Mitigation Measures

Mitigation measure **MM NOI-1** would be implemented.

Residual Impacts

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate construction noise impacts.

NEPA Impact Determination

Alternative 2 includes in-water construction activities at Berth 100 that occurred under Phase I, which is not included in the NEPA baseline condition. Table 3.11-25 compares the ambient noise levels during the construction of Alternative 2 to NEPA baseline noise levels at the nearby noise-sensitive receivers.

Under Alternative 2, construction noise levels would cause significant impacts over the NEPA baseline levels at Knoll Hill and Channel Street receivers. Therefore, short-term significant noise impacts would occur under NEPA.

Mitigation Measures

Mitigation measure **MM NOI-1** would be implemented.

Residual Impacts

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate construction noise impacts.

Table 3.11-25. Hourly Average Construction Noise Levels, Alternative 2 (Leq, dBA)

Receiver	NEPA Baseline	Construction Noise Level[a]	Combined Noise Level	Increase over Baseline	Significance Criterion	Significant Impact?
Knoll Hill Neighborhood						
ST-1	71	72	75	4	5	No
ST-3	64	69	70	6	5	Yes
Pacific Avenue-Channel Street Neighborhood						
ST-2	69	71	73	4	5	No
ST-2A[b]	60	61	64	4	5	No
ST-4	60	65	66	6	5	Yes
Front Street-Neighborhood						
ST-5	70	69	73	3	5	No
ST-6	71	69	73	2	5	No
Wilmington Neighborhood						
ST-7	63	60	64	1	5	No
ST-8	76	61	76	0	5	No
ST-9	61	57	62	2	5	No
ST-10	66	60	67	1	5	No
ST-11	60	57	62	2	5	No

[a]Construction noise levels at sensitive-receiver sites do not include noise from other existing background sources.

[b]Top of Slope provides shielding resulting in a 9-dBA reduction in noise.

Impact NOI-2: Construction activities would not exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

No construction activities are planned to occur between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

CEQA Impact Determination

There would be no construction-related noise impacts during prohibited hours as described above; consequently, no impacts under CEQA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts.

NEPA Impact Determination

There would be no in-water or upland construction-related noise impacts during prohibited hours as described above; consequently, no impacts under NEPA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts.

3.11.4.3.2.2.2 Operational Impacts

Impact NOI-3: Operations would generate noise, but noise levels would not substantially exceed existing ambient noise levels at sensitive receivers.

Onsite Noise

Under Alternative 2, 117 acres of backlands would be used for container storage and management by the Berths 121-131 Container Terminal. The movement of containers between the two sites would occur via the internal road system. 632,500 TEUs from the Yang Ming Terminal could be stored on the 117 acres of backlands. No ship calls would occur at the Alternative 2 site.

Railway Corridor Noise

There would be no increases in train movements under Alternative 2. Therefore, no noise impacts would occur from rail activity.

Transportation Noise

Alternative 2 would not result in new truck trips. No project-related changes would occur under this alternative that would result in a change from current conditions.

Overall Operational Noise Levels

Table 3.11-26 presents the overall operational noise levels for each sensitive receiver. The hourly onsite noise levels were converted into CNEL to evaluate community noise impacts at those locations where 24-hour noise monitoring data was available. Assuming 24-hour-per-day continuous operations, the Port-related activities would cause, by themselves, CNEL in the range of 49 to 65 dBA.

Table 3.11-26. Operational Noise Levels for Alternative 2 (CNEL, dBA)

Receiver	Onsite Operations	Traffic	Railway	Combined Noise Level
Knoll Hill Neighborhood				
LT-1	62	-0-	-0-	62
Pacific Avenue/Front Street				
LT-2	60	-0-	-0-	60
LT-3	59	-0-	-0-	59
Wilmington Neighborhood				
LT-4	50	-0-	-0-	50

CEQA Impact Determination

As discussed in previous paragraphs and in Section 3.11.2.2.2, CEQA baseline noise levels range from 61 dBA CNEL to 71 dBA CNEL at the most affected sensitive receiver locations. Table 3.11-27 shows the overall future noise levels at nearby receivers due to Alternative 2 operations.

Table 3.11-27. CEQA Operational Noise Impacts for Alternative 2 (CNEL, dBA)

Receiver	CEQA Baseline	Alternative 2	Overall Noise Level	Increase over CEQA Baseline
Knoll Hill Neighborhood				
LT-1	64	62	66	2
Front Street				
LT-2	71	60	70	0
LT-3	61	59	63	2
Wilmington Neighborhood				
LT-4	70	50	70	0

Operational noise levels would cause future ambient noise levels to be up to 2 dBA above the 2001 baseline CNEL at the nearest noise-sensitive receivers surrounding the project site. Therefore, there would be no significant impacts due to operations.

Mitigation Measures

Mitigation measures would not be required because there would be no significant impacts.

Residual Impacts

No residual impacts would occur.

NEPA Impact Determination

Table 3.11-28 shows the summarized results of the NEPA noise impact assessment for Alternative 2. Significant noise impacts would not occur because Alternative 2 operations would only cause less than a 3-dBA increase in CNEL.

Table 3.11-28. NEPA Operational Noise Impacts for Alternative 2 (CNEL, dBA)

Receiver	NEPA Baseline	Alternative 1	Overall Noise Level	Increase over NEPA Baseline
Knoll Hill Neighborhood				
LT-1	69	62	70	1
Front Street				
LT-2	72	60	72	0
LT-3	65	59	66	1
Wilmington Neighborhood				
LT-4	71	50	71	0

Mitigation Measures

Mitigation measures would not be required because there would be no significant impacts.

Residual Impacts

Under NEPA, no residual impacts would occur with Alternative 2.

3.11.4.3.2.3 Reduced Fill: No New Wharf Construction at Berth 102 (Alternative 3)

Alternative 3 would add 375 feet of wharf at the south end of Berth 100 to the 1,200-foot-long wharf and other improvements constructed under Phase I. It also includes the relocation of the Catalina Express Terminal, and other elements of the proposed Project. However, this alternative does not include construction of 925 linear feet of wharf at Berth 102. The total acreage of backlands under this alternative would be 142 acres, the same as the proposed Project. Throughput would be 936,000 TEUs (517,127 containers) per year by 2030, which would require 130 annual ship calls.

3.11.4.3.2.3.1 Construction Impacts

Impact NOI-1: Construction activities would temporarily and periodically generate noise, and noise levels would substantially exceed existing ambient daytime noise levels at sensitive receivers near the Project area.

Alternative 3 includes in-water construction that requires federal action similar to the proposed Project alternative except that the 925 linear feet of new wharf at Berth 102 would not be constructed. Wharf construction would only include expansion of Berth 100 and the additional south end wharf expansion in the location of the Catalina Express Terminal. As a result of not constructing Berth 102, only one additional crane would be installed. Alternative 3 also includes backland development. The noisiest

construction activity associated with this alternative would be generated from pile driving which generates maximum hourly noise levels near 90 to 95 dBA at a distance of 100 feet. The Knoll Hill neighborhood would experience significant increases over ambient noise levels consistent with construction noise levels predicted for the proposed Project alternative.

Hourly average noise levels have been estimated based on the numbers and types of equipment that are expected to be on site during in-water, backlands and bridge construction occurring under Alternative 3. Table 3.11-29 shows the computed hourly average noise levels at a reference distance of 100 feet for construction activities associated with Alternative 3.

Table 3.11-29. Construction Noise Levels for Alternative 3

Location	Construction Activity	Leq (h) (dBA) at 100 feet
China Shipping Site (Berths 100, 102)		
Berth 100	Wharf Expansion, Pile Driving, install 4 cranes	95
Near Berth 100	Backlands Development	88
SW Slip	Build Bridge 1	88
Behind Berth 102 Adjacent to SW Slip and Near Bridge 2	Backlands Development- 45 acres	88
Berth 100-109	Buildings	88
Bridge 2	Bridge Building	88
Berth 100	Wharf Expansions and Pile Driving	95
Berth 100	Backlands development-25 acres	88

Wharf construction would be the dominant construction activity occurring on the project site affecting sensitive receivers in the Knoll Hill, Pacific Avenue-Channel Street, and Wilmington neighborhoods.

Construction noise levels that would be experienced at sensitive receivers in the Knoll Hill, Pacific Avenue-Channel Street, and the Wilmington neighborhoods were calculated utilizing the same acoustical formulas and methodology previously discussed in Section 3.11.4.3.1.1 for measurement sites in these areas (described in Table 3.11-3) and where the construction activity would occur.

CEQA Impact Determination

Predicted construction noise levels were calculated assuming that construction activities associated with Alternative 3 would occur simultaneously. Table 3.11-30 presents the predicted construction noise levels experienced at the various sensitive land uses during wharf construction, backland development, bridge construction, and other associated terminal building construction occurring under Alternative 3.

Table 3.11-30. Hourly Average Construction Noise Levels at Sensitive Receivers, Alternative 3 (Leq, dBA)

Receiver	CEQA Baseline	Construction[a]	Combined	Increase over Ambient	Significance Criterion	Significant Impact?
Knoll Hill Neighborhood						
ST-1	63	76	76	13	5	Yes
ST-3	57	69	69	12	5	Yes
Pacific Avenue-Channel Street Neighborhood						
ST-2	66	71	72	6	5	Yes
ST-2A[b]	57	61	62	5	5	Yes
ST-4	56	65	66	10	5	Yes
Front Street-Neighborhood						
ST-5	66	70	71	5	5	Yes
ST-6	68	70	72	4	5	No
Wilmington Neighborhood						
ST-7	61	60	64	3	5	No
ST-8	74	61	74	0	5	No
ST-9	59	57	61	2	5	No
ST-10	64	60	65	1	5	No
ST-11	57	57	60	3	5	No

[a]Construction noise levels at sensitive-receiver sites do not include noise from other existing background sources.

[b]Top of Slope provides shielding resulting in a 9-dBA reduction in noise.

Construction activities involved in the Alternative 3 would cause temporary and periodic noise levels that would substantially exceed existing ambient noise levels in the Knoll Hill, Pacific Avenue, and Wilmington neighborhoods, resulting in significant impacts. These significant impacts would be short term.

Knoll Hill Neighborhood

Wharf construction along with the other construction activities occurring simultaneously under Alternative 3 construction would have the highest impact to the Knoll Hill neighborhood. Sensitive receivers in this neighborhood have an unobstructed view overlooking Berth 100, where the majority of the construction under Alternative 3 would occur. Alternative 3 construction activities would generate typical hourly average construction noise levels of 69 to 76 dBA L_{eq}. When these levels are added to existing background noise levels, the combined noise level would exceed existing ambient noise levels by more than 5 dBA causing a significant impact.

Pacific Avenue – Channel Street Neighborhood

Sensitive receivers ST-2, ST-2A, and ST-4 in the Pacific Avenue neighborhood are further removed from wharf construction, resulting in slightly lower hourly construction noise levels than those experienced in the Knoll Hill neighborhood. Further, sensitive receiver 2A is located on a slope that provides shielding from construction noise levels. Hourly construction noise levels for sensitive receivers in the Pacific Avenue neighborhood are between 64 dBA to 73 dBA L_{eq}. These predicted construction noise levels, combined with existing ambient noise levels, would increase noise levels between 8 to 12 dBA over ambient noise levels. An increase of 5 dBA or more is considered a significant impact.

Wilmington Neighborhood

Sensitive-receiver sites in the Wilmington neighborhood are located over a mile from the China Shipping site and, therefore, would experience relatively low construction noise levels. Under Alternative 3, increases in ambient noise levels during the construction phase would be less than significant.

Mitigation Measures

Mitigation measure **MM NOI-1** would be implemented.

Residual Impacts

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate construction noise impacts.

NEPA Impact Determination

Alternative 3 includes wharf construction activities at Berth 100 and backland development that would require a federal permit, which could not occur under the NEPA baseline condition. Table 3.11-31 compares the ambient noise levels during the construction of Alternative 3 to NEPA baseline noise levels at the nearby noise-sensitive receivers.

Under Alternative 3, construction noise levels would cause increases over the NEPA baseline levels. Therefore, short-term significant noise impacts would occur under NEPA.

Mitigation Measures

Mitigation measure **MM NOI-1** would be implemented.

Residual Impacts

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate construction noise impacts.

Table 3.11-31. Hourly Average Construction Noise Levels, Alternative 3 (Leq, dBA)

Receiver	NEPA Baseline	Construction Noise Level[a]	Combined Noise Level	Increase over Baseline	Significance Criterion	Significant Impact?
Knoll Hill Neighborhood						
ST-1	71	76	77	6	5	Yes
ST-3	64	69	70	6	5	Yes
Pacific Avenue-Channel Street Neighborhood						
ST-2	69	71	73	4	5	No
ST-2A[b]	60	61	64	4	5	No
ST-4	60	65	66	6	5	Yes
Front Street-Neighborhood						
ST-5	70	70	73	3	5	No
ST-6	71	70	74	3	5	No
Wilmington Neighborhood						
ST-7	63	60	65	2	5	No
ST-8	76	61	76	0	5	No
ST-9	61	57	62	1	5	No
ST-10	66	60	67	1	5	No
ST-11	60	57	62	2	5	No

[a]Construction noise levels at sensitive-receiver sites do not include noise from other existing background sources.

[b]Top of Slope provides shielding resulting in a 9-dBA reduction in noise.

Potential Health Impacts

As discussed in the section above, construction associated with Alternative 3 would generate noise levels at residences below the $L_{AF} > 120$ dB acute noise levels and will not contribute to hearing impairment. However, such levels may contribute to chronic health effects caused by lower noise levels over longer time frames (as discussed in Section 3.11.2.1.3). Alternative 3 construction noise would not alter long-term potential health impacts above baseline levels under either CEQA or NEPA.

Impact NOI-2: Construction activities would not exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

No construction activities are planned to occur between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

CEQA Impact Determination

There would be no construction-related noise impacts during prohibited hours as described above; consequently, no impacts under CEQA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts.

NEPA Impact Determination

There would be no in-water or upland construction-related noise impacts during prohibited hours as described above; consequently, no impacts under NEPA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts.

3.11.4.3.2.3.2 Operational Impacts

Impact NOI-3: Operations would generate noise, but noise levels would not substantially exceed existing ambient noise levels at sensitive receivers.

Onsite Operations

This alternative would generate fewer truck traffic and cargo container movements than the proposed Project alternative because the TEU throughput would be lower than the proposed Project alternative. Onsite operations resulting from this alternative are expected to generate noise levels less than those anticipated for the proposed Project alternative. The same methodology used in calculating onsite noise levels from the proposed Project was used for Alternative 3. Onsite noise levels are presented in Table 3.11-32.

Railway Corridor Noise

Implementation of Alternative 3 would result in an increase in the number of rail movements into and out of the Port of Los Angeles along the Alameda Transportation Corridor. To determine the maximum possible increase in noise along the rail corridors

resulting from Alternative 3, a comparison was made between the CEQA baseline of no annual trips and the year 2045 with Alternative 3 of 493 annual rail trips. This is an increase of about one rail trip per day. There are currently approximately 68 peak rail trips per day in and out of the San Pedro Bay Ports excluding light engine switching operations (Parsons 2006). The greatest incremental increase in noise levels along the railroad corridors serving the Port of Los Angeles is calculated to be less than 0.8 dBA CNEL (at receiver LT 7). This is a less-than-significant impact.

There would be about two more events per day when a train horn is sounded at the Henry Ford Avenue grade crossing north of the consolidated slip causing audible noise at the Leeward Bay Marina. Train horns are a part of the acoustical environment in the environs of the Port of Los Angeles. Alternative 3 would not change the level of noise from a train horn, however, it will result in an increase in the number of times the horns are sounded because there would be about two more intermodal train movements per day through this crossing. The significance threshold is based on increased noise above the baseline level in terms of the CNEL noise metric, and this is a function of the level, duration, and time of noise occurrence; as well as the existing noise level. There are currently about eight train movements per day through this crossing distributed throughout the day and night. Alternative 3 would add two movements distributed throughout the day and night. So, while there will be an increase in the number of audible train horns, this is a less than significant environmental impact.

Transportation/Traffic Noise

The incremental increase in noise at the most affected sensitive receivers along Knoll Hill, Pacific Avenue-Channel Avenue and Wilmington neighborhoods was determined by modeling the traffic noise generated by local streets around the Port of Los Angeles using TNM Version 2.5. The same modeling assumptions, inputs and existing roadway configuration used under the proposed Project evaluation was used for modeling impacts from Alternative 3. Project-generated traffic for the year 2045 was added to the baseline traffic to determine the noise generated by project-generated traffic. It is assumed that the hourly distribution of noise levels throughout the day and night would remain the same as it is today. Results of the predicted noise levels from the TNM model are shown for each sensitive receiver in Table 3.11-32.

At the Wilmington neighborhood along C Street, Knoll Hill and upper Cabrillo Street, the noise environment is affected by vehicular traffic on SR-47 and I-110, local traffic on C Street, and, to a lesser extent, vehicular traffic along Harry Bridges Boulevard, Front Street and Channel Street and activities at the Port. There would be no change in the character of the noise environment because the roadway traffic would not be moved noticeably closer to the community. Based on the noise monitoring and modeling completed for the proposed Project there is no evidence to indicate that any noise abatement would be required for the proposed Project. Furthermore, because of the distances involved between the residences and the existing local streets alignment, and parameters which affect performance of noise barriers, it is likely that a noise barrier would be of only minimal benefit in reducing noise from project-generated traffic resulting from Alternative 3.

The Transportation/Circulation Appendix includes turning movement volumes for 17 intersections located along roadways in the study area. Turning movement volumes for all 17 study intersections were reviewed to determine if any other roadway segments could experience a measurable increase in traffic noise as a result of project-generated

traffic. The Traffic Noise Model incorporated seven intersections to capture the noise impacts of project-generated traffic.

Overall Operational Noise Levels

Table 3.11-32 presents the overall operational noise levels due to onsite operations, traffic, and rail movements under Alternative 3 for each sensitive receiver. The hourly onsite noise levels were converted into CNEL to evaluate community noise impacts at those locations where 24-hour noise monitoring data was available.

Table 3.11-32. Operational Noise Levels for Alternative 3 (CNEL, dBA)

Receiver	Onsite Operations	Traffic	Railway	Combined Noise Level
Knoll Hill Neighborhood				
LT-1	66	58	46	67
Front Street				
LT-2	63	59	46	64
LT-3	62	64	45	66
Wilmington Neighborhood				
LT-4	53	48	51	56

Table 3.11-32 shows that the overall operational noise generated from onsite operations, rail noise and local traffic from Alternative 3 would be above existing ambient noise levels near the Knoll Hill and Front Street neighborhoods. Intermittent Port operational noises may be distinguishable from road traffic on the Port's perimeter roadways, local street traffic noise, and existing sources of intermittent noise within the Port. Assuming 24-hour-per-day continuous operations, the Port-related activities would cause, by themselves, a CNEL in the range of 56 to 67 dBA.

CEQA Impact Determination

As discussed in previous paragraphs and in Section 3.11.2.2.2, baseline noise levels range from 61 dBA CNEL to 71 dBA CNEL at the most affected sensitive-receiver locations. Table 3.11-33 shows the overall future noise levels at nearby receivers due to Alternative 3. Port onsite operational, traffic and rail activities under Alternative 3 would generate noise levels ranging from less to slightly more than existing ambient noise levels.

Operational noise levels under Alternative 3 would cause future ambient noise levels to be greater than 5 dBA above the 2001 baseline CNEL at receiver locations on the east side of Knoll Hill and receivers located west of Front Street and south of the Vincent Thomas Bridge (LT-1 and LT-3). These receivers would experience a significant noise impact from operations.

Mitigation Measures

Mitigation measure **MM NOI-2** would be implemented.

Residual Impacts

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate noise impacts.

Table 3.11-33. CEQA Operational Noise Impacts for Alternative 3 (CNEL, dBA)

Receiver	CEQA Baseline	Proposed Project	Overall Noise Level	Increase over CEQA Baseline
Knoll Hill Neighborhood				
LT-1	64	67	69	5
Front Street				
LT-2	71	64	72	1
LT-3	61	66	67	6
Wilmington Neighborhood				
LT-4	70	56	70	0

NEPA Impact Determination

Table 3.11-34 shows the summarized results of the NEPA noise impact assessment for Alternative 3. Significant noise impacts would not occur because Alternative 3 operations would cause only up to a 3-dBA increase in CNEL but not into the "normally unacceptable" range.

Table 3.11-34. NEPA Operational Noise Impacts for Alternative 3 (CNEL, dBA)

Receiver	NEPA Baseline	Alternative 3	Overall Noise Level	Increase over NEPA Baseline
Knoll Hill Neighborhood				
LT-1	69	67	71	2
Front Street				
LT-2	72	64	73	1
LT-3	65	66	68	3
Wilmington Neighborhood				
LT-4	71	56	71	0

Mitigation Measures

Mitigation measures would not be required because there would be no significant impacts.

Residual Impacts

Under NEPA, no significant residual impacts would occur with Alternative 3.

Potential Health Impacts

As discussed in the section above, construction associated with Alternative 3 operations would generate noise levels at residences well below the $L_{AF} > 120$ dB acute noise levels and will not contribute to hearing impairment. However, such levels may contribute to chronic health effects caused by lower noise levels over longer time frames (as discussed in Section 3.11.2.1.3). Noise from Alternative 3 operations would not alter long-term potential health impacts above baseline levels under either CEQA or NEPA.

3.11.4.3.2.4 Alternative 4: Reduced Fill: No South Wharf Extension at Berth 100

Under this alternative, the 375 feet of wharf at the south end of Berth 100 that is an element of the proposed Project would not be constructed, but the 1,200 feet of wharf at Berth 100 constructed under Phase I would remain. An additional 925 feet of wharf at Berth 102 would be constructed to extend north of the existing wharf at Berth 100. Five A-frame cranes would be installed at Berth 102 in Phase II for a total of nine cranes at the Berth 97-109 container terminal. Further, 130 acres of backlands would be developed (72 acres in Phase I, 45 acres in Phase II, and 13 acres in Phase III), slightly less than the proposed Project. This reduction in backland acreage is attributable to not relocating the Catalina Express Terminal. Throughput would be 1,392,000 TEUs annually by 2030, which would require 208 annual ship calls.

3.11.4.3.2.4.1 Construction Impacts

Impact NOI-1: Construction activities would temporarily and periodically generate noise, and noise levels would substantially exceed existing ambient daytime noise levels at sensitive receivers near the Project area.

The construction activities associated with Alternative 4 are similar to those that occur under Alternative 3; however, the location of wharf construction would be different. Wharf construction would still occur north of Berth 102 and at Berth 100, but the extension near the south end of Berth 100 in the location of the Catalina Terminal would not be constructed. Development of other landside terminal components would be identical to the proposed Project alternative.

Similar to Alternative 3 and the proposed Project, the noisiest construction activity associated with this Alternative 4 would be generated from pile driving which generates maximum hourly noise levels near 90 to 95 dBA at a distance of 100 feet. The location of where wharf construction would be occurring would still affect the Knoll Hill neighborhood. This neighborhood would experience significant increases over ambient noise levels consistent with construction noise levels predicted for the proposed Project and Alternative 3.

Hourly average noise levels have been estimated based on the numbers and types of equipment that are expected to be on site during in-water, backlands and bridge construction occurring under Alternative 4. Table 3.11-35 shows the computed hourly average noise levels at a reference distance of 100 feet for construction activities associated with Alternative 4.

Table 3.11-35. Construction Noise Levels for Alternative 4

Location	Construction Activity	Leq (h) (dBA) at 100 feet
China Shipping Site (Berths 100, 102)		
Berth 100	Wharf Expansion, Pile Driving, install 4 cranes	95
Near Berth 100	Backlands Development	88
SW Slip	Build Bridge 1	88
Behind Berth 102 Adjacent to SW Slip and Near Bridge 2	Backlands Development- 45 acres	88
Berth 102	Wharf Construction and Pile Driving	95
Berth 100-109	Buildings	88
Bridge 2	Bridge Building	88
Berth 100	Backlands development-13 acres	88

Wharf construction would still remain to be the most dominant construction activity occurring on the project site affecting sensitive receivers in the Knoll Hill, Pacific Avenue-Channel Street, and Wilmington neighborhoods.

Construction noise levels that would be experienced at sensitive receivers in the Knoll Hill, Pacific Avenue-Channel Street, and the Wilmington neighborhoods were calculated utilizing the same acoustical formulas and methodology as discussed previously in Section 3.11.4.3.1.1 for measurement sites in these areas (described in Table 3.11-3) and where the construction activity would occur.

CEQA Impact Determination

Predicted construction noise levels were calculated assuming that construction activities associated with Alternative 4 would occur simultaneously. Table 3.11-36 presents the predicted construction noise levels experienced at the various sensitive land uses during construction for wharf construction, backland development, bridge construction and other associated terminal building construction occurring under Alternative 4.

Table 3.11-36. Hourly Average Construction Noise Levels at Sensitive Receivers, Alternative 4 (Leq, dBA)

Receiver	2001 Ambient	Construction[a]	Combined	Increase over Ambient	Significance Criterion	Significant Impact?
Knoll Hill Neighborhood						
ST-1	63	72	73	10	5	Yes
ST-3	57	69	69	12	5	Yes
Pacific Avenue-Channel Street Neighborhood						
ST-2	66	71	72	6	5	Yes
ST-2A[b]	57	61	62	5	5	Yes
ST-4	56	65	68	12	5	Yes
Front Street-Neighborhood						
ST-5	66	70	71	5	5	Yes
ST-6	68	70	72	4	5	No
Wilmington Neighborhood						
ST-7	61	60	64	3	5	No
ST-8	74	61	74	0	5	No
ST-9	59	57	61	2	5	No
ST-10	64	60	65	1	5	No
ST-11	57	57	60	3	5	No

[a]Construction noise levels at sensitive-receiver sites do not include noise from other existing background sources.

[b]Top of Slope provides shielding resulting in a 9-dBA reduction in noise.

Alternative 4 construction activities would cause temporary and periodic noise levels that would substantially exceed existing ambient noise levels in nearby neighborhoods, resulting in a significant impact. These significant impacts would be short term.

Knoll Hill Neighborhood

Wharf construction along with the other construction activities occurring simultaneously under Alternative 4 construction would have the most significant impact to the Knoll Hill neighborhood. Sensitive receivers in this neighborhood have an unobstructed view of the construction activity. Alternative 4 construction activities would generate typical hourly average construction noise levels of 69 to 72 dBA L_{eq}. When these levels are added to existing background noise levels, the combined noise level would exceed existing ambient noise levels by up to 12 dBA causing a significant impact.

Pacific Avenue – Channel Street Neighborhood

Sensitive receivers ST-2, ST-2A, and ST-4 in the Pacific Avenue neighborhood are further removed from wharf construction, resulting in lower hourly construction noise levels than those experienced in the Knoll Hill neighborhood. Further, sensitive receiver 2A is located on a slope that provides shielding from construction noise levels. Hourly construction noise levels for sensitive receivers in the Pacific Avenue neighborhood are between 61 dBA to 71 dBA L_{eq}. These predicted construction noise levels, combined with existing ambient noise levels, would increase noise levels between 5 to 12 dBA over ambient noise levels. An increase of 5 dBA or more is considered a significant impact.

Front Street Neighborhood

Sensitive receivers in the front street neighborhood experience higher ambient noise levels than the Knoll Hill neighborhood due to vehicular traffic noise from Front Street. The combined noise levels experienced at ST-5 and ST-6 show an increase over ambient noise levels causing a slight noise impact, with significant increase at first-row receiver locations.

Wilmington Neighborhood

Sensitive receiver sites in the Wilmington neighborhood are located over a mile from the China Shipping site and, therefore, would experience relatively low construction noise levels. Under Alternative 4, increases in ambient noise levels during the construction phase would be less than significant.

Mitigation Measures

Mitigation measure **MM NOI-1** would be implemented.

Residual Impacts

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate construction noise impacts.

NEPA Impact Determination

Alternative 4 includes wharf construction activities at Berth 102 that would require a federal permit which could not occur under the NEPA baseline condition. Table 3.11-37 compares the ambient noise levels during the construction of Alternative 4 to NEPA baseline noise levels at the nearby noise-sensitive receivers.

Table 3.11-37. Hourly Average Construction Noise Levels, Alternative 4 (Leq, dBA)

Receiver	NEPA Baseline	Construction Noise Level[a]	Combined Noise Level	Increase over Baseline	Significance Criterion	Significant Impact?
Knoll Hill Neighborhood						
ST-1	71	72	75	4	5	No
ST-3	64	69	70	6	5	Yes
Pacific Avenue-Channel Street Neighborhood						
ST-2	69	71	73	4	5	No
ST-2A[b]	60	61	64	4	5	No
ST-4	60	65	66	6	5	Yes
Front Street-Neighborhood						
ST-5	70	70	73	3	5	No
ST-6	71	70	74	3	5	No
Wilmington Neighborhood						
ST-7	63	60	65	2	5	No
ST-8	76	61	76	0	5	No
ST-9	61	57	62	1	5	No
ST-10	66	60	67	1	5	No
ST-11	60	57	62	2	5	No

[a]Construction noise levels at sensitive-receiver sites do not include noise from other existing background sources.

[b]Top of Slope provides shielding resulting in a 9-dBA reduction in noise.

Alternative 4 construction noise levels would cause substantial increases over the NEPA baseline levels at Knoll Hill and Channel Street receivers. Therefore, short-term significant noise impacts would occur under NEPA.

Mitigation Measures

Alternative 4 would require implementation of **MM NOI-1**, consistent with the proposed Project.

Residual Impacts

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate construction noise impacts.

Potential Health Impacts

As discussed in the section above, construction associated with Alternative 4 would generate noise levels at residences far below the L_{AF} > 120 dB acute noise levels and would not contribute to any hearing impairment. However, such levels may contribute to health effects caused by lower noise levels over longer time frames (as discussed in Section 3.11.2.1.3). Noise from Alternative 4 construction is not expected to alter long-term potential health impacts above baseline levels under either CEQA or NEPA.

Impact NOI-2: Construction activities would not exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

No construction activities are planned to occur between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

CEQA Impact Determination

There would be no construction-related noise impacts during prohibited hours as described above; consequently, no impacts under CEQA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts.

NEPA Impact Determination

There would be no in-water or upland construction-related noise impacts during prohibited hours as described above; consequently, no impacts under NEPA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts.

3.11.4.3.2.4.2 Operational Impacts

Impact NOI-3: Operations would generate noise, but noise levels would not substantially exceed existing ambient noise levels at sensitive receivers.

Onsite Noise

Alternative 4 would generate onsite truck traffic and cargo container movements slightly lower than those of the proposed Project alternative because the TEU throughput would be approximately 10 percent less than the proposed Project alternative. Onsite operations

resulting from this alternative are expected to generate noise levels less than those anticipated for the proposed Project alternative. The same methodology used for the proposed Project in calculating onsite noise levels was used for Alternative 4. Noise levels from onsite operations are summarized in Table 3.11-38.

Railway Corridor Noise

Implementation of Alternative 4 would result in an increase in the number of rail movements into and out of the Port of Los Angeles along the Alameda Transportation Corridor. To determine the maximum possible increase in noise along the rail corridors resulting from Alternative 4, a comparison was made between the CEQA baseline of no annual rail trips and the year 2045 with Alternative 4 of 734 annual rail trips. This is an increase of about one rail trip per day. There are currently approximately 68 peak rail trips per day in and out of the San Pedro Bay Ports excluding light engine switching operations (Parsons 2006). The greatest incremental increase in noise levels along the railroad corridors serving the Port of Los Angeles is calculated to be less than 0.8 dBA CNEL (at receiver LT 7). This is a less-than-significant impact.

There would be about two more events per day when a train horn is sounded at the Henry Ford Avenue grade crossing north of the consolidated slip causing audible noise at the Leeward Bay Marina. Train horns are a part of the acoustical environment in the environs of the Port of Los Angeles. Alternative 4 would not change the level of noise from a train horn, however, it will result in an increase in the number of times the horns are sounded because there would be about two more intermodal train movements per day through this crossing. The significance threshold is based on increased noise above the baseline level in terms of the CNEL noise metric, and this is a function of the level, duration, and time of noise occurrence; as well as the existing noise level. There are currently about eight train movements per day through this crossing distributed throughout the day and night. Alternative 4 would add two movements distributed throughout the day and night. So, while there will be an increase in the number of audible train horns, this is a less than significant environmental impact.

Transportation/Traffic Noise

The incremental increase in noise at the most affected sensitive receivers along Knoll Hill, Pacific Avenue-Channel Avenue, Front Street, and Wilmington neighborhoods was determined by modeling the traffic noise generated by local streets around the Port of Los Angeles using TNM Version 2.5. The same modeling assumptions, inputs and roadway configuration used under the proposed Project evaluation was used for modeling impacts from Alternative 4. Project-generated traffic for the year 2045 was added to the baseline traffic to determine the incremental increase in noise due to project-generated traffic. The calculated increase in noise levels along Harry Bridges Boulevard, Front Street, Harbor Street and Channel Street ranged from 0 to 1 dBA $L_{eq(h)}$, compared to the 2001 CEQA baseline. It is assumed that the hourly distribution of noise levels throughout the day and night would remain the same as it is today. The calculated increase in CNEL noise levels, therefore, also is calculated to be 0 to 1 dBA CNEL for the year 2045. At the Wilmington neighborhood along C Street, Knob Hill and upper Cabrillo Street, the noise environment is affected by vehicular traffic on SR-47 and I-110, local traffic on C Street, and, to a lesser extent, vehicular traffic along Harry Bridges Boulevard, Front Street and Channel Street and activities at the Port. There would be no change in the character of the noise environment because the roadway traffic would not be moved noticeably closer to the community.

The Transportation/Circulation Appendix includes turning movement volumes for 17 intersections located along roadways in the study area. Turning movement volumes for all 17 study intersections were reviewed to determine if any other roadway segments could experience a measurable increase in traffic noise as a result of project-generated traffic. The Traffic Noise Model incorporated seven intersections to capture the noise impacts of project-generated traffic. This modeling indicates that traffic added by the proposed Project would be insignificant and would cause a 0 to 1 dBA increase to the CNEL on all other roadway segments studied.

Overall Operational Noise Levels

Table 3.11-38 presents the overall operational noise levels for the nearest receivers within each noise-sensitive area. The hourly operational noise levels were converted into CNEL to evaluate community noise impacts at those locations where 24-hour noise monitoring data was available. Assuming 24-hour-per-day continuous operations, the Port-related activities would cause, by themselves, a CNEL in the range of 57 to 69 dBA. Intermittent Port operational noises may be distinguishable from road traffic on the Port's perimeter roadways, local street traffic noise, and existing sources of intermittent noise within the Port.

Table 3.11-38. Operational Noise Levels for Alternative 4 (CNEL, dBA)

Receiver	Onsite Operations	Traffic	Railway	Combined Noise Level
Knoll Hill Neighborhood				
LT-1	68	58	46	69
Front Street				
LT-2	65	59	46	66
LT-3	64	64	45	67
Wilmington Neighborhood				
LT-4	55	51	51	58

CEQA Impact Determination

Table 3.11-39 shows the overall future noise levels at nearby receivers due to the Alternative 4. The overall CNEL from Port onsite operational, traffic and rail activities under the proposed Project alternative would generate noise levels slightly more than existing ambient noise levels. At LT-1, representing the Knoll Hill area, an increase above baseline of 6 dBA in CNEL would occur. At LT-3, which represents the residential neighborhood west of Front Street and south of Vincent Thomas Bridge, increase in CNEL above baseline would be 7 dBA. These are significant impacts.

Table 3.11-39. CEQA Operational Noise Impacts for Alternative 4 (CNEL, dBA)

Receiver	CEQA Baseline	Alternative 4	Overall Noise Level	Increase over CEQA Baseline
Knoll Hill Neighborhood				
LT-1	64	69	70	6
Front Street				
LT-2	71	66	72	1
LT-3	61	67	68	7
Wilmington Neighborhood				
LT-4	70	57	70	0

Operational noise levels under Alternative 4 would cause future ambient noise levels to be greater than 5 dBA above the 2001 baseline CNEL at receiver locations on the east side of Knoll Hill and receivers located west of Front Street and south of the Vincent Thomas Bridge. These receivers would experience a significant noise impact from operations.

Mitigation Measures

Mitigation measure **MM NOI-2** would be implemented.

Residual Impacts

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate noise impacts.

NEPA Impact Determination

For determination of operational noise impacts under NEPA, baseline noise levels under the NEPA baseline were calculated and combined with the Alternative 4 operational noise levels. Table 3.11-40 shows the summarized results of the NEPA noise impact assessment. Significant noise impacts would occur at the Knoll Hill location (LT-1), where Proposed Project operations would cause a 3-dBA increase in CNEL into the "normally unacceptable" range.

Mitigation Measures

Mitigation measure **MM NOI-2** would be implemented.

Residual Impacts

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate noise impacts.

Table 3.11-40. NEPA Operational Noise Impacts for Alternative 4 (CNEL, dBA)

Receiver	NEPA Baseline	Alternative 4	Overall Noise Level	Increase over NEPA Baseline
Knoll Hill Neighborhood				
LT-1	69	69	72	3
Front Street				
LT-2	72	66	73	1
LT-3	65	67	69	4
Wilmington Neighborhood				
LT-4	71	57	71	0

Potential Health Impacts

As discussed in the section above, Alternative 4 operations would generate noise levels at residences far below the L_{AF} > 120 dB acute noise levels and would not contribute to any hearing impairment. However, such levels may contribute to health effects caused by lower noise levels over longer time frames (as discussed in Section 3.11.2.1.3). Noise from Alternative 4 operations is not expected to alter long-term potential health impacts above baseline levels under either NEPA or CEQA.

3.11.4.3.2.5 Alternative 5 – Reduced Construction and Operation: Phase I Construction Only

Under Alternative 5, the Phase I container terminal that was completed in 2003 (as allowed by the ASJ) and that is currently operational would continue to operate at levels similar to today (2007). The total acreage of backlands under this alternative would be 72 acres. Throughput under Alternative 5 would be 630,000 TEUs by 2030, which would require 104 annual ship calls.

3.11.4.3.2.5.1 Construction Impacts

Impact NOI-1: Construction activities would temporarily and periodically generate noise, and noise levels would substantially exceed existing ambient daytime noise levels at sensitive receivers near the Project area.

Construction under Alternative 5 allows for wharf construction at Berth 100, which requires a federal permit, backlands development of 72 acres and bridge construction. The wharf construction under Alternative 5 is limited to Berth 100 expansion similar to what occurred during Phase I of the proposed Project.

The noisiest construction activity associated with Alternative 5 would be due to pile driving, which would generate maximum noise levels near 90 to 95 dBA at a distance of 100 feet. The Knoll Hill neighborhood would experience significant increases over

ambient noise levels consistent with construction noise levels predicted for Phase I of the proposed Project.

Hourly average noise levels have been estimated based on the numbers and types of equipment that are expected to be on site during in-water, backlands and bridge construction occurring under Alternative 5. Table 3.11-41 shows the computed hourly average noise levels at a reference distance of 100 feet for construction activities associated with Alternative 5.

Table 3.11-41. Construction Noise Levels for Alternative 5

Location	Construction Activity	Leq (h) (dBA) at 100 feet
China Shipping Site (Berths 100, 102)		
Berth 100	Wharf Expansion, Pile Driving, install 4 cranes	95
Near Berth 100	Backlands Development	88
SW Slip	Build Bridge 1	88

Wharf construction would still remain to be the most dominant construction activity occurring on the project site affecting sensitive receivers in the Knoll Hill, Pacific Avenue-Channel Street, and Wilmington neighborhoods.

Construction noise levels that would be experienced at sensitive receivers in the Knoll Hill, Pacific Avenue-Channel Street, and the Wilmington neighborhoods were calculated utilizing the same acoustical formulas and methodology as discussed previously in Section 3.11.4.3.1.1 for measurement sites in these areas (described in Table 3.11-3) and where the construction activity would occur.

CEQA Impact Determination

Predicted construction noise levels were calculated assuming that construction activities associated with Alternative 5 would occur simultaneously. Table 3.11-42 presents the predicted construction noise levels experienced at the various sensitive land uses during construction for wharf construction, backland development, bridge construction and other associated terminal building construction occurring under Alternative 5.

Construction activities during Alternative 5 construction would cause noise level increases of above 5 dBA at the Knoll Hill, Pacific Avenue, and Front Street sensitive-receiver areas compared to the estimated 2001 ambient noise levels. These would be significant short-term impacts.

Table 3.11-42. Hourly Average Construction Noise Levels, Alternative 5 (Leq, dBA)

Receiver	CEQA Baseline	Construction[a]	Combined	Increase over Ambient	Significance Criterion	Significant Impact?
Knoll Hill Neighborhood						
ST-1	63	72	73	10	5	Yes
ST-3	57	68	68	11	5	Yes
Pacific Avenue-Channel Street Neighborhood						
ST-2	66	68	70	4	5	No
ST-2A[b]	57	59	61	4	5	No
ST-4	56	65	66	10	5	Yes
Front Street-Neighborhood						
ST-5	66	70	71	5	5	Yes
ST-6	68	70	72	4	5	No
Wilmington Neighborhood						
ST-7	61	60	64	3	5	No
ST-8	74	61	74	0	5	No
ST-9	59	57	61	2	5	No
ST-10	64	60	65	1	5	No
ST-11	57	57	60	3	5	No

[a]Construction noise levels at sensitive-receiver sites do not include noise from other existing background sources.

[b]Top of Slope provides shielding resulting in a 9-dBA reduction in noise.

Knoll Hill Neighborhood

Wharf construction along with the other construction activities occurring simultaneously under Alternative 5 construction would have the most significant impact to the Knoll Hill neighborhood. Sensitive receivers in this neighborhood have an unobstructed view of the construction activity. Alternative 5 construction activities would generate typical hourly average construction noise levels of 68 to 72 dBA L_{eq}. When these levels are added to existing background noise levels, the combined noise level would exceed existing ambient noise levels by more than 5 dBA causing a significant impact.

Pacific Avenue – Channel Street Neighborhood

Sensitive receivers ST-2, ST-2A, and ST-4 in the Pacific Avenue neighborhood are farther from the wharf construction locations, resulting in lower hourly construction noise levels than those experienced in the Knoll Hill neighborhood. Further, sensitive receiver 2A is located on a slope that provides shielding from construction noise levels. Hourly construction noise levels for sensitive receivers in the Pacific Avenue neighborhood are between 59 dBA to 68 dBA L_{eq}. Construction noise levels, combined with existing ambient noise levels, would increase noise levels by 4 dBA in the Pacific Avenue area, and by 10 dBA in the Channel Street area (site ST-4). An increase of 5 dBA or more is considered a significant impact.

Front Street Neighborhood

Sensitive receivers in the Front Street neighborhood experience higher ambient noise levels than the Knoll Hill neighborhood due to vehicular traffic noise from Front Street. The combined noise levels experienced at ST-5 shows a significant increase over ambient noise levels.

Wilmington Neighborhood

Sensitive-receiver sites in the Wilmington neighborhood are located over a mile from the China Shipping site and, therefore, would experience relatively low construction noise levels. Under Alternative 5, increases in ambient noise levels during the construction phase would be less than significant.

Mitigation Measures

Mitigation measure **MM NOI-1** would be implemented.

Residual Impacts

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate construction noise impacts.

NEPA Impact Determination

Alternative 5 includes wharf construction activities at Berth 100 that occurred under Phase I, which is not included in the NEPA baseline condition. Table 3.11-43 compares the ambient noise levels during the construction of Alternative 5 to NEPA baseline noise levels at the nearby noise-sensitive receivers. Alternative 5 construction activities would cause increases greater than 5 dBA over the NEPA baseline levels. Short-term significant noise impacts, therefore, are expected to occur under NEPA.

Mitigation Measures

Alternative 5 would require implementation of mitigation measure **MM NOI-1**, consistent with the mitigation measures outlined under CEQA.

Residual Impacts

Residual impacts would likely exist even after mitigation.

Table 3.11-43. NEPA Average Construction Noise Levels, Alternative 5 (Leq, dBA)

Receiver	NEPA Baseline	Construction Noise Level[a]	Combined Noise Level	Increase over Baseline	Significance Criterion	Significant Impact?
Knoll Hill Neighborhood						
ST-1	71	72	75	4	5	No
ST-3	64	68	69	5	5	Yes
Pacific Avenue-Channel Street Neighborhood						
ST-2	69	68	72	3	5	No
ST-2A[b]	60	59	63	3	5	No
ST-4	60	65	66	6	5	Yes
Front Street-Neighborhood						
ST-5	70	70	73	3	5	No
ST-6	71	70	74	3	5	No
Wilmington Neighborhood						
ST-7	63	60	64	1	5	No
ST-8	76	61	76	0	5	No
ST-9	61	57	62	1	5	No
ST-10	66	60	67	1	5	No
ST-11	60	57	62	2	5	No

[a]Construction noise levels at sensitive-receiver sites do not include noise from other existing background sources.

[b]Top of Slope provides shielding resulting in a 9-dBA reduction in noise.

Potential Health Impacts

As discussed in the section above, Alternative 5 construction would generate noise levels at residences far below the L_{AF} > 120 dB acute noise levels and would not contribute to any hearing impairment. However, such levels may contribute to health effects caused by lower noise levels over longer time frames (as discussed in Section 3.11.2.1.3). Noise from Alternative 5 construction is not expected to alter long-term potential health impacts above baseline levels under either CEQA or NEPA.

Impact NOI-2: Construction activities would not exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

There would be no construction during prohibited hours as described above; consequently, no impacts under CEQA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts.

NEPA Impact Determination

There would be no in-water or upland construction-related noise impacts during prohibited hours as described above; consequently, no impacts under NEPA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts.

3.11.4.3.2.5.2 Operational Impacts

Impact NOI-3: Operations would generate noise, but noise levels would not substantially exceed existing ambient noise levels at sensitive receivers.

Onsite Noise

Alternative 5 would generate far fewer truck traffic and cargo container movements than the proposed Project alternative because the TEU throughput would be much lower than the proposed Project alternative. Onsite operations resulting from this alternative are expected to generate noise levels less than those anticipated for the proposed Project alternative. The same methodology used for the proposed Project in calculating onsite noise levels was used for Alternative 5. Onsite noise levels are summarized in Table 3.11-44.

Traffic Noise

Traffic noise levels at the most effected sensitive receivers along Knoll Hill, Pacific Avenue-Channel Avenue, and Wilmington neighborhoods were determined by modeling the traffic noise generated by local streets around the Port of Los Angeles using TNM Version 2.5. The same modeling assumptions, input, and roadway configuration used under the proposed Project evaluation were used for modeling impacts from Alternative 5. Project-generated traffic for the year 2045 was then added to the baseline traffic to determine the noise due to project-generated traffic. It is assumed that the hourly distribution of noise levels throughout the day and night would remain the same as it is

today. Results of the predicted noise levels from the TNM model are shown for each sensitive receiver in Table 3.11-44.

At the Wilmington neighborhood along C Street, Knob Hill, and upper Cabrillo Street, the noise environment is affected by vehicular traffic on SR-47 and I-110, local traffic on C Street, and, to a lesser extent, vehicular traffic along Harry Bridges Boulevard, Front Street, and Channel Street, as well as by activities at the Port. There would be no change in the character of the noise environment because the roadway traffic would not be moved noticeably closer to the community.

The Appendix F includes turning movement volumes for 17 intersections located along roadways in the study area. Turning movement volumes for all 17 study intersections were reviewed to determine if any other roadway segments could experience a measurable increase in traffic noise as a result of project-generated traffic. The Traffic Noise Model incorporated seven intersections to capture the noise impacts of project-generated traffic.

Railway Corridor Noise

The implementation of the proposed Project would result in an increase in the number of rail movements into and out of the Port of Los Angeles along the Alameda Transportation Corridor. To determine the maximum possible increase in noise along the rail corridors resulting from Alternative 5, a comparison was made between the CEQA baseline of no annual rail trips and the year 2045 with Alternative 5 of 332 annual rail trips. This is an increase of about one rail trip per day. There would be about two more events per day when a train horn is sounded at the Henry Ford Avenue grade crossing north of the consolidated slip causing audible noise at the Leeward Bay Marina. There are currently approximately 68 peak rail trips per day in and out of the San Pedro Bay Ports excluding light engine switching operations (Parsons, 2006). Train horns are a part of the acoustical environment in the environs of the Port of Los Angeles. This project will not change the level of noise from a train horn, it will result in an increase in the number of times the horns are sounded because there would be about two more intermodal train movements per day through this crossing. There are currently about eight train movements per day through this crossing distributed throughout the day and night. The project would add two movements distributed throughout the day and night. The results of the rail noise levels at each sensitive receiver are presented in Table 3.11-44.

Overall Operational Noise Levels

The hourly onsite noise levels were converted into CNEL to evaluate community noise impacts at those locations where 24-hour noise monitoring data was available. Table 3.11-44 presents the combined operational noise levels for each sensitive receiver under Alternative 5.

Table 3.11-44. Operational Noise Levels for Alternative 5 (CNEL, dBA)

Receiver	Onsite Operations	Traffic	Railway	Combined Noise Level
Knoll Hill Neighborhood				
LT-1	65	58	46	66
Front Street				
LT-2	62	59	46	63
LT-3	61	64	44	65
Wilmington Neighborhood				
LT-4	52	46	51	55

Intermittent Port operational noises would be distinguishable from road traffic on the Port's perimeter roadways, local street traffic noise, and existing sources of intermittent noise within the Port. Assuming 24-hour-per-day continuous operations, the Port-related activities would cause, by themselves, a CNEL in the range of 55 to 66 dBA.

CEQA Impact Determination

As discussed in Section 3.11.2.2.2, baseline noise levels range from 61 dBA CNEL to 71 dBA CNEL at the most affected sensitive receiver locations. The overall CNEL from Port onsite operations, traffic and rail under Alternative 5 would generate noise levels ranging from less to slightly more than the existing ambient noise levels. Table 3.11-45 shows that an increase of 5 dBA in CNEL would occur at receiver LT-3. This is a significant impact. Operational noise under Alternative 5 due to onsite operations, rail noise, and local traffic would be significantly above existing ambient noise levels at the receivers located west of Front Street and south of the Vincent Thomas Bridge.

Table 3.11-45. CEQA Operational Noise Impacts for Alternative 5 (CNEL, dBA)

Receiver	CEQA Baseline	Alternative 5	Overall Noise Level	Increase over CEQA Baseline
Knoll Hill Neighborhood				
LT-1	64	66	68	4
Front Street				
LT-2	71	63	72	1
LT-3	61	65	66	5
Wilmington Neighborhood				
LT-4	70	55	70	0

Mitigation Measures

Mitigation measure **MM NOI-2**, as it pertains to the area west of Front Street and south of the Vincent Thomas Bridge, would be implemented.

Residual Impacts

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate noise impacts.

NEPA Impact Determination

For determination of operational noise impacts under NEPA, baseline noise levels under the NEPA baseline conditions were calculated and combined with the Alternative 5 operational noise levels. Table 3.11-46 shows the summarized results of the NEPA noise impact assessment. Impacts would not be significant because Alternative 5 operations would cause up to a 3-dBA increase in CNEL, but not into the "normally unacceptable" range.

Table 3.11-46. NEPA Operational Noise Impacts for Alternative 5 (CNEL, dBA)

Receiver	NEPA Baseline	Alternative 5	Overall Noise Level	Increase over NEPA Baseline
Knoll Hill Neighborhood				
LT-1	69	66	71	2
Front Street				
LT-2	72	63	73	1
LT-3	65	65	68	3
Wilmington Neighborhood				
LT-4	71	55	71	0

Mitigation Measures

Mitigation measures would not be required because there would be no significant impacts.

Residual Impacts

Under NEPA, no residual impacts would occur with Alternative 5.

Potential Health Impacts

As discussed in the section above, Alternative 5 operations would generate noise levels at residences far below the L_{AF} > 120 dB acute noise levels and would not contribute to any hearing impairment. However, such levels may contribute to health effects caused by lower noise levels over longer time frames (as discussed in Section 3.11.2.1.3). Noise from Alternative 5 operations is not expected to alter long-term potential health impacts above baseline levels under either NEPA or CEQA.

3.11.4.3.2.6 Alternative 6 – Omni Terminal

This alternative would construct an Omni cargo terminal at the Project site, which would entail physical land improvements and wharf construction as required for the proposed Project. Under this alternative, however, the 142 acres of backlands would be developed,

but the backlands would be constructed to match the needs of an omni terminal. Like the proposed Project, construction of this alternative would involve construction of 2,500 linear feet of wharf and 2.54 acres of fill into waters of the U.S. The Catalina Express Terminal would be temporarily relocated under this alternative. Annual throughput volumes at the omni terminal would vary by commodity: 506,467 container TEUs; 17,987 auto TEUs; and break-bulk commodities totaling 5,159,570 tons. Under this alternative, 364 annual ship calls would be required by 2030.

3.11.4.3.2.6.1 Construction Impacts

Impact NOI-1: Construction activities would temporarily and periodically generate noise, and noise levels would substantially exceed existing ambient daytime noise levels at sensitive receivers in the Project area.

Construction activities associated with Alternative 6 are very similar to the proposed Project. Alternative 6 includes in-water construction that requires federal action similar to the proposed Project for wharf development at Berth 100 and Berth 102. Wharf construction would include the expansion of Berth 100 and the additional south end wharf expansion in the location of the Catalina Express Terminal and the wharf construction at Berth 102. The noisiest construction activity associated with this alternative would be due to pile driving which generates maximum noise levels of 90 to 95 dBA at a distance of 100 feet. The Knoll Hill neighborhood would experience significant increases over ambient noise levels consistent with construction noise levels predicted for the proposed Project alternative.

Hourly average noise levels have been estimated based on the numbers and types of equipment that are expected to be on site during in-water, backlands and bridge construction occurring under Alternative 6. Table 3.11-47 shows the computed hourly average noise levels at a reference distance of 100 feet for construction activities associated with Alternative 6.

Table 3.11-47. Construction Noise Levels for Alternative 6

Location	Construction Activity	Leq (h) (dBA) at 100 feet
China Shipping Site (Berths 100, 102)		
Berth 100	Wharf Expansion, Pile Driving, install 4 cranes	95
Near Berth 100	Backlands Development	88
SW Slip	Build Bridge 1	88
Behind Berth 102 Adjacent to SW Slip and Near Bridge 2	Backlands Development- 45 acres	88
Berth 100-109	Buildings	88
Bridge 2	Bridge Building	88
Berth 100	Wharf Expansions and Pile Driving	95
Berth 100	Backlands development-25 acres	88

Wharf construction would be the most dominant construction activity occurring on the project site affecting sensitive receivers in the Knoll Hill, Pacific Avenue-Channel Street, and Wilmington neighborhoods.

Construction noise levels that would be experienced at sensitive receivers in the Knoll Hill, Pacific Avenue-Channel Street, and the Wilmington neighborhoods were calculated utilizing the same acoustical formulas and methodology discussed previously in Section 3.11.4.3.1.1 for measurement sites in these areas (described in Table 3.11-3) and where the construction activity would occur.

CEQA Impact Determination

Predicted construction noise levels were calculated assuming that construction activities associated with Alternative 6 would occur simultaneously. Table 3.11-48 presents the predicted construction noise levels experienced at the various sensitive land uses during construction for wharf construction, backland development, bridge construction and other associated terminal building construction occurring under Alternative 6.

Table 3.11-48. Hourly Average Construction Noise Levels, Alternative 6 (Leq, dBA)

Receiver	Ambient 2001 Baseline	Construction[a]	Combined	Increase over Ambient	Significance Criterion	Significant Impact?
Knoll Hill Neighborhood						
ST-1	63	76	76	13	5	Yes
ST-3	57	69	69	12	5	Yes
Pacific Avenue-Channel Street Neighborhood						
ST-2	66	71	72	6	5	Yes
ST-2A[b]	57	61	62	5	5	Yes
ST-4	56	65	66	10	5	Yes
Front Street-Neighborhood						
ST-5	66	70	71	5	5	Yes
ST-6	68	70	72	4	5	No
Wilmington Neighborhood						
ST-7	61	60	64	3	5	No
ST-8	74	61	74	0	5	No
ST-9	59	57	61	2	5	No
ST-10	64	60	65	1	5	No
ST-11	57	57	60	3	5	No

[a]Construction noise levels at sensitive-receiver sites do not include noise from other existing background sources.

[b]Top of Slope provides shielding resulting in a 9-dBA reduction in noise.

Construction noise levels during Alternative 6 construction would cause a substantial increase in noise levels at sensitive receivers compared to the estimated 2001 ambient noise levels. This would be a significant impact. Construction activities involved in

Alternative 6 would cause temporary and periodic noise levels that would substantially exceed existing ambient noise levels in the Knoll Hill, Pacific Avenue, and Wilmington neighborhoods, resulting in a short-term significant impact.

Knoll Hill Neighborhood

Wharf construction along with the other construction activities occurring simultaneously under Alternative 6 construction would have a significant impact to the Knoll Hill neighborhood. Sensitive receivers in this neighborhood have an unobstructed view overlooking Berth 100 where the majority of the construction under Alternative 6 would occur. Alternative 6 construction activities would generate typical hourly average construction noise levels of 69 to 76 dBA L_{eq}. When these levels are added to existing background noise levels, the combined noise level would exceed existing ambient noise levels by up to 13 dBA causing a significant impact.

Pacific Avenue – Channel Street Neighborhood

Sensitive receivers ST-2, ST-2A, and ST-4 in the Pacific Avenue neighborhood are farther from wharf construction locations, resulting in slightly lower hourly construction noise levels than those experienced in the Knoll Hill neighborhood. Further, sensitive receiver 2A is located on a slope that provides shielding from construction noise levels. Hourly construction noise levels for sensitive receivers in the Pacific Avenue neighborhood are between 61 dBA to 71 dBA L_{eq}. These predicted construction noise levels, combined with existing ambient noise levels, would increase noise levels between 5 to 10 dBA over ambient noise levels. An increase of 5 dBA or more is considered a significant impact.

Front Street Neighborhood

Sensitive receivers in the Front Street neighborhood experience higher ambient noise levels than the Knoll Hill neighborhood due to vehicular traffic noise from Front Street. The combined noise levels experienced at ST-5 show significant increases over ambient noise levels.

Wilmington Neighborhood

Sensitive-receiver sites in the Wilmington neighborhood are located over a mile from the China Shipping site and, therefore, would experience relatively low construction noise levels. Under Alternative 6, increases in ambient noise levels during the construction phase would be less than significant.

Mitigation Measures

Mitigation measure **MM NOI-1** would be implemented.

Residual Impacts

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate construction noise impacts.

Potential Health Impacts

As discussed in the section above, Alternative 6 construction would generate noise levels at residences far below the $L_{AF} > 120$ dB acute noise levels and would not

contribute to any hearing impairment. However, such levels may contribute to health effects caused by lower noise levels over longer time frames (as discussed in Section 3.11.2.1.3). Noise from Alternative 6 construction is not expected to alter long-term potential health impacts above baseline levels under either CEQA or NEPA.

NEPA Impact Determination

Alternative 6 includes wharf construction activities at Berth 100 and Berth 102, as well as backland construction, that would require a federal permit. Table 3.11-49 compares the ambient noise levels during the construction of Alternative 6 to NEPA baseline noise levels at the nearby noise-sensitive receivers. Alternative 6 construction activities would cause increases greater than 5 dBA over the NEPA baseline levels. Short-term significant noise impacts, therefore, are expected to occur under NEPA.

Table 3.11-49. NEPA Average Construction Noise Levels, Alternative 6 (Leq, dBA)

Receiver	NEPA Baseline	Construction Noise Level[a]	Combined Noise Level	Increase over Baseline	Significance Criterion	Significant Impact?
Knoll Hill Neighborhood						
ST-1	71	76	77	6	5	Yes
ST-3	64	69	70	6	5	Yes
Pacific Avenue-Channel Street Neighborhood						
ST-2	69	71	73	4	5	No
ST-2A[b]	60	61	64	4	5	No
ST-4	60	65	66	6	5	Yes
Front Street-Neighborhood						
ST-5	70	70	73	3	5	No
ST-6	71	70	74	4	5	No
Wilmington Neighborhood						
ST-7	63	60	65	2	5	No
ST-8	76	61	76	0	5	No
ST-9	61	57	62	1	5	No
ST-10	66	60	67	1	5	No
ST-11	60	57	62	2	5	No

[a]Construction noise levels at sensitive-receiver sites do not include noise from other existing background sources.

[b]Top of Slope provides shielding resulting in a 9-dBA reduction in noise.

Mitigation Measures

Alternative 6 would require implementation of mitigation measure **MM NOI-1**, consistent with the proposed Project alternative.

Residual Impacts

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate construction noise impacts.

Impact NOI-2: Construction activities would not exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

No construction activities are planned to occur between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

CEQA Impact Determination

There would be no construction-related noise impacts during prohibited hours as described above; consequently, no impacts under CEQA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts.

NEPA Impact Determination

There would be no in-water or upland construction-related noise impacts during prohibited hours as described above; consequently, no impacts under NEPA would occur.

Mitigation Measures

No mitigation measures are required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

3.11.4.3.2.6.2 Operational Impacts

Impact NOI-3: Onsite operations would generate noise, but noise levels would not substantially exceed existing ambient noise levels at sensitive receivers.

Onsite Noise

This alternative would generate far fewer truck traffic and cargo container movements than the proposed Project alternative because the TEU throughput would be lower than the proposed Project alternative. Onsite operations resulting from this alternative are

expected to generate noise levels lower than those anticipated for the proposed Project alternative.

Railway Corridor Noise

The implementation of the proposed Project would result in an increase in the number of rail movements into and out of the Port of Los Angeles along the Alameda Transportation Corridor. To determine the maximum possible increase in noise along the rail corridors resulting from Alternative 6, a comparison was made between the CEQA baseline of no annual rail trips and the year 2045 with Alternative 6 of 292 annual rail trips. This is an increase of about less than one round trip per day. There would be about two more events per day when a train horn is sounded at the Henry Ford Avenue grade crossing north of the consolidated slip causing audible noise at the Leeward Bay Marina. There are currently approximately 68 peak rail trips per day in and out of the San Pedro Bay Ports excluding light engine switching operations (Parsons 2006). Train horns are a part of the acoustical environment in the environs of the Port of Los Angeles. This project will not change the level of noise from a train horn, it will result in an increase in the number of times the horns are sounded because there would be about two more intermodal train movements per day through this crossing. There are currently about eight train movements per day through this crossing distributed throughout the day and night. The project would add up to two movements distributed throughout the day and night. The results of the rail noise levels at each sensitive receiver are presented in Table 3.11-50.

Traffic Noise

Traffic noise levels at the most affected sensitive receivers along Knoll Hill, Pacific Avenue-Channel Avenue, and Wilmington neighborhoods were determined by modeling the traffic noise generated by local streets around the Port of Los Angeles using TNM Version 2.5. The same modeling assumptions, input, and roadway configuration used under the proposed Project evaluation were used for modeling impacts from Alternative 6. Project-generated traffic for the year 2045 was then added to the baseline traffic to determine the noise due to project-generated traffic. It is assumed that the hourly distribution of noise levels throughout the day and night would remain the same as it is today. Results of the predicted noise levels from the TNM model are shown for each sensitive receiver in Table 3.11-50.

At the Wilmington neighborhood along C Street, Knob Hill, and upper Cabrillo Street, the noise environment is affected by vehicular traffic on SR-47 and I-110, local traffic on C Street, and, to a lesser extent, by vehicular traffic along Harry Bridges Boulevard, Front Street, and Channel Street, as well as by activities at the Port. There would be no change in the character of the noise environment because the roadway traffic would not be moved noticeably closer to the community.

Appendix F includes turning movement volumes for 17 intersections located along roadways in the study area. Turning movement volumes for all 17 study intersections were reviewed to determine if any other roadway segments could experience a measurable increase in traffic noise as a result of project-generated traffic. The Traffic Noise Model incorporated seven intersections to capture the noise impacts of project-generated traffic.

Overall Operational Noise Levels

Table 3.11-50 presents the Alternative 6 overall operational noise levels due to onsite activities, rail, and traffic for each sensitive receiver. The hourly onsite noise levels were converted into CNEL to evaluate community noise impacts at those locations where 24-hour noise monitoring data was available. Assuming 24-hour-per-day continuous operations, the Port-related activities would cause, by themselves, a CNEL in the range of 59 to 68 dBA.

Table 3.11-50. Operational Noise Levels for Alternative 6 (CNEL, dBA)

Receiver	Onsite Operations	Traffic	Railway	Combined Noise Level
Knoll Hill Neighborhood				
LT-1	65	58	46	66
Front Street				
LT-2	62	58	46	63
LT-3	61	64	44	66
Wilmington Neighborhood				
LT-4	52	51	51	56

CEQA Impact Determination

As discussed in Section 3.11.2.2.2, baseline noise levels range from 61 dBA CNEL to 71 dBA CNEL at the most affected sensitive receiver locations. The overall CNEL from Port onsite operations, traffic and rail under Alternative 6 would generate noise levels ranging from less to slightly more than the existing ambient noise levels. Table 3.11-51 shows that operational noise under Alternative 6 due to onsite operations, rail noise and local traffic would be significantly above existing ambient noise levels at the receivers located west of Front Street and south of the Vincent Thomas Bridge. An increase above 5 dBA in CNEL would occur at receiver LT-3. This is a significant impact.

Table 3.11-51. CEQA Operational Noise Impacts for Alternative 6 (CNEL, dBA)

Receiver	CEQA Baseline	Alternative 6	Overall Noise Level	Increase over CEQA Baseline
Knoll Hill Neighborhood				
LT-1	64	66	68	4
Front Street				
LT-2	71	63	72	1
LT-3	61	66	67	6
Wilmington Neighborhood				
LT-4	70	56	70	0

Mitigation Measures

Mitigation measure **MM NOI-2**, as it pertains to the area west of Front Street and south of the Vincent Thomas Bridge, would be implemented.

Residual Impacts

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate noise impacts.

NEPA Impact Determination

For determination of operational noise impacts under NEPA, baseline noise levels under the NEPA baseline conditions were calculated and combined with the Alternative 6 operational noise levels. Table 3.11-52 shows the summarized results of the NEPA noise impact assessment. Significant noise impacts would not occur because Alternative 6 operations would cause up to a 3-dBA increase in CNEL but not into the "normally unacceptable" range.

Table 3.11-52. NEPA Operational Noise Impacts for Alternative 6 (CNEL, dBA)

Receiver	NEPA Baseline	Alternative 6	Overall Noise Level	Increase over NEPA Baseline
Knoll Hill Neighborhood				
LT-1	69	66	71	2
Front Street				
LT-2	72	63	73	1
LT-3	65	66	68	3
Wilmington Neighborhood				
LT-4	71	56	71	0

Mitigation Measures

Mitigation measures would not be required because there would be no significant impacts.

Residual Impacts

Under NEPA, no residual impacts would occur with Alternative 6.

Potential Health Impacts

As discussed in the section above, Alternative 6 operations would generate noise levels at residences far below the L_{AF} > 120 dB acute noise levels and would not contribute to any hearing impairment. However, such levels may contribute to health effects caused by lower noise levels over longer time frames (as discussed in Section 3.11.2.1.3). Noise from Alternative 6 operations is not expected to alter long-term potential health impacts above baseline levels under either CEQA or NEPA.

3.11.4.3.2.7 Nonshipping Use (Alternative 7)

Alternative 7 would convert the site from shipping and containerized storage to retail, office park, and light industrial uses on 117 acres. A public dock would be constructed, but would be developed only to support small watercraft. New wharves would not be constructed. The Catalina Express Terminal would not be relocated under this alternative. Hours of operation for the Nonshipping Use Alternative would generally be 8:00 a.m. to 10:00 p.m., Monday through Friday, and 10:00 a.m. to 2:00 a.m. on the weekends.

3.11.4.3.2.7.1 Construction Impacts

Impact NOI-1: Construction activities would temporarily and periodically generate noise, and noise levels would substantially exceed existing ambient daytime noise levels at sensitive receivers near the new Project area.

Phase I construction has been applied to Alternative 7. In addition, project development under Alternative 7 would include construction of retail, office and light-industrial buildings, and backland development, as well as minor additional pile-driving activities that would occur for the public docks.

Project development maximum construction noise levels would be associated with equipment used during grading, drainage, paving, striping, lighting, fencing, and the addition of utility facilities and equipment. Hourly average noise levels have been estimated based on the numbers and types of equipment that are expected to be onsite during project development. These sources include landside equipment such as loaders, dozers, and trucks. Table 3.11-53 shows the computed hourly average noise levels at a reference distance of 100 feet.

Table 3.11-53. Construction Noise Levels for Alternative 7 Development

Location	Construction Activity	Leq (h) (dBA) at 100 feet
Project Site (Berths 100, 102)		
Berth 100	Wharf Expansion, Pile Driving, install 4 cranes	95
Near Berth 100	Pavement and Project construction	88
Behind Berth 102 Adjacent to SW Slip	Pavement and Project construction	88

Project construction would have the greatest influence on the sensitive receivers in the Knoll Hill and the Pacific Avenue-Channel Street neighborhoods. The Wilmington neighborhood is located over 7,000 feet from the location of where the Project development is occurring; therefore, it is anticipated that construction impacts to this neighborhood would be minimal.

Construction noise levels that would be experienced at sensitive receivers in the Knoll Hill, Pacific Avenue-Channel Street, and the Wilmington neighborhoods were calculated utilizing the same acoustical formulas and methodology previously discussed in Section 3.11.4.3.1.1 for measurement sites in these areas (described in Table 3.11-3) and where the construction activity would occur.

CEQA Impact Determination

Predicted construction noise levels were calculated assuming that various construction activities associated with project development would occur simultaneously. Table 3.11-54 presents the predicted construction noise levels experienced at the various sensitive land uses during construction for project development under Alternative 7.

Table 3.11-54. Hourly Average Construction Noise Levels, Alternative 7 (Leq, dBA)

Receiver	2001 Ambient Noise	Constructiona	Combined Noise Level	Increase over Ambient	Significance Criterion	Significant Impact?
Knoll Hill Neighborhood						
ST-1	63	72	72	9	5	Yes
ST-3	57	69	69	12	5	Yes
Pacific Avenue-Channel Street Neighborhood						
ST-2	66	71	72	6	5	Yes
ST-2A[b]	57	61	62	5	5	Yes
ST-4	56	65	66	10	5	Yes
Front Street-Neighborhood						
ST-5	66	70	71	5	5	Yes
ST-6	68	70	72	4	5	No
Wilmington Neighborhood						
ST-7	61	60	63	2	5	No
ST-8	74	61	74	0	5	No
ST-9	59	57	61	2	5	No
ST-10	64	60	65	1	5	No
ST-11	57	57	60	3	5	No

[a]Construction noise levels at sensitive-receiver sites do not include noise from other existing background sources.

[b]Top of Slope provides shielding resulting in a 9-dBA reduction in noise.

Construction noise levels during project development under Alternative 7 would cause significant increases in noise levels at sensitive receivers in the Knoll Hill, Pacific Avenue, and Front Street neighborhoods compared to the estimated 2001 ambient noise levels. These significant impacts would be short term.

Knoll Hill Neighborhood

The construction noise levels associated with project development for Alternative 7 would have the greatest impacts on the Knoll Hill residential neighborhood. Paving

and project construction would occur within approximately 1,100 feet to the nearest residential neighborhood. This neighborhood has an unobstructed view and overlooks Berth 100. Project construction activities would generate typical hourly average construction noise levels of 69 to 72 dBA L_{eq}. When these levels are added to existing background noise levels, the combined noise level would exceed existing ambient noise levels by more than 5 dBA and, therefore, would cause a significant impact.

Pacific Avenue – Channel Street Neighborhood

Sensitive receivers ST-2, ST-2A and ST-4 are in the Pacific Avenue neighborhood. Receiver ST-2A is located on a slope that provides shielding. These receivers would experience hourly construction noise levels between 61 dBA to 71 dBA L_{eq}. These predicted construction noise levels, combined with existing ambient noise levels, would increase noise levels between 5 to 10 dBA over ambient noise levels. An increase of 5 dBA or more is considered a significant impact.

Front Street Neighborhood

Sensitive receivers in the Front Street neighborhood experience higher ambient noise levels than the Knoll Hill neighborhood due to vehicular traffic noise from Front Street. Combined noise levels at ST-5 would be significantly higher than the baseline ambient noise levels.

Wilmington Neighborhood

Sensitive-receiver sites in the Wilmington neighborhood are located over a mile from the China Shipping site and, therefore, would experience relatively low construction noise levels. Under Alternative 7, increases in ambient noise levels during the construction phase would be less than significant.

Mitigation Measures

Mitigation measure **MM NOI-1** would be implemented.

Residual Impacts

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate construction noise impacts.

NEPA Impact Determination

The project development under Alternative 7 would include construction activities above the NEPA baseline conditions; therefore, short-term noise construction impacts would occur under NEPA. Table 3.11-55 compares the ambient noise levels during the construction of Alternative 7 to NEPA baseline noise levels at the nearby noise-sensitive receivers. Alternative 7 construction activities would cause increases greater than 5 dBA over the NEPA baseline levels. Short-term significant noise impacts, therefore, are expected to occur under NEPA.

Table 3.11-55. NEPA Average Construction Noise Levels, Alternative 7 (Leq, dBA)

Receiver	NEPA Baseline	Construction Noise Level[a]	Combined Noise Level	Increase over Baseline	Significance Criterion	Significant Impact?
Knoll Hill Neighborhood						
ST-1	71	72	75	4	5	No
ST-3	64	69	70	6	5	Yes
Pacific Avenue-Channel Street Neighborhood						
ST-2	69	71	73	4	5	No
ST-2A[b]	60	61	64	4	5	No
ST-4	60	65	66	6	5	Yes
Front Street-Neighborhood						
ST-5	70	70	73	3	5	No
ST-6	71	70	74	3	5	No
Wilmington Neighborhood						
ST-7	63	60	64	1	5	No
ST-8	76	61	76	0	5	No
ST-9	61	57	62	1	5	No
ST-10	66	60	67	1	5	No
ST-11	60	57	61	1	5	No

[a]Construction noise levels at sensitive-receiver sites do not include noise from other existing background sources.

[b]Top of Slope provides shielding resulting in a 9-dBA reduction in noise.

Mitigation Measures

Alternative 7 would require implementation of mitigation measure **MM NOI-1**, consistent with those under NEPA.

Residual Impacts

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate construction noise impacts.

Potential Health Impacts

As discussed in the section above, Alternative 7 construction would generate noise levels at residences far below the $L_{AF} > 120$ dB acute noise levels and would not contribute to any hearing impairment. However, such levels may contribute to health effects caused by lower noise levels over longer time frames (as discussed in Section 3.11.2.1.3). Noise from Alternative 7 construction is not expected to alter long-term potential health impacts above baseline levels under either NEPA or CEQA.

Impact NOI-2: Construction activities would not exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

No construction activities are planned to occur between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

CEQA Impact Determination

There would be no construction-related noise impacts during prohibited hours as described above; consequently, no impacts under CEQA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts.

NEPA Impact Determination

There would be no in-water or on-land construction-related noise impacts during prohibited hours as described above; consequently, no impacts under NEPA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

3.11.4.3.2.7.2 Operational Impacts

Impact NOI-3: Operations would generate noise, but noise levels would not substantially exceed existing ambient noise levels at sensitive receivers.

Onsite Operations

Under Alternative 7, the project site would be converted to nonshipping retail and commercial uses. Such uses would generate some onsite noise from automobile travel in the parking lots, parking lot vacuum sweepers and trucks making deliveries. Onsite noise generation would be less than for any of the shipping alternatives and would not represent a significant impact.

Railway Corridor Noise

There would be no increases in train movements under Alternative 7 compared to the baseline conditions. Therefore, no noise impacts would occur from rail activity.

Transportation Noise

The incremental increase in noise at the most affected sensitive receivers along Knoll Hill, Pacific Avenue-Channel Avenue, and Wilmington neighborhoods was determined by modeling the traffic noise generated by local streets around the Port of Los Angeles using TNM Version 2.5. Table 3.11-56 presents the Alternative 7 overall operational noise levels, which would only be from the vehicular traffic generated by proposed uses under this alternative. Traffic noise levels from the project alone would be in the range of 52 to 66 dBA CNEL.

Table 3.11-56. Operational Noise Levels for Alternative 7 (CNEL, dBA)

Receiver	Onsite Operations	Traffic	Railway	Combined Noise Level
Knoll Hill Neighborhood				
LT-1	0	60	0	60
Front Street				
LT-2	0	61	0	61
LT-3	0	66	0	66
Wilmington Neighborhood				
LT-4	0	52	0	52

CEQA Impact Determination

As discussed in Section 3.11.2.2.2, baseline noise levels range from 61 dBA CNEL to 71 dBA CNEL at the most affected sensitive receiver locations. Table 3.11-57 shows that operational noise under Alternative 7 due to additional traffic would be significantly above existing ambient noise levels at the receivers located west of Front Street and south of the Vincent Thomas Bridge. An increase above 5 dBA in CNEL would occur at receiver LT-3. This is a significant impact.

Table 3.11-57. CEQA Operational Noise Impacts for Alternative 7 (CNEL, dBA)

Receiver	CEQA Baseline	Alternative 7	Overall Noise Level	Increase over CEQA Baseline
Knoll Hill Neighborhood				
LT-1	64	60	65	1
Front Street				
LT-2	71	61	71	0
LT-3	61	66	67	6
Wilmington Neighborhood				
LT-4	70	52	70	0

Mitigation Measures

Mitigation measure **MM NOI-2**, as it pertains to the area west of Front Street and south of the Vincent Thomas Bridge, would be implemented.

Residual Impacts

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate noise impacts.

NEPA Impact Determination

For determination of operational noise impacts under NEPA, baseline noise levels under the NEPA baseline conditions were calculated and combined with the Alternative 7 operational noise levels. Table 3.11-58 shows the summarized results of the NEPA noise impact assessment. Significant noise impacts would not occur because Alternative 7 operations would cause up to a 4-dBA increase in CNEL but not into the "normally unacceptable" range.

Table 3.11-58. NEPA Operational Noise Impacts for Alternative 7 (CNEL, dBA)

Receiver	NEPA Baseline	Alternative 7	Overall Noise Level	Increase over NEPA Baseline
Knoll Hill Neighborhood				
LT-1	69	60	70	1
Front Street				
LT-2	72	61	72	0
LT-3	65	66	69	4
Wilmington Neighborhood				
LT-4	71	52	71	0

Mitigation Measures

Mitigation measures would not be required because there would be no significant impacts.

Residual Impacts

Under NEPA, no residual impacts would occur with Alternative 7.

3.11.4.3.3 Summary of Impact Determinations

Table 3.11-59 summarizes the CEQA and NEPA impact determinations of the proposed Project and its alternatives related to Noise, as described in the detailed discussion in Section 3.11.4.3. This table is meant to allow easy comparison between the potential impacts of the Project and its alternatives with respect to this resource.

For each type of potential impact, the table describes the impact, notes the CEQA and NEPA impact determinations, describes any applicable mitigation measures, and notes the residual impacts (i.e., the impacts remaining after mitigation). All impacts, whether significant or not, are included in this table.

Table 3.11-59. Summary Matrix of Potential Impacts and Mitigation Measures for Noise with the Proposed Project and Alternatives

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Residual Impacts after Mitigation
3.11 Noise				
Proposed Project	**NOI-1:** Construction activities would temporarily and periodically generate noise that exceeds the significance threshold levels at the sensitive receivers near the Project site.	CEQA: Significant impact	**MM NOI-1:** a) Construction Hours. Limit construction hours. b) Construction Days. Do not conduct noise-generating construction activities on weekends or holidays unless critical c) Temporary Noise Barriers. Should be located between noise-generating construction activities and sensitive receivers. d) Properly muffle and maintain all construction equipment powered by internal combustion engines. e) Idling Prohibitions. Prohibit unnecessary idling of internal combustion engines near noise-sensitive areas. f) Equipment Location. Locate all stationary noise-generating construction equipment from existing noise-sensitive land uses. g) Quiet Equipment Selection. Select quiet construction equipment whenever possible. Comply with City of Los Angeles Noise Ordinance. h) Notification. Notify residents adjacent to the proposed Project site of the construction schedule in writing.	CEQA**: Significant after mitigation.**

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Table 3.11-59. Summary Matrix of Potential Impacts and Mitigation Measures for Noise with the Proposed Project and Alternatives (continued)

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Residual Impacts after Mitigation
3.11 Noise (continued)				
Proposed Project (continued)			i) IHC Hydrohammer. The contractor shall use an IHC Hydrohammer pile driver or equivalent when constructing the berths. j) Reporting. The Port shall clearly post the telephone number where complaints regarding construction-related disturbance can be reported.	
		NEPA: Significant noise impacts	**MM NOI-1**	NEPA: **Significant after mitigation.**
	NOI-2: No construction activities would occur during prohibited hours.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact	Mitigation not required	NEPA: No impact
	NOI-3: Operations would generate noise levels that exceed significance thresholds at sensitive receivers near the Project site.	CEQA: Significant impacts	**MM NOI-2:** Installation of noise walls at the Project site or affected receivers.	CEQA**: Significant**
		NEPA: Significant impacts	**MM NOI-2**	NEPA**: Significant**
Alternative 1 (No Project)	**NOI-1:** Construction activities would temporarily and periodically generate noise that exceeds the significance threshold levels at the sensitive receivers near the Project site.	CEQA: Significant impact	**MM NOI-1** measures were implemented during Phase I construction	CEQA**: Significant impact**
		NEPA: Not applicable	Mitigation not required	NEPA: Not applicable
	NOI-2: No construction activities would occur during prohibited hours.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: Not applicable	Mitigation not required	NEPA: Not applicable
	NOI-3: Operations would generate noise levels that exceed significance thresholds at sensitive receivers near the Project site.	CEQA: No significant impact	Mitigation not required	CEQA: No significant impact
		NEPA: Not applicable	Mitigation not required	NEPA: Not applicable

Table 3.11-59. Summary Matrix of Potential Impacts and Mitigation Measures for Noise with the Proposed Project and Alternatives (continued)

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Residual Impacts after Mitigation
3.11 Noise (continued)				
Alternative 2 (No Federal Action)	**NOI-1:** Construction activities would temporarily and periodically generate noise that exceeds the significance threshold levels at the sensitive receivers near the Project site.	CEQA: Significant impact NEPA: No impact	**MM NOI-1** Mitigation not required	CEQA: Significant impact NEPA: No impact
	NOI-2: No construction activities would occur during prohibited hours.	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
	NOI-3: Operations would not generate noise levels that exceed significance thresholds at sensitive receivers.	CEQA: No significant impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No significant impact NEPA: No impact
Alternative 3 (Reduced Fill: No New Wharf Construction at Berth 102)	**NOI-1:** Construction activities would temporarily and periodically generate noise that exceeds the significance threshold levels at the sensitive receivers near the Project site.	CEQA: Significant impact NEPA: Significant impact	**MM NOI-1** **MM NOI-1**	CEQA**: Significant impact after mitigation** NEPA**: Significant impact after mitigation**
	NOI-2: No construction activities would occur during prohibited hours.	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
	NOI-3: Operations would generate noise levels that exceed significance thresholds at sensitive receivers near the Project site.	CEQA: Significant impact NEPA: No significant impact	**MM NOI-2** Mitigation not required	CEQA**: Significant** NEPA**: Significant**
Alternative 4 (Reduced Fill: No South Wharf Extension at Berth 100)	**NOI-1:** Construction activities would temporarily and periodically generate noise that exceeds the significance threshold levels at the sensitive receivers near the Project site.	CEQA: Significant impact NEPA: Significant impact	**MM NOI-1** **MM NOI-1**	CEQA**: Significant impact** NEPA**: Significant impact**
	NOI-2: No construction activities would occur during prohibited hours.	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
	NOI-3: Operations would generate noise levels that exceed significance thresholds at sensitive receivers near the Project site.	CEQA: Significant impact NEPA: Significant impact	**MM NOI-2** **MM NOI-2**	CEQA**: Significant** NEPA**: Significant impact**

Table 3.11-59. Summary Matrix of Potential Impacts and Mitigation Measures for Noise with the Proposed Project and Alternatives (continued)

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Residual Impacts after Mitigation
3.11 Noise (continued)				
Alternative 5 Reduced Construction and Operation: Phase I Construction Only	**NOI-1:** Construction activities would temporarily and periodically generate noise that exceeds the significance threshold levels at the sensitive receivers near the Project site.	CEQA: Significant impact NEPA: Significant impact	**MM NOI-1** **MM NOI-1**	CEQA**: Significant impact** NEPA**: Significant impact**
	NOI-2: No construction activities would occur during prohibited hours.	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
	NOI-3: Operations would generate noise levels that exceed significance thresholds at sensitive receivers near the Project site.	CEQA: Significant impact NEPA: No significant impact	**MM NOI-2** Mitigation not required	CEQA**: Significant impact** NEPA**: Significant impact**
Alternative 6 Omni Cargo Terminal	**NOI-1:** Construction activities would temporarily and periodically generate noise that exceeds the significance threshold levels at the sensitive receivers near the Project site.	CEQA: Significant impact NEPA: Significant impact	**MM NOI-1** **MM NOI-1**	CEQA**: Significant impact** NEPA**: Significant impact**
	NOI-2: No construction activities would occur during prohibited hours.	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
	NOI-3: Operations would generate noise levels that exceed significance thresholds at sensitive receivers near the Project site.	CEQA: Significant impact NEPA: No significant impact	**MM NOI-2** Mitigation not required	CEQA**: Significant impact** NEPA**: Significant impact**
Alternative 7 Nonshipping Use	**NOI-1:** Construction activities would temporarily and periodically generate noise that exceeds the significance threshold levels at the sensitive receivers near the Project site.	CEQA: Significant impact NEPA: Significant impact	**MM NOI-1** **MM NOI-1**	CEQA**: Significant impact** NEPA**: Significant impact**
	NOI-2: No construction activities would occur during prohibited hours.	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
	NOI-3: Operations would generate noise levels that exceed significance thresholds at sensitive receivers near the Project site.	CEQA: Significant impact NEPA: No significant impact	**MM NOI-2** Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

Note:

*Unless otherwise noted, all impact descriptions for each of the Alternatives are the same as those described for the proposed Project.

3.11.5 Mitigation Monitoring

The mitigation monitoring program below is applicable to the proposed Project and all alternatives.

NOI-1: Construction activities would temporarily and periodically generate noise that exceeds the significance threshold levels at the sensitive receivers near the Project site.	
Mitigation Measure	**MM NOI-1:** a) Construction Hours. Limit construction hours. b) Construction Days. Do no conduct noise-generating construction activities on weekends or holidays unless critical c) Temporary Noise Barriers. Should be located between noise-generating construction activities and sensitive receivers. d) Properly muffle and maintain all construction equipment powered by internal combustion engines. e) Idling Prohibitions. Prohibit unnecessary idling of internal combustion engines near noise-sensitive areas. f) Equipment Location. Locate all stationary noise-generating g) Quiet Equipment Selection. Select quiet construction equipment whenever possible. Comply with City of Los Angeles Noise Ordinance. h) Notification. Notify residents adjacent to the proposed Project site of the construction schedule in writing. i) IHC Hydrohammer. The contractor shall use an IHC Hydrohammer pile driver or equivalent when constructing the berths. j) Reporting. The Port shall clearly post the telephone number where complaints regarding construction-related disturbance can be reported.
Timing	During Construction
Methodology	The contractor shall determine necessary height and length of barriers based on field conditions. Prior to Notice to Proceed, contractor shall submit an Environmental/Noise Compliance Plan to the LAHD construction manager for review and approval by LAHD and the Environmental Management Division.
Responsible Parties	LAHD
Residual Impacts	Significant and Unavoidable
NOI-3 Operations would generate noise levels that exceed significance thresholds at sensitive receivers near the Project site.	
Mitigation Measure	**MM NOI-2:** Mitigation measures to reduce operational impacts would include installation of noise walls at the project site or residential property lines, if feasible, and/or soundproofing of impacted noise-sensitive structures.
Timing	During Operation
Methodology	The Port would undertake noise monitoring at these residences after China Shipping is operational to determine the actual noise impact and then tailor specific mitigation measures.
Responsible Parties	LAHD
Residual Impacts	Significant and Unavoidable

3.11.6 Significant Unavoidable Impacts

Impacts NOI-1 and NOI-3 remain significant and unavoidable for the proposed Project and all Alternatives.

There would be a significant unavoidable short-term noise impact during the approximately 3-year construction period of the backlands areas to the Front Street and Knoll Hill areas.

For operational noise, prior to **MM NOI-2**, impacts would be significant. Mitigation measure **MM NOI-2** would utilize noise barriers at the project site or at residential property lines, and/or sound proofing at noise-sensitive structures, if feasible. However, because the feasibility of implementing noise mitigation is uncertain, significant unavoidable noise impact would remain.