

# 3.10

## NOISE

### 3.10.1 Introduction

This section includes a detailed discussion of the existing noise environment and an evaluation of the potential Project-related noise impacts associated with the construction and operation of the proposed Project and its alternatives. Potential impacts are evaluated based on the level of significance of the noise exposure (described below) and potential mitigation measures are identified where feasible.

Background noise levels described within this section are derived from a study prepared by Air & Noise Logic, Inc. in May 2006 (Air & Noise Logic, Inc. 2006) and from additional field noise measurements conducted by Illingworth & Rodkin in March 2008. The March 2008 measurements are included in Appendix P. The noise studies determined baseline noise levels in the residential areas potentially affected by Project activity. The baseline study locations and measured sound levels are identified in Section 3.10.2.

In addition, an analysis of potential impacts of vibration during construction is included in Section 3.10.4.3.

[This section focuses on existing noise levels and impacts of the proposed Project and its alternatives on humans and noise-sensitive land uses. The primary discussion of noise conditions and impacts on the California least tern and other non-human species is in Section 3.3, Biological Resources, and cross-referenced here. Underwater noise conditions and impacts of the proposed Project and its alternatives are also addressed in Section 3.3.](#)

### 3.10.2 Environmental Setting

### 3.10.3 Applicable Regulations

**City of Los Angeles Municipal Code.** Noise regulations applicable to activities in the Port are contained in the City of Los Angeles Municipal Code. Section 41.40 of the

1 code establishes times when construction work cannot be performed. The Municipal  
2 Code section states the following:

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

14 Chapter 11 of the City of Los Angeles Municipal Code sets forth noise regulations. The  
15 applicable section regarding construction noise is Section 112.05, which establishes  
16 maximum noise levels for powered equipment or powered hand tools. This section  
17 states:

18 *Between the hours of 7:00 ~~P.M.A.M.~~ and 10:00 ~~A.M.P.M.~~ in any residential zone*  
19 *of the City or within 500 ft thereof, no person shall operate or cause to be*  
20 *operated any powered equipment or powered hand tool that produces a*  
21 *maximum noise level exceeding the following noise limits at a distance of 50 ft*  
22 *there from (a) 75 dB(A) for construction, industrial and agricultural machinery*  
23 *including crawler tractors, dozers, rotary drills and augers, loaders, power*  
24 *shovels, cranes, derricks, motor graders, paving machines, off-highway trucks,*  
25 *ditchers, trenchers, compactors, scrapers, wagons, pavement breakers,*  
26 *depressors, and pneumatic or other powered equipment; (b) 75 dB(A) for*  
27 *powered equipment of 20 horsepower or less intended for infrequent use in*  
28 *residential areas including chain saws, log chippers, and powered hand tools;*  
29 *and (c) 65 dB(A) for powered equipment intended for repetitive use in*  
30 *residential areas including lawn mowers, backpack mowers, small lawn and*  
31 *garden tools, and riding tractors.*

32 *The noise limits for a particular equipment listed above in (a), (b), and (c) shall*  
33 *be deemed to be superseded and replaced by noise limits for such equipment*  
34 *from and after their establishment by final regulations adopted by the Federal*  
35 *Environmental Protection Agency and published in the Federal Register.*

36 *Said noise limitations shall not apply where compliance therewith is technically*  
37 *infeasible. The burden of proving that compliance is technically infeasible shall*  
38 *be upon the person or persons charged with a violation of this section.*  
39 *Technical infeasibility shall mean that said noise limitations cannot be complied*  
40 *with despite the use of mufflers, shields, sound barriers, and/or other noise*  
41 *reduction device and techniques during the operation of the equipment.*

42 **Federal Highway Administration (FHWA) Noise Standards.** The FHWA has  
43 adopted noise standards, regulations, and policies related to traffic noise. The California  
44 Department of Transportation discusses these standards in detail and provides guidance  
45 in the Traffic Noise Analysis Protocol (TNAP). The federal regulations addressing

highway noise are defined in 23 CFR Part 772. These standards are not directly applicable to the proposed Project because this is not a Type 1 federally funded highway improvement project.

**Federal Transit Authority (FTA) Transit Noise and Vibration Impact Assessment.** The FTA includes in its guidance a methodology to evaluate construction noise impacts. This methodology is included in Chapter 12 of the FTA assessment guidance and has been incorporated in this section to evaluate construction noise impacts (Transit Noise and Vibration Impact Assessment, FTA, May 2006).

## 3.10.4 Impacts and Mitigations

### 3.10.4.3 Project Impacts and Mitigation

#### 3.10.4.3.1 Proposed Project

##### 3.10.4.3.1.1 Construction Impacts

**Impact NOI-1: Construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dB(A) or more at a noise-sensitive use.**

Construction activities would typically last more than 10 days in any 3-month period for all proposed Project components. Following the thresholds of significance, an impact would be considered significant if noise from these activities would cause the existing ambient exterior noise levels to increase by 5 dB(A) or more at a sensitive receptor.

#### **Traffic Noise**

During peak construction there would be 523 construction workers distributed to various sites, as well as trucks delivering building supplies to each site. Trucks would bring supplies and equipment during non-peak hours. Chapter 2 (especially Figure 2-12 and Table 2-8) and Section 3.6 (especially Table 3.6-4) provide additional detail about the distribution of these trips. In all locations, these construction worker based vehicle trips represent a small fraction (1 to 10 percent) of the AM and PM peak hour traffic volumes in the Project area. This small fraction of vehicles compared to the overall traffic in the Project area would not result in a noticeable increase in noise levels. (A doubling of traffic would be required for a minimally audible 3 dB(A) increase in noise to occur.) Therefore, traffic generated from construction worker trips would be considered a less than significant impact.

#### **Pipeline Construction Noise**

To assess pipeline construction noise exposure at the nearest sensitive locations, a composite of the noise level data for construction equipment was used to model resulting noise levels at identified noise-sensitive receptors, taking into consideration the effects of distance attenuation. For general construction equipment, a combined level of 91 dB(A) at 50 feet was used as the source noise level consistent with the FHWA model recommendations. For pipeline boring, a noise level of 92 dB(A) at 50 feet was used based on information provided by the applicant (see Table 3.10-6). Using the FHWA equation which calculates  $L_{eq}$  based on reference source noise levels, the four most

1 sensitive receptor locations (defined as residential locations closest to project noise  
 2 sources) were assessed for potential impacts. Table 3.10-7 provides a summary of the  
 3 ambient versus construction noise impacts estimated for the four sensitive receptors from  
 4 pipeline construction. The table is based on the logarithmic averages of ambient noise  
 5 levels without any adjustment for time of day. The time of day is indicated in column 3.  
 6 Consistent with measures committed to for the project, construction would occur only  
 7 between 7:00 AM and 6:00 PM, so the actual measurement times for two receptors do  
 8 not coincide with periods when construction would occur. As a review of Table 3.10-7  
 9 indicates, the potential for noise impacts is above the 5 dB criterion at Areas 1 and 2, but  
 10 well below that at Areas 21 and LR-2. Nevertheless, the impact of pipeline construction  
 11 noise would be considered significant at Areas 1 and 2.

**Table 3.10-7. Estimated Pipeline Construction-Related Noise Impacts on Most Sensitive Receptors**

<i>Area # in Figure 3.10-1</i>	<i>Location</i>	<i>Time of Day</i>	<i>Calculated (<math>L_{eq}</math>)</i>	<i>Total Construction Noise</i>	<i>Total Ambient + Construction</i>	<i>Increase over Existing</i>
1	Berth 204	9:42 pm 9:57 pm	53	59	60	7
2	Lighthouse Yacht Landing	10:07 pm 10:22 pm	52	58	59	7
21	Stephen White Street & Oliver Vickery Circle Way	3:30 pm 3:45 pm	54	42	54	<1
LR-2	Reservation Point	4:45 pm 5:00 pm	54	42	54	<1

**Marine Terminal Construction Noise**

12  
 13 To assess marine terminal construction noise exposure at the nearest sensitive locations,  
 14 the same methods were used as for the above analysis of pipeline construction noise  
 15 impacts, except with a different complement of equipment and recognizing the different  
 16 locus of activity on Pier 400 rather than along the pipeline route. For general  
 17 construction equipment, a combined level of 91 dB(A) at 50 feet was again used as the  
 18 source noise level consistent with the FHWA model recommendations. For pile driving,  
 19 a noise level of 107 dB(A) at 50 feet was used based on the highest level in Table 3.10-5  
 20 and the large size of piles proposed for wharf construction. Table 3.10-8 shows the  
 21 estimated construction-related impacts at the selected sensitive receptors combining  
 22 general construction and pile driving equipment. The noise level is projected to exceed  
 23 ambient levels by more than 5 dB at Area LR-2 (Reservation Point). The noise impact  
 24 from terminal construction is therefore considered significant.

**Table 3.10-8. Estimated Terminal Construction-Related Noise Impacts on Most Sensitive Receptors**

Area # in Figure 3.10-1	Location	Time of Day	Calculated ( $L_{eq}$ )	Total Construction Noise	Total Ambient + Construction	Increase over Existing
1	Berth 204	9:42 pm 9:57 pm	53	51	55	2
2	Lighthouse Yacht Landing	10:07 pm 10:22 pm	52	50	54	2
21	Stephen White Street & Oliver Vickery Circle Way	3:30 pm 3:45 pm	54	56	58	4
LR-2	Reservation Point	4:45 pm 5:00 pm	54	65	65	11

1 In the above tables, projected increases in noise at the closest locations to construction  
 2 are considered significant (equal to or greater than 5 dB) as compared to ambient  
 3 average noise levels. Areas 1 (Berth 204) and 2 (Lighthouse Yacht Landing) are  
 4 marinas with liveaboard slips in the Port. These areas are relatively near pipeline  
 5 construction and could also experience audible noise from pile driving in addition to  
 6 pipeline construction.

7 Area LR-2 (Reservation Point) is immediately adjacent and across water from the Pier  
 8 400 construction site. It is also the closest residential receptor to the terminal  
 9 construction. Reservation Point is very near port operations including the other  
 10 terminals on Pier 400 and Pier 300 as well as adjacent to the Main Channel in the Port.  
 11 Harbor noise is therefore a part of the noise environment at Reservation Point.  
 12 Nevertheless, the 11 dB increase in ambient noise would be significant and unavoidable.

13 The above analyses are based on a comparison of short term averaged noise equivalent  
 14 levels. Instantaneous peaks in construction noise would unquestionably be audible at all  
 15 sensitive receptors, especially during pile driving, from time to time. The noise would  
 16 be intermittent, since pile driving typically involves short periods of driving interspersed  
 17 with longer periods of adjustment, alignment, or relocating equipment from one driving  
 18 location to another. Therefore, the average noise level, though indicative of the overall  
 19 effect of the noise on the auditory environment, may not reflect the typical individual's  
 20 perception of the noise as intrusive or annoying. On the basis of the likely perception of  
 21 some individuals that pile driving noise is intrusive or annoying, the impact of  
 22 construction noise is considered potentially significant.

**Potential Health Impacts**

23  
 24 Acute exposures to noise levels above 120 dB(A) are not expected to occur from  
 25 construction of the proposed Project and the health effects of acute exposure would  
 26 therefore be less than significant. The highest calculated noise exposure level at  
 27 sensitive receptors from construction activities would be below the 70 dB(A) exposure  
 28 level that may result in chronic health effects. Furthermore, this exposure would be short  
 29 term during pile driving only and would therefore not qualify as a chronic exposure.  
 30 Therefore, the potential adverse chronic health effects of noise exposure from proposed  
 31 Project construction would be less than significant.

1                    **CEQA Impact Determination**

2                    Construction of the proposed Project is projected to result in ambient average noise  
3                    increases of 5dB(A) or greater at sensitive receptors as identified in Tables 3.10-7 and  
4                    3.10-8. In addition, noise from pile driving would be audible and may be perceived as  
5                    intrusive or annoying by some individuals, even with mitigation required in the 1992  
6                    Deep Draft FEIS/FEIR. Therefore, under CEQA **Impact NOI-1** would be significant.

7                    *Mitigation Measures*

8                    **MM 4H-1, MM 4H-2, and MM 4H-3** from the Deep Draft FEIS/FEIR would apply to  
9                    reduce the significant impacts to noise receptors during construction:

10                  **MM 4H-1:** contractors shall utilize the quietest equipment available, and all internal  
11                  combustion powered equipment shall be equipped with properly operating mufflers and  
12                  kept in tune to avoid backfires. In addition, if exposed, engines are to be fitted with  
13                  protective shrouds to reduce motor noise.

14                  **MM 4H-2:** if ample local grid power is available, electricity would be obtained from the  
15                  local power grid to avoid the use of portable generators.

16                  **MM 4H-3:** a disturbance coordinator will be designated for responding to noise  
17                  complaints, with his/her name and telephone number to be clearly posted at the  
18                  construction site.

19                  In addition, three mitigation measures were developed specifically for this ~~Draft~~  
20                  SEIS/SEIR:

21                  **MM NOISE-1: Noise Reduction during Pile Driving. ~~Selection of Contractor For~~  
22                  ~~Pile Driving With Consideration of Noise Reduction.~~ The selection of the contractor  
23                  ~~for pile driving would include consideration of the pile drivers to be employed, sound~~  
24                  ~~abatement techniques to be used, and the predicted resulting sound pressure levels~~  
25                  ~~produced for the different types and sizes of piles to be placed.~~**

26                  The contractor shall be required to use sound abatement techniques to reduce both noise  
27                  and vibrations from pile driving activities. Sound abatement techniques shall include, but  
28                  are not limited to, vibration or hydraulic insertion techniques, drilled or augured holes  
29                  for cast-in-place piles, bubble curtain technology, and sound aprons where feasible. At  
30                  the initiation of each pile driving event, the pile driving shall also employ a “soft-start”  
31                  in which the hammer is operated at less than full capacity (i.e., approximately 40–60%  
32                  energy levels) with no less than a 1-minute interval between each strike for a 5-minute  
33                  period.

34                  In addition, a qualified biologist shall be required to monitor the area in the vicinity of  
35                  pile driving activities for any fish kills during pile driving. If there are any reported fish  
36                  kills, pile driving shall be halted and the USACE and NMFS shall be notified via the  
37                  Port’s Environmental Management Division. The biological monitor shall also note  
38                  (surface scan only) whether marine mammals are present within 100 meters of the pile  
39                  driving, and if any are observed, temporarily halt pile driving until the observed  
40                  mammals move beyond this distance.

1 Vibratory hammers are best suited for sandy soils and are least suited for stiff (i.e.,  
2 strong) clays. The substrate where piles would be driven for Berth 408 consists of stiff  
3 to hard clays and occasional thin layers (about 2 to 4 feet) of rock. Vibratory hammers  
4 are expected to meet refusal well ahead of the desired pile depths for the pile size used  
5 and anticipated loads. In regards to monitoring pile driving activities, monitoring  
6 underwater noise is complex and costly. The Port and USACE understand that NMFS is  
7 pursuing a comprehensive study to evaluate noise levels and their effects on fish and  
8 marine mammals, which could include addressing this issue at a Port-wide level; the  
9 Port of Los Angeles is interested in working with NMFS and other interested agencies  
10 on such a study.

11 (Note that MM NOISE-1 is identical to MM BIO-1.1k as described in Section 3.3,  
12 Biological Resources. Most of the elements of this mitigation measure would serve to  
13 reduce impacts from the underwater noise effects of pile driving but would have limited  
14 benefit with respect to impacts on humans or sensitive land uses.)

15 **MM NOISE-2: Restricted Hours for Pile Driving.** In order to reduce the potential  
16 impact during construction, pile driving activities at Pier 400 would be limited to  
17 between the hours of 9:00 A.M and 5:00 P.M. on Monday-Friday and 10:00 A.M. to  
18 4:00 P.M. Saturday.

19 **MM NOISE-3: Erect Temporary Noise Attenuation Barriers Adjacent to**  
20 **Stationary Construction Equipment Directly Between the Equipment and Sensitive**  
21 **Receptors, Where Necessary and Feasible.** Construction equipment that will be  
22 stationary for extended periods (pipeline boring machinery, compressors, generators,  
23 etc.) can be shielded by erection of temporary noise attenuation barriers. The barriers  
24 should be installed directly between the equipment and the nearest noise sensitive use to  
25 the construction site. The need for and feasibility of noise attenuation barriers should be  
26 evaluated on a case-by-case basis considering the distance to noise sensitive receptors,  
27 the available space at the construction location, and taking account of safety and  
28 operational considerations. Noise attenuation barriers suitable for pile driving  
29 equipment should be considered using the same criteria.

### 30 *Residual Impacts*

31 Mitigation measures are not expected to reduce residual construction impacts of **Impact**  
32 **NOI-1** under CEQA to less than significant and are therefore considered to be  
33 significant and unavoidable. While noise attenuation measures may be applicable and  
34 are likely to reduce sound levels from construction, functional constraints and  
35 uncertainties as to the effectiveness of available measures or the availability of  
36 equipment with lower noise emissions may limit the effectiveness of mitigation such that  
37 impacts cannot be reduced to less than significant levels. In addition, even with noise  
38 attenuation devices, the noise of pile driving would be audible and may be perceived as  
39 intrusive or annoying by some individuals. Therefore, residual impacts of pile driving  
40 during construction are considered significant and unavoidable. However, given the  
41 limited duration of construction activities, the impact would be short term and there  
42 would be no long term residual impact.

1                                    **NEPA Impact Determination**

2                                    Construction of the proposed Project is projected to result in ambient average noise  
3                                    increases of 5dB(A) or greater at one sensitive receptor as identified in Tables 3.10-7 and  
4                                    3.10-8. In addition, noise from pile driving would be audible and may be perceived as  
5                                    intrusive or annoying by some individuals, even with mitigation required in the 1992 Deep  
6                                    Draft FEIS/FEIR. Therefore, under NEPA **Impact NOI-1** would be considered  
7                                    significant

8                                    *Mitigation Measures*

9                                    **MM 4H-1, MM 4H-2, and MM 4H-3** from the Deep Draft FEIS/FEIR would apply to  
10                                    reduce the significant impacts to noise receptors during construction. In addition, **MM**  
11                                    **NOISE-1, MM NOISE-2, and MM NOISE-3** would apply, as detailed above.

12                                    *Residual Impacts*

13                                    Mitigation measures are not expected to reduce residual construction impacts of **Impact**  
14                                    **NOI-1** under NEPA to less than significant and are therefore considered to be significant  
15                                    and unavoidable. While noise attenuation measures may be applicable and are likely to  
16                                    reduce sound levels, operational constraints and uncertainties as to the effectiveness of  
17                                    available measures or the availability of equipment with lower noise emissions may limit  
18                                    the effectiveness of mitigation such that impacts cannot be reduced to less than significant  
19                                    levels. In addition, even with noise attenuation devices, the noise of pile driving may be  
20                                    perceived as intrusive or annoying by some individuals. Therefore, residual impacts of  
21                                    pile driving during construction are considered significant and unavoidable. However,  
22                                    given the limited duration of construction activities, the impact would be short term and  
23                                    there would be no long term residual impact.

24                                    ***Vibration***

25                                    In addition to the above analysis of the effects of noise on sensitive receptors, a screening  
26                                    level analysis to assess the potential impacts of vibration from pile driving was completed.  
27                                    Pile driving during construction creates two potential environmental issues. One is the  
28                                    airborne noise created by the operation of the pile driver and its impact on the pile being  
29                                    driven (analyzed above). The other is due to vibration transmitted through the earth which  
30                                    results from the impact from the pile driver, and is transmitted through the pile to the sub-  
31                                    surface strata. The vibration is then transmitted through the earth. This vibration can,  
32                                    under some circumstances, damage structures and create annoyance to surrounding  
33                                    population. The potential effects of vibration are discussed below in relation to the  
34                                    proposed project.

35                                    ***Structural Damage***

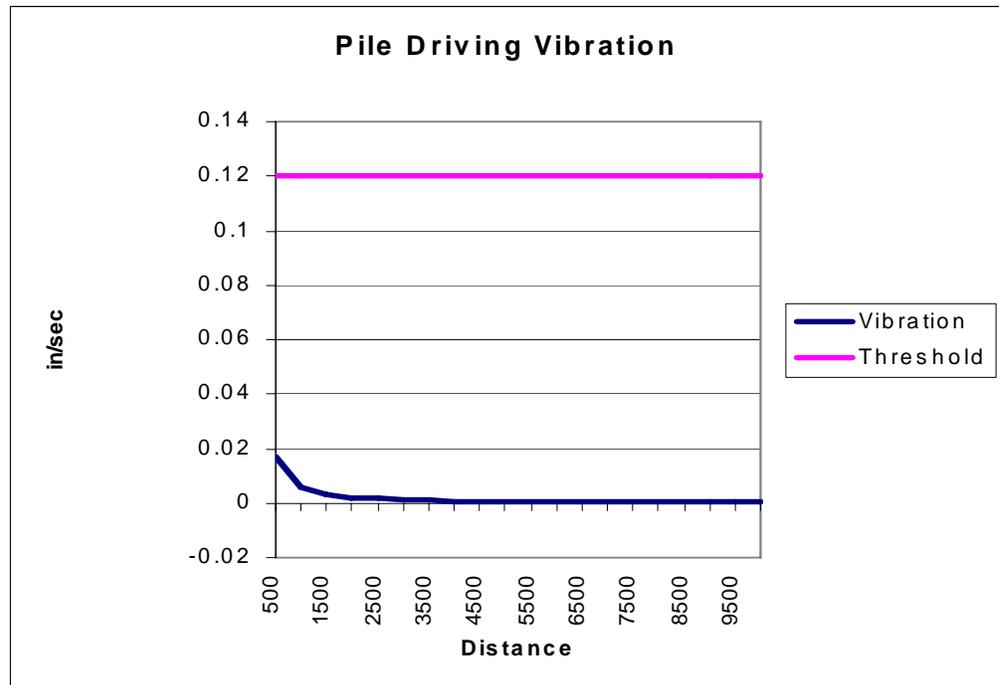
36                                    The potential for vibration-induced structural damage is assessed by Building Categories.  
37                                    These are:

- 38                                    • I. Reinforced-concrete, steel or timber (no plaster).  
39                                    • II. Engineered concrete and masonry (no plaster).

- III. Non-engineered timber and masonry buildings.
- IV. Buildings extremely susceptible to vibration damage.

Figure 3.10-2 plots the vibration levels associated with pile driving, and compares them with the threshold level associated with Building Category IV, the type of structure most susceptible to structural damage.

**Figure 3.10-2: Potential For Structural Damage**



Source: DOT 2006

As shown in Figure 3.10-2, the vibration resulting from pile driving is well below the threshold for even the most sensitive structure (0.12 in/sec). All other thresholds range from 0.2 in/sec to 0.5 in/sec. Therefore, the potential structural effects of vibration from pile driving would be less than significant.

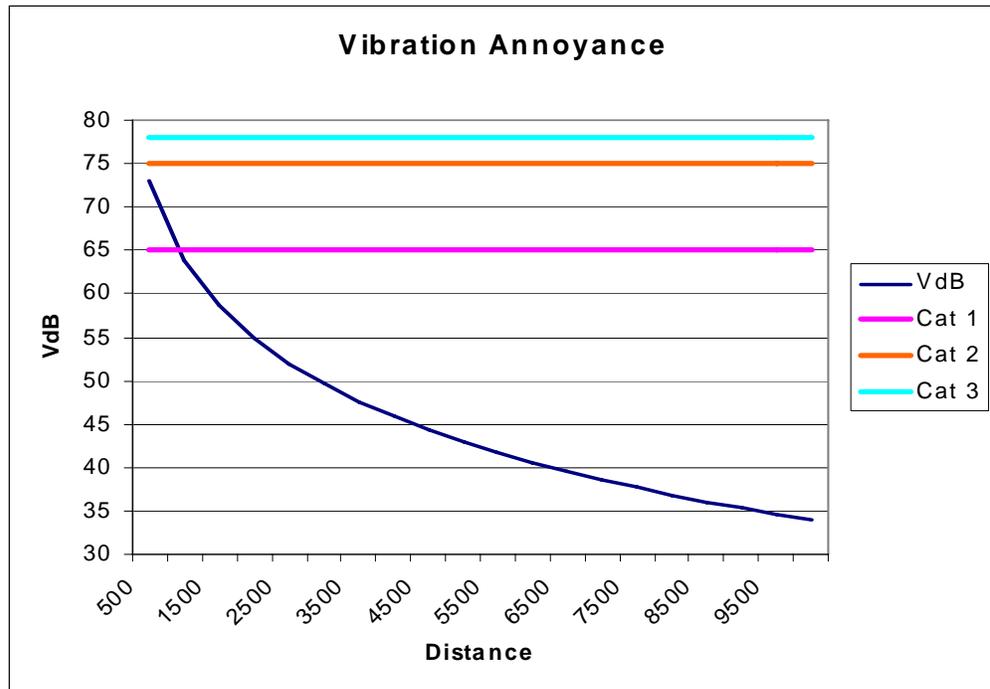
### **Annoyance**

A second consideration of vibration effects concerns public annoyance. Thresholds for annoyance are based on categories of land use. These are

- Category 1. Buildings where vibration would interfere with interior operations.
- Category 2. Residences and buildings where people normally sleep
- Category 3. Institutional land uses with primarily daytime use.

Figure 3.10-3 shows vibration levels at a range of separation distances, and compares these levels with thresholds for each of the land use categories.

**Figure 3.10-3. Annoyance From Vibration**



Source: DOT 2006

1 As indicated in Figure 3.10-3, there is some potential for annoyance in Category 1 land  
 2 use areas, should the pile driver be within 1,000 to 1,500 feet of the area. However, for  
 3 this project, Category 1 land uses are located well beyond that range. Therefore, impacts  
 4 from vibration during pile driving would be less than significant.

#### 5 **3.10.4.4 Mitigation Monitoring**

6 Significant impacts have the potential to occur during proposed Project construction  
 7 (**Impact NOI-1**). The following measures would be incorporated into contract  
 8 specifications to ensure noise-related impacts are minimized to the greatest extent  
 9 feasible.

1  
2

**Mitigation Measures from the 1992 Deep Draft Final EIS/EIR that are Applicable to the Proposed Project:**

<b>Impact NOI-1: Construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dB(A) or more at a noise-sensitive use.</b>	
<b>MM 4H-1: Use of Proper Construction Equipment to Reduce Noise.</b>	
Measure	The construction contractors shall utilize the quietest equipment available, and all internal combustion powered equipment shall be equipped with properly operating mufflers and kept in tune to avoid backfires. In addition, engines, if exposed, are to be fitted with protective shrouds to reduce motor noise.
Timing	During proposed Project construction.
Methodology	The construction contractor shall ensure that the quietest construction equipment available shall be used and that exposed engines shall be fitted with protective shrouds to reduce motor noise. The LAHD shall perform periodic inspections to ensure that this mitigation measure is being followed.
Responsible Parties	Construction contractor; LAHD.
<b>MM 4H-2: Reduce Use of Portable Generators.</b>	
Measure	Where feasible, electricity shall be obtained from the local power grid to avoid the use of portable generators.
Timing	During proposed Project construction.
Methodology	The construction contractor shall use electricity, where feasible, rather than portable generators. LAHD shall perform periodic inspections to ensure that the contractor has complied, where feasible.
Responsible Parties	Construction contractor; LAHD.
<b>MM 4H-3: Coordinate Responses to Noise Complaints.</b>	
Measure	Provide for designation of a disturbance coordinator for responding to noise complaints, with his/her name and telephone number to be clearly posted at the construction site.
Timing	During proposed Project construction.
Methodology	The construction contractor shall designate a disturbance coordinator to respond to noise complaints. Noise complaints shall be responded to within 24 hours of complaint.
Responsible Parties	Construction contractor.

1  
2

**Mitigation Measures Developed in this ~~Draft~~ SEIS/SEIR Specific to the Proposed Project:**

<b>Impact NOI-1: Construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dB(A) or more at a noise-sensitive use.</b>	
<b>MM NOISE-1: <u>Noise Reduction during Pile Driving.</u> <del>Selection of Contractor For Pile Driving With Consideration of Reduced Noise.</del></b>	
Measure	<p><u>The contractor shall be required to use sound abatement techniques to reduce both noise and vibrations from pile driving activities. Sound abatement techniques shall include, but are not limited to, vibration or hydraulic insertion techniques, drilled or augured holes for cast-in-place piles, bubble curtain technology, and sound aprons where feasible. At the initiation of each pile driving event, the pile driving shall also employ a “soft-start” in which the hammer is operated at less than full capacity (i.e., approximately 40–60% energy levels) with no less than a 1-minute interval between each strike for a 5-minute period.</u></p> <p><u>In addition, a qualified biologist shall be required to monitor the area in the vicinity of pile driving activities for any fish kills during pile driving. If there are any reported fish kills, pile driving shall be halted and the USACE and NMFS shall be notified via the Port’s Environmental Management Division. The biological monitor shall also note (surface scan only) whether marine mammals are present within 100 meters of the pile driving, and if any are observed, temporarily halt pile driving until the observed mammals move beyond this distance.</u></p> <p><del>Selection of contractor for pile driving would take into consideration methods for reducing the associated noise. Contractor would provide noise data on equipment to be used and proposed methods to reduce the noise generated. These may include pile driver type, special modifications such as sound insulation as well as sound barriers.</del></p>
Timing	During the bid process and during construction.
Methodology	The construction contractor shall ensure that the proposed pile driving equipment and measures are used during construction. The LAHD shall evaluate the contractor proposals with regard to reducing pile driving noise. The LAHD would subsequently perform periodic inspections to ensure that the approved equipment and methods are being <del>followed and to monitor the noise levels for compliance with the proposed noise levels</del> <u>used.</u>
Responsible Parties	Construction contractor; LAHD.
<b>MM NOISE-2: Restricted Hours for Pile Driving.</b>	
Measure	Pile driving to be limited to between 9 AM and 5 PM, Monday through Friday and from 10 AM to 4 PM on Saturdays.
Timing	During proposed Project construction.
Methodology	The contractor will limit pile driving activity to the hours indicated above; LAHD shall monitor for compliance.
Responsible Parties	Construction contractor; LAHD.
<b>MM NOISE-3: Temporary Noise Attenuation Barriers.</b>	
Measure	Construction equipment that will be stationary for extended periods (pipeline boring machinery, compressors, generators, etc.) can be shielded by erection of temporary noise attenuation barriers. The barriers should be installed directly between the equipment and the nearest noise sensitive use to the construction site. The need for and feasibility of noise attenuation barriers should be evaluated on a case-by-case basis considering the distance to noise sensitive receptors, the available space at the construction location, and taking account of safety and operational considerations. Noise attenuation barriers suitable for pile driving equipment should be considered using the same criteria.
Timing	During proposed Project construction.
Methodology	The contractor should install noise attenuation barriers, where feasible according to the above criteria in consultation with the LAHD and shall be monitored for compliance by the LAHD.
Responsible Parties	Construction contractor; LAHD.

1  
2**Standard Controls, in Accordance with the 1992 Deep Draft Final EIS/EIR Mitigation Measures:**

<i>A. Construction Hours.</i>	
Measure	Construction would be limited to the hours of 7:00 A.M. to 6:00 P.M. on weekdays, between 8:00 A.M. and 6:00 P.M. on Saturdays, and construction equipment noise would be prohibited anytime on Sundays and holidays
Timing	During construction
Methodology	Contractor will limit construction to the specified hours on the specified days.
Responsible Parties	Construction contractor; LAHD
<i>B. Construction Days.</i>	
Measure	Noise-generating construction activities would not be conducted on weekends or holidays.
Timing	During construction
Methodology	Contractor will limit construction to the specified days.
Responsible Parties	Construction contractor; LAHD
<i>C. Construction Equipment.</i>	
Measure	All construction equipment powered by internal combustion engines would be properly muffled and maintained.
Timing	During construction
Methodology	Contractor will only use internal combustion engines with proper mufflers and will maintain them according to manufacturer's specifications
Responsible Parties	Construction contractor; LAHD
<i>D. Idling Prohibitions.</i>	
Measure	Unnecessary idling of internal combustion engines near noise-sensitive areas would be prohibited.
Timing	During construction
Methodology	Contractor will ensure that equipment with internal combustion engines is shut off and not allowed to idle near sensitive areas.
Responsible Parties	Construction contractor; LAHD
<i>E. Equipment Location.</i>	
Measure	All stationary noise-generating construction equipment, such as air compressors and portable power generators, would be located as far as practical from existing noise-sensitive land uses.
Timing	During construction
Methodology	Contractor will ensure that noise-generating stationary construction equipment will be located as far as practical from sensitive areas.
Responsible Parties	Construction contractor; LAHD
<i>F. Quiet Equipment Selection.</i>	
Measure	Quiet construction equipment would be selected, whenever possible. Noise limits for construction equipment established in the City of Los Angeles Noise Ordinance would be met, where feasible.
Timing	During construction
Methodology	Contractor will only use the quietest feasible construction equipment and ensure that the City of Los Angeles Noise Ordinance would be met, where feasible.
Responsible Parties	Construction contractor; LAHD
<i>G. Notification.</i>	
Measure	Residents adjacent to the proposed Project sites would be notified, in writing, of the construction schedule.
Timing	During construction
Methodology	Contractor will notify adjacent residents, in writing, of the construction schedule prior to the commencement of construction.
Responsible Parties	Construction contractor; LAHD

**Table 3.10-14. Summary Matrix of Potential Impacts and Mitigation Measures for Noise Associated with the Proposed Project and Alternatives**

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
<b>3.10 Noise</b>				
Proposed Project	<b>NOI-1:</b> Construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dB(A) or more at a noise-sensitive use.	CEQA: <b>Significant</b> impact  NEPA: <b>Significant</b> impact	<b>MM 4H-1:</b> Use of Proper Construction Equipment to Reduce Noise <b>MM 4H-2:</b> Reduce Use of Portable Generators <b>MM 4H-3:</b> Coordinate Responses to Noise Complaints <b>MM NOISE-1:</b> <del>Noise Reduction During Selection of Contractor For</del> Pile Driving <del>With Consideration of Noise Reduction</del> <b>MM NOISE-2:</b> Restricted Hours for Pile Driving <b>MM NOISE-3:</b> Temporary Noise Attenuation Barriers <b>MM 4H-1</b> <b>MM 4H-2</b> <b>MM 4H-3</b> <b>MM NOISE-1</b> <b>MM NOISE-2</b> <b>MM NOISE-3</b>	CEQA: <b>Significant</b> and unavoidable impact  NEPA: <b>Significant</b> and unavoidable impact
	<b>NOI-2:</b> Proposed Project construction activities would not exceed the ambient noise level by 5 dB(A), as defined by City thresholds, 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.	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
	<b>NOI-3:</b> Proposed Project operations would not cause the ambient noise level measured at the property line of Pier 400 Faces C and D Tank Farm Site 1, the Tank Farm Site 2 on Terminal Island, or the pipeline route to increase by 3 dB(A) in CNEL to or within the “normally unacceptable” or “clearly unacceptable” category, or any 5 dB(A) or greater noise increase, as defined in Table 3.10-4.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required  Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

**Table 3.10-14. Summary Matrix of Potential Impacts and Mitigation Measures for Noise  
Associated with the Proposed Project and Alternatives (continued)**

<i>Alternative</i>	<i>Environmental Impacts</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
<b>3.10 Noise (continued)</b>				
No Federal Action/No Project Alternative	<b>NOI-1:</b> Construction activities lasting more than 10 days in a 3-month period would not exceed existing ambient exterior noise levels by 5 dB(A) or more at a noise-sensitive use.	CEQA: Less than significant impact NEPA: No Impact	Mitigation not required  Mitigation not required	CEQA: Less than significant impact NEPA: No Impact
	<b>NOI-2:</b> No Federal Action/No Project Alternative construction activities would not exceed the ambient noise level by 5 dB(A), as defined by City thresholds, 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.	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
	<b>NOI-3:</b> No Federal Action/No Project Alternative operations would not cause the ambient noise level measured at the property line of Pier 400 to increase by 3 dB(A) in CNEL to or within the “normally unacceptable” or “clearly unacceptable” category, or any 5 dB(A) or greater noise increase, as defined in Table 3.10-4.	CEQA: Less than significant impact NEPA: No impact	Mitigation not required  Mitigation not required	CEQA: Less than significant impact NEPA: No impact

**Table 3.10-14. Summary Matrix of Potential Impacts and Mitigation Measures for Noise Associated with the Proposed Project and Alternatives (continued)**

<i>Alternative</i>	<i>Environmental Impacts</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
<b>3.10 Noise (continued)</b>				
Reduced Project Alternative	<b>NOI-1:</b> Reduced Project construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dB(A) or more at a noise-sensitive use.	CEQA: <b>Significant</b> impact  NEPA: <b>Significant</b> impact	<b>MM 4H-1</b> <b>MM 4H-2</b> <b>MM 4H-3</b> <b>MM NOISE-1</b> <b>MM NOISE-2</b> <b>MM NOISE-3</b> <b>MM 4H-1</b> <b>MM 4H-2</b> <b>MM 4H-3</b> <b>MM NOISE-1</b> <b>MM NOISE-2</b> <b>MM NOISE-3</b>	CEQA: <b>Significant</b> and unavoidable impact  NEPA: <b>Significant</b> and unavoidable impact
Reduced Project Alternative (continued)	<b>NOI-2:</b> Reduced Project construction activities would not exceed the ambient noise level by 5 dB(A), as defined by City thresholds, 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.	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
	<b>NOI-3:</b> Reduced Project operations would not cause the ambient noise level measured at the property line of Pier 400 Faces C and D Tank Farm Site 1, the Tank Farm Site 2 on Terminal Island, or the pipeline route to increase by 3 dB(A) in CNEL to or within the “normally unacceptable” or “clearly unacceptable” category, or any 5 dB(A) or greater noise increase, as defined in Table 3.10-4.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required  Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact