

## 4. ENVIRONMENTAL IMPACT ANALYSIS

### J. NOISE

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#### 1. INTRODUCTION

This section of the EIR analyzes the potential of the proposed project, as well as a conceptual physical development designed pursuant to the proposed legislative and administrative approvals, to result in the following noise-related impacts: generation of noise levels in excess of established standards; generation of excessive groundborne vibration or groundborne noise; substantial temporary or periodic noise increases in the project area; and substantial permanent noise increases in the project area. Noise calculations and data sheets for the proposed project are included in Appendix I of this Draft EIR.

#### 2. ENVIRONMENTAL SETTING

##### a. Noise and Vibration Basics

###### (1) Noise

Noise is usually defined as sound that is undesirable because it interferes with speech/communication and hearing, or is otherwise annoying (unwanted sound). The decibel (dB) is a conventional unit for measuring the amplitude of sound because it accounts for the large variations in sound pressure amplitude and reflects the way people perceive changes in sound amplitude.<sup>1</sup> The human hearing system is not equally sensitive to sound at all frequencies. Therefore, to approximate this human frequency-dependent response, the A-weighted system is used to adjust measured sound levels (dBA). The term “A-weighted” refers to a filtering of the noise signal in a manner corresponding to the way the human ear perceives sound.

People judge the relative magnitude of sound sensation by subjective terms such as “loudness” or “noisiness.” A change in sound level of 3 dB is considered “just perceptible,” a change in sound level of 5 dB is considered “clearly noticeable,” and a change of 10 dB is recognized as “twice as loud.”<sup>2</sup>

Community noise levels usually change continuously during the day. The equivalent sound level ( $L_{eq}$ ) is normally used to describe community noise. The  $L_{eq}$  is the equivalent steady-state A-weighted sound level that would contain the same acoustical energy as the time-varying A-weighted sound level during the same time interval. For intermittent noise sources, the maximum noise level ( $L_{max}$ ) is normally used to represent the maximum noise level measured during the measurement.

To assess noise levels over a given 24-hour time period, the Community Noise Equivalent Level (CNEL) descriptor is used. CNEL is the time average of all A-weighted sound levels for a 24-hour period with a 10-dBA adjustment (upward) added to the sound levels which occur in the nighttime hours (10 P.M. to 7 A.M.) and a 5-dBA adjustment (upward) added to the sound levels which occur in the evening (7 P.M. to 10 P.M.). These penalties attempt to account for increased human sensitivity to noise during the quieter nighttime

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<sup>1</sup> All sound levels, measured in decibel (dB), in this study are relative to  $2 \times 10^{-5} \text{ N/m}^2$ .

<sup>2</sup> *Engineering Noise Control*, Bies & Hansen, 1988.

periods, particularly where sleep is the most probable activity. CNEL has been adopted by the State of California for development of the community noise element of general plans.<sup>3</sup>

## **(2) Ground-Borne Vibration**

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. The response of humans, buildings, and equipment to vibration is more accurately described using velocity or acceleration.<sup>4</sup> Vibration amplitudes are usually described as either peak, as in peak particle velocity (PPV) or root-mean-square (RMS). The peak level represents the maximum instantaneous peak of the vibration signal and the RMS represents the average of the squared amplitude of the vibration signal. In addition, vibrations can be measured in the vertical, horizontal longitudinal, or horizontal transverse directions. Ground vibrations are most often greatest in the vertical direction.<sup>5</sup> Therefore, the analysis of ground-borne vibration associated with the future site development pursuant to the proposed project is addressed in the vertical direction.

### **b. Regulatory Framework**

Many government agencies have established noise regulations and policies to protect citizens from potential hearing damage and various other adverse physiological and social effects associated with noise and ground-borne vibration. The City of Newport Beach has adopted a number of policies, which are based in part on federal and State regulations and are intended to control, minimize or mitigate environmental noise effects. The regulations and policies that are relevant to project construction and operation noise are discussed below.

#### **(1) State Regulations**

##### **(a) California Department of Transportation**

The City of Newport Beach currently does not have any specific policies or guidelines relative to ground-borne vibration. As such, the following is a summary of the California Department of Transportation (Caltrans)'s ground-borne vibration policies and guidelines. With respect to ground-borne vibration from construction activities, Caltrans has adopted guidelines/recommendations to limit ground-borne vibration based on the age and/or condition of the structures that are located in close proximity to construction activity. With respect to residential and commercial structures, Caltrans' technical publication, titled "Transportation- and Construction-Induced Vibration Guidance Manual" (June 2004), provides a vibration damage potential threshold criteria of 0.5 inches per second PPV for older residential structures, 1.0 inch-per-second PPV for newer residential structures, and 2.0 inches per second PPV for modern industrial/commercial buildings. Human perception would range from 0.01 to 0.1 inches per second PPV. The Caltrans' Transportation- and Construction-Induced Vibration Guidance Manual also provides human perception threshold of 0.04 inches per second PPV.

<sup>3</sup> *State of California, General Plan Guidelines, 2002.*

<sup>4</sup> *Federal Transit Authority, Transit Noise and Vibration Impact Assessment, Final Report, page 7-3, April 1995.*

<sup>5</sup> *California Department of Transportation (Caltrans), Transportation Related Earthborne Vibrations, page 4, February 2002.*

**(2) Federal, State, and Local Government Ground-Borne Vibration Standards**

The City of Newport Beach has not adopted policies or guidelines relative to ground-borne vibration. As such, the following is a summary of Federal Transit Administration (FTA) and California Department of Transportation (Caltrans) ground-borne vibration policies and guidelines.

A technical discussion of construction activity-related vibration is provided in Section 12.2 of FTA publication titled “Transit Noise and Vibration Impacts Assessments,” April 1995. As described therein, a ground-borne vibration level of 0.2 inch-per-second peak particle velocity (PPV) should be considered as damage threshold criterion for structures deemed “fragile,” and a ground-borne vibration level of 0.12 inch-per-second PPV should be considered as damage criterion for structures deemed “extremely fragile,” such as historic buildings. With respect to residential and commercial structures, Caltrans’ technical publication titled “Transportation- and Construction-Induced Vibration Guidance Manual” June 2004, provides a vibration damage potential threshold criteria of 0.5 inch-per-second PPV for older residential structures, 1.0 inch-per-second PPV for newer residential structures, and 2.0 inch-per-second PPV for modern industrial/commercial buildings.

**(3) Applicable City of Newport Beach Regulations and Policies**

The Noise Element of the City of Newport Beach General Plan includes a number of goals, for land use planning purposes. The City also has policies and regulations to control unnecessary, excessive and annoying noise, as cited by the Newport Beach Municipal Code (NBMC) Chapter 10.26 *Community Noise Control*. These regulations and plans are further described below.

**(a) Newport Beach Municipal Code**

The City of Newport Beach’s Noise Regulations are provided in Chapter 10.26 of the Newport Beach Municipal Code (NBMC). The NBMC provides exterior/interior noise standards and specific noise restrictions, exemptions, variances for noise sources. **Table 4.J-1** *Error! Reference source not found., City of Newport Beach Allowable Exterior Noise Levels*, below, summarizes the City’s exterior noise standards. Several of these requirements are applicable to the proposed project and are discussed below.

**Table 4.J-1**

**City of Newport Beach Allowable Exterior Noise Levels  
(Equivalent Noise Level, L<sub>eq</sub>)**

Noise Zone	Type of Land Use	7 A.M. to 10 P.M.	10 P.M. to 7 A.M.
I	Single-, two-, or multi- family residential	55	50
II	Commercial	65	60
III	Residential portions of mixed-use properties	60	50
IV	Industrial or manufacturing	70	70

Source: Newport Beach Municipal Code, Section 10.26.025.

**(i) Section 10.26.025 – Exterior Noise Standards**

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

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

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

1. The noise standard for the applicable zone for any fifteen-minute period;
2. A maximum instantaneous noise level equal to the value of the noise standard plus twenty (20) dBA for any period of time (measured using A-weighted slow response).

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

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

E. If the measurement location is on boundary between two different noise zones, the lower noise level standard applicable to the noise zone shall apply.

**(ii) Section 10.26.030 – Interior Noise Standards.**

A. The following noise standards provided below in **Table 4.J-2, City of Newport Beach Allowable Interior Noise Levels**, unless otherwise specifically indicated, shall apply to all residential property within all noise zones:

**Table 4.J-2**

**City of Newport Beach Allowable Interior Noise Levels  
(Equivalent Noise Level,  $L_{eq}$ )**

Noise Zone	Type of Land Use	7 A.M. to 10 P.M.	10 P.M. to 7 A.M.
I	Residential	45	40
III	Residential portions of mixed-use properties	45	40

Source: Newport Beach Municipal Code, Section 10.26.030.

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

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

1. The noise standard for the applicable zone for any fifteen-minute period;
  2. A maximum instantaneous noise level equal to the value of the noise standard plus twenty (20) dBA for any period of time (measured using A-weighted slow response).
- C. In the event the ambient noise level exceeds the noise standard, the noise standard applicable to said category shall be increased to reflect the maximum ambient noise level.
- D. The Noise Zone III standard shall apply to that portion of residential property falling within one hundred (100) feet of a commercial property, if the intruding noise originates from that commercial property.
- E. If the measurement location is on a boundary between two different noise zones, the lower noise level standard applicable to the noise zone shall apply.

***(iii) Section 10.26.035 – Exemptions***

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

- A. Any mechanical device, apparatus or equipment used, related to or connected with emergency machinery, vehicle, work or warning alarm or bell, provided the sounding of any bell or alarm on any building or motor vehicle shall terminate its operation within forty-five (45) minutes in any hour of its being activated;
- B. Noise sources associated with construction, repair, remodeling, demolition or grading of any real property. Such activities shall instead be subject to the provisions of Chapter 10.28 of this title;
- C. Any noise sources associated with the operation of a permanently installed heating, venting and air conditioning (HVAC) equipment on a residential property permitted under the provisions of Section 10.26.045 (B) and (C);

Sections (A), (B), (E) through (J), and (L) of the City code are not described here since they are not relevant to the project implementation.

***(iv) Section 10.26.045 – Heating, Venting and Air Conditioning – Special Provisions***

- A. **New HVAC Equipment.** New permits for heating, venting and air conditioning (HVAC) equipment in or adjacent to residential areas shall be issued only where installations can be shown by computation, based on the sound rating of the proposed equipment, not to exceed an A-weighted sound pressure level of fifty (50) dBA or not to exceed an A-weighted sound pressure level of fifty-five (55) dBA and be installed with a timing device that will deactivate the equipment during the hours of ten P.M. to seven A.M. The method of computation used shall be that specified in “Standard Application of Sound Rated Outdoor Unitary Equipment,” Standard 275, Air conditioning and Refrigeration Institute, 1984 or latest revision thereof.
- B. **Existing HVAC Equipment**
1. HVAC equipment legally installed prior to April 22, 1981, shall be permitted to operate with an exterior noise limit of sixty-five (65) dBA until January 1, 1998.

2. HVAC equipment legally installed prior to April 22, 1981, shall be exempted from the interior noise level standard as specified in Section 10.26.030 of this chapter until January 1, 1998.
  3. HVAC equipment legally installed after April 22, 1981, and prior to the date of adoption of this chapter shall not exceed a maximum exterior noise limit of fifty-five (55) dBA during the ninety-day compliance period set forth in Section 10.26.005.
- C. In the event that HVAC equipment cannot meet the requirements set forth in this chapter, then the exterior noise limit for such equipment may be raised to sixty-five (65) dBA and exempted from the interior noise level standard as specified in Section 10.26.030 of this chapter, provided that the applicant obtains the written consent of all the owners of the affected properties.

***(v) Section 10.26.055 – Noise Level Measurement***

- A. The location selected for measuring exterior noise levels in a residential area shall be at any part of a private yard, patio, deck or balcony normally used for human activity and identified by the owner of the affected property as suspected of exceeding the noise level standard. This location may be the closest point in the private yard or patio, or on the deck or balcony, to the noise source, but should not be located in nonhuman activity areas such as trash container storage areas, planter beds, above or contacting a property line fence, or other areas not normally used as part of the yard, patio, deck or balcony. The location selected for measuring exterior noise levels in a nonresidential area shall be at the closest point to the noise source. The measurement microphone height shall be five feet above finish elevation or, in the case of a deck or balcony, the measurement microphone height shall be five feet above the finished floor level.
- B. The location selected for measuring interior noise levels shall be made within the affected residential unit. The measurements shall be made at a point at least four feet from the wall, ceiling or floor, or within the frame of a window opening, nearest the noise source. The measurements shall be made with windows in an open position.

***(vi) Section 10.28.040 – Construction Activity—Noise Regulations.***

- A. Weekdays and Saturdays. No person shall, while engaged in construction, remodeling, digging, grading, demolition, painting, plastering or any other related building activity, operate any tool, equipment or machine in a manner which produces loud noise that disturbs, or could disturb, a person of normal sensitivity who works or resides in the vicinity, on any weekday except between the hours of seven a.m. and six-thirty p.m., nor on any Saturday except between the hours of eight a.m. and six p.m.
- B. Sundays and Holidays. No person shall, while engaged in construction, remodeling, digging, grading, demolition, painting, plastering or any other related building activity, operate any tool, equipment or machine in a manner which produces loud noise that disturbs, or could disturb, a person of normal sensitivity who works or resides in the vicinity, on any Sunday or any federal holiday.
- C. No landowner, construction company owner, contractor, subcontractor, or employer shall permit or allow any person or persons working under their direction and control to operate any tool, equipment or machine in violation of the provisions of this section.

D. Exceptions.

1. The provisions of this section shall not apply to emergency construction work performed by a private party when authorized by the Building Director or designee.
2. The maintenance, repair or improvement of any public work or facility by public employees, by any person or persons acting pursuant to a public works contract, or by any person or persons performing such work or pursuant to the direction of, or on behalf of, any public agency; provided, however, this exception shall not apply to the City of Newport Beach, or its employees, contractors or agents, unless:
  - a. The City Manager or department director determines that the maintenance, repair or improvement is immediately necessary to maintain public services;
  - b. The maintenance, repair or improvement is of a nature that cannot feasibly be conducted during normal business hours;
  - c. The City Council has approved project specifications, contract provisions, or an environmental document that specifically authorizes construction during hours of the day which would otherwise be prohibited pursuant to this section.

- E. Penalties. Any person who violates any provision of this section is guilty of a misdemeanor unless the violation is deemed an infraction pursuant to the provisions of Section 1.04.010 of this Code.

**(b) General Plan Noise Element**

The overall purpose of the Noise Element of a General Plan is to maintain compatible land use with environmental noise levels.<sup>6</sup> The proposed project's consistency with all of the applicable policies of the Newport Beach General Plan is further discussed below under Impact Statement 4.J-5. However, several Noise Element policies establish noise limits and numerical thresholds for noise impacts, which are summarized as follows:

- **Policy N 1.1 – Noise Compatibility of New Development** - Require that all proposed projects are compatible with the noise environment through use of **Table 4.J-3, Land Use Noise Compatibility Matrix**, and enforce the interior and exterior noise standards shown below in **Table 4.J-4, City of Newport Beach Noise Standards**.
- **Policy N 1.2 – Noise Exposure Verification for New Development** - Applicants for proposed projects that require environmental review and are located in areas projected to be exposed to a CNEL of 60 dBA and higher, as shown on Figure N4, Figure N5, and Figure N6 may conduct a field survey, noise measurements or other modeling in a manner acceptable to the City to provide evidence that the depicted noise contours do not adequately account for local noise exposure circumstances due to such factors as, topography, variation in traffic speeds, and other applicable conditions. These findings shall be used to determine the level of exterior or interior, noise attenuation needed to attain an acceptable noise exposure level and the feasibility of such mitigation when other planning considerations are taken into account.

<sup>6</sup> *Noise Element of the City of Newport Beach General Plan, 2006.*

Table 4.J-3

## Land Use Noise Compatibility Matrix

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

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

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

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

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

Source: Noise Element of the City of Newport Beach General Plan, 2006.



Table 4.J-4

City of Newport Beach Noise Standards

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

<sup>a</sup> If the ambient noise level exceeds the resulting standard, the ambient shall be the standard.

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

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

Source: EIP Associates, 2006, Noise Element of the City of Newport Beach General Plan, 2006.

- **Policy N 1.5 - Infill Projects** - Allow a higher exterior noise level standard for infill projects in existing residential areas adjacent to major arterials if it can be shown that there are no feasible mechanisms to meet the exterior noise levels. The interior standard of 45 dBA CNEL shall be enforced for any new residential project.
- **Policy N 1.8 - Significant Noise Impacts** - Require the employment of noise mitigation measures for existing sensitive uses when a significant noise impact is identified. A significant noise impact occurs when there is an increase in the ambient CNEL produced by new development impacting existing sensitive uses. The CNEL increase is shown in the **Table 4.J-5, Significant Noise Impacts**.

Table 4.J-5

## Significant Noise Impacts

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

Source: Noise Element of the City of Newport Beach General Plan, 2006.

### c. Existing Conditions

#### (1) Noise-Sensitive Receptor Locations

Some land uses, such as residences, schools, motels and hotels, libraries, and hospitals, are considered more sensitive to intrusive noise than others due to the types of activities typically involved at the receptor location. There are residential uses located north, northeast, and south of the project site. Existing noise-sensitive uses in the project vicinity are described below:

- A mobile home community, Bayside Village Mobile Home Park, is located adjacent to Planning Area 1 to the northeast approximately 30 feet from the project site boundary.
- Single-family residential uses are located approximately 500 feet (at the property line) to the south of the project site within the Linda Isle community.
- Single-family residential uses are located within the Dover Shores community on the bluff tops approximately 1,300 feet to the northwest of the project site.
- Single-family residential uses (also within the Dover Shores community) are located approximately 1,900 feet to the northwest of the project site at an elevation near sea level.

#### (2) Ambient Noise Levels

The existing noise environment at the project site is characterized primarily by auto traffic on East Coast Highway and commercial aircraft from John Wayne Airport passing over in the vicinity of the project site. Other community noise sources include incidental noise from commercial/retail-related activities, such as loading dock/delivery truck activities, parking, and refuse services activities, ambulance and police sirens, and landscaping maintenance at nearby residential and commercial uses. To quantify existing noise levels in the project area, long-term (72-hour) measurements were conducted at one location, identified as Location R1, and short-term (15-minute) measurements were conducted at four other locations, identified as Locations R2 through R5 in **Figure 4.J-1, Noise Measurement Locations**. The long-term ambient noise measurements were conducted from Thursday, October 18, through Sunday, October 21, 2012 as described below:





### Noise Measurement Locations

FIGURE

**4.J-1**

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- **Measurement Location R1:** The noise measuring device (sound level meter) was placed on the southeastern boundary of the project site. Location R1 represents the existing general noise environment of the project site and the mobile home uses located approximately 65 feet east of the project site.
- **Measurement Location R2:** The sound level meter was placed on the north boundary near the nearest mobile home uses. This measurement location represents the existing noise environment of the nearest mobile home uses.
- **Noise Sensitive Location R3:** The sound level meter was placed in the patio of a residence along Linda Isle. This measurement location represents the existing noise environment of Linda Island.
- **Noise Sensitive Location R4:** The sound level meter was placed at a parking lot along Polaris Drive approximately 1,900 feet northeast of the project site. This measurement location represents the existing noise environment of single-family residential uses along Polaris Drive.
- **Noise Sensitive Location R5:** The sound level meter was placed along walk way on the bluff near single-family residential uses along Cape Andover. This measurement location represents the existing noise environment of the single-family residential uses on the bluff.

Noise measurements were conducted using Larson-Davis 820 Precision Integrated Sound Level Meters (SLM). The Larson-Davis 820 SLM is a Type 1 standard instrument as defined in the American National Standard Institute (ANSI) S1.4. All instruments were calibrated and operated according to the applicable manufacturer's specifications. The recording microphones were placed at a height of 5 feet above the local grade elevation. The sound level meters were set up to collect the hourly average noise level,  $L_{eq}$ .

**Table 4.J-6, Summary of Ambient Noise Measurements**, presents the existing noise levels in the vicinity of the project site. Based on field observation and measured sound data, the existing noise environment in the vicinity of the project site is dominated mainly by auto traffic noise and aircraft from John Wayne Airport passing over in the vicinity of the project site. As indicated on Table 4.J-6, the project site is currently exposed to exterior noise level range from 52 to 75 dBA at the project site's southeastern boundary (Location R1) and from 58 to 60 dBA at the project site's northern and southern boundaries (Locations R2 through R5) during daytime hours.

To further characterize the area's noise environment, the CNEL noise levels generated by existing traffic on local roadways were calculated using a noise prediction model developed based on calculation methodologies provided in the Caltrans Technical Noise Supplement (TeNS) document and traffic data provided in the project Traffic Impact Analysis (TIA, included as Appendix K of this Draft EIR). The roadway noise calculation procedures provided in the Caltrans TeNS document are consistent with Federal Highway Administration RD-77-108 roadway noise prediction methodologies. This methodology allows for the definition of roadway configurations, barrier information (if any), and receiver locations. Consistent with the amount of project-related technical information currently available, the noise model assumes a "hard" site condition (i.e., this is a conservative assumption which limits sound attenuation due to ground condition to a maximum of 3 dBA per doubling of distance whereas the "soft" ground condition would provide sound attenuation of 4.5 dBA per doubling of distance) and no barriers between the roadway and receivers.



**Table 4.J-6**  
**Summary of Ambient Noise Measurements<sup>a</sup>**

Measurement Location and Date/ Day of Week	Measured Ambient Noise Levels, dBA ( $L_{eq}$ )		
	Daytime (7 A.M. to 10 P.M.) Hourly $L_{eq}$	Nighttime (10 P.M. to 7 A.M.) Hourly $L_{eq}$	24-Hour Average, CNEL
R1			
10/18/12 (partial 14 hours)/ Thursday	64 – 69	58 – 63	N/A
10/19/12 (full 24 hours)/ Friday	63 – 70	54 – 63	69
10/20/12 (full 24 hours)/ Saturday	63 – 73	52 – 63	70
10/21/12 (full 24 hours)/ Sunday	62 – 75	58 – 63	69
R2			
10/18/12 (10:13 A.M.)/ Thursday	60	N/A	N/A
R3			
11/28/11 (10:51 A.M.)/ Wednesday	60	N/A	N/A
R4			
10/22/11 (9:57 A.M.)/ Monday	60	N/A	N/A
R5			
10/22/11 (10:28 A.M.)/ Monday	59	N/A	N/A

<sup>a</sup> Detailed measured noise data, including hourly  $L_{eq}$  levels, are included in Appendix I of this Draft EIR.

Source: PCR Services, 2013.

A model calibration test was performed to establish the noise prediction model's accuracy. The road segment included in the calibration test was East Coast Highway. At the noted locations, a 15-minute noise recording was made concurrent with logging of actual traffic volumes and auto fleet mix (i.e., standard automobile, medium duty truck, or heavy duty truck). The traffic counts were entered into the noise model along with the observed speed, lane configuration, and distance to the roadway to calculate the traffic noise levels. The noise model results are within 1 dBA of the measured noise levels, which are within the industry standard tolerance of the noise model (i.e., +/- 1 dBA). Therefore, the project-specific traffic noise prediction model is considered accurate and specific to the project conditions.

The existing CNEL from roadway traffic was calculated using the average daily traffic (ADT) volume, as provided the TIA prepared by the project's traffic engineer, Kunzman Associates. According to the project's traffic engineer, the peak hour traffic volume was estimated to be nine percent of the average daily traffic (ADT) volume.<sup>7</sup> Furthermore, the traffic volume split during the day-time, evening-time, and night-time hours was estimated to be 80%, 10%, and 10% of the ADT, respectively. The roadway configuration, the traffic volume and vehicle mix (percentage of automobile and trucks), posted vehicle speed, and right-of-way distance (property line) were entered into the traffic noise prediction model. Noise calculation worksheets are included in Appendix I of this Draft EIR. The calculated existing traffic noise levels in terms of CNEL along roadway segments in the close proximity of the project site are provided in **Table 4.J-7, Predicted Existing Vehicular Traffic Noise Levels**. As indicated therein, the calculated CNEL for the analyzed roadway

<sup>7</sup> Traffic engineer is Kunzman Associates, Inc.

Table 4.J-7

## Predicted Existing Vehicular Traffic Noise Levels

Roadway Segment	Existing CNEL (dBA) at Referenced Distances from Roadway Right-of-Way	
	25 Feet	50 Feet
<b>West Coast Highway</b>		
West of Newport Boulevard	72.1	70.5
Between Tustin Avenue and Dover Drive	71.8	70.3
Between Dover Drive and Bayside Drive	73.7	72.2
<b>East Coast Highway</b>		
Between Bayside Drive and Jamboree Road	73.1	71.6
Between Jamboree Road and Newport Center Drive	72.2	70.6
East of Newport Center Drive	70.9	69.4
<b>Dover Drive</b>		
Between West Coast Highway and 16 <sup>th</sup> Street	70.1	68.4
Between 16 <sup>th</sup> Street and Westcliff Drive	68.5	66.7
Between Westcliff Drive and 19 <sup>th</sup> Street	66.5	64.7
<b>19<sup>th</sup> Street</b>		
West of Dover Drive	62.0	60.2
<b>San Joaquin Hills Road</b>		
Between Jamboree Road and Santa Cruz Drive	68.5	66.9
Between Santa Cruz Drive and Santa Rosa Drive	67.3	65.7
Between Santa Rosa Drive and MacArthur Boulevard	69.0	67.4
<b>Jamboree Road</b>		
Between East Coast Highway and Santa Barbara Drive	70.9	69.3
Between Santa Barbara Drive and San Joaquin Hills Road	71.5	69.9
<b>Irvine Avenue</b>		
Between 19 <sup>th</sup> Street/Westcliff Drive and 19 <sup>th</sup> Street	69.8	68.1
North of 19 <sup>th</sup> Street	70.4	68.7
<b>Westcliff Drive</b>		
Between Irvine Avenue and Dover Drive	65.9	64.4
<b>Bayside Drive</b>		
North of East Coast Highway	56.4	54.7
South of East Coast Highway	65.5	63.7

Source: PCR Services Corporation, 2013.

segments as a result of existing traffic volumes ranged from 62.0 dBA CNEL to 73.7 dBA CNEL at 25 feet from the roadway right-of-way based on surface-street traffic volumes only. As shown therein, the existing traffic noise levels at the nearest sensitive receptors to each analyzed roadway segment exceed the land use compatibility category of “normally acceptable” noise levels (i.e., 65 dBA or lower for residential uses) except 19<sup>th</sup> Street west of Dover Drive and San Joaquin Hills Road between Jamboree Road and Santa Cruz Drive.

### **3. ENVIRONMENTAL IMPACTS**

#### **a. Methodology**

##### **(1) Construction Noise and Vibration**

On-site construction and construction trucks staging and hauling route noise impacts are evaluated by determining the noise levels generated by the different types of construction activity, calculating the construction-related noise level at nearby sensitive receptor locations, and comparing these construction-related noise levels to existing ambient noise levels (i.e., noise levels without construction noise). More specifically, the following steps were undertaken to calculate construction-period noise impacts:

1. Ambient noise levels at surrounding sensitive receptor locations were estimated based on field measurement data (refer to Table 4.J-6) and/or presumed noise level as stated in the NBMC, Section 10.26.025 (refer to Table 4.J-4);
2. Typical noise levels for each type of construction equipment were obtained from the Federal Highway Administration's (FHWA) Roadway Construction Noise Model;
3. Distances between construction site locations (noise source) and surrounding sensitive receptors were measured using project architectural drawings, Google Earth, and site plans;
4. The construction noise level was then calculated for sensitive receptor locations based on the conventional standard point source noise-distance attenuation factor of 6.0 dBA for each doubling of distance; and
5. The resulting noise level was compared to the construction noise significance thresholds identified below.

##### **(2) Off-Site Roadway Noise (During Construction and Project Operations)**

Roadway noise impacts were evaluated using the Caltrans TeNS methodology with the roadway traffic volume data provided in the project's Traffic Impact Analysis (TIA). This methodology allows for the definition of roadway configurations, barrier information (if any), and receiver locations. Roadway-noise attributable to project development "future with project" is calculated and compared to baseline noise levels that would occur under the "future without project" condition to determine significance.

##### **(3) Stationary Point-Source Noise (During Project Operations)**

Stationary point-source noise impacts are evaluated by identifying the noise levels generated by outdoor stationary noise sources, such as mechanical equipment and boat storage-related equipment, calculating the hourly  $L_{eq}$  noise level from each noise source at surrounding sensitive receiver property line locations, and comparing such noise levels to existing ambient noise levels. More specifically, the following steps were undertaken to calculate outdoor stationary point-source noise impacts:

1. Ambient noise levels at surrounding sensitive receptor locations were estimated based on field measurement data (refer to Table 4.J-6) and/or presumed noise level as stated in the NBMC, Section 10.26.025 (refer to Table 4.J-4);
2. Parking facility operation noise levels were estimated based on actual data obtained at a similar parking facility;



3. Distances between stationary noise sources and surrounding sensitive receptor locations were measured using project architectural drawings, Google Earth and site plans;
4. Stationary-source noise levels were then calculated for each sensitive receptor location based on the conventional standard point source noise-distance attenuation factor of 6.0 dBA for each doubling of distance;
5. Noise level increases were compared to the stationary source noise significance thresholds identified below; and
6. With regard to outdoor mechanical equipment, such outdoor mechanical equipment is specified, as part of the project design features, to comply with the NBMC noise ordinance standards.

#### **(4) Ground-Borne Vibration (During Project Construction and Operations)**

Ground-borne vibration impacts were evaluated by identifying potential vibration sources, measuring the distance between vibration sources and surrounding structure locations, and making a significance determination based on the thresholds discussed above.

#### **b. Significance Thresholds**

Appendix G of the *CEQA Guidelines* contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study Environmental Checklist questions relating to noise have been utilized as the thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it would result in one or more of the following:

- Threshold 1: Exposure of persons to or generation of noise levels in excess of standards presumed in the local general plan or noise ordinance, or applicable standards of other agencies (refer to Impact Statements 4.J-1 and 4.J-3 below).
- Threshold 2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels (refer to Impact Statements 4.J-2 and 4.J-4 below)
- Threshold 3: A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project (refer to Impact Statement 4.J-3 below).
- Threshold 4: A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (refer to Impact Statements 4.J-1 and 4.J-3 below).
- Threshold 5: 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, the project would expose people residing or working in the project area to excessive noise levels (refer to the project's Initial Study contained in Appendix A of this Draft EIR. No impact would occur in this regard).
- Threshold 6: For a project within the vicinity of a private airstrip, the project would expose people residing or working in the project area to excessive noise levels (refer to the project's Initial Study contained in Appendix A. No impact would occur in this regard).
- Threshold 7: Comply with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan and municipal code) adopted for the

purpose of avoiding or mitigating an environmental effect (refer to Impact Statement 4.J-5 below).

### **(1) City of Newport Beach Noise Standards**

Based on the City's regulations described above the project would result in a significant noise impact if:

#### **(a) Construction Noise**

- Criterion 1– Construction activities would occur outside the hours of 7:00 A.M. to 6:30 P.M. on weekdays and , 8:00 A.M. to 6:00 P.M. on Saturday, or at any time on Sunday or a federal holiday.

#### **(b) Construction Vibration**

As previously described, the City of Newport Beach does not have a significance threshold to assess vibration impacts during construction. Thus, the FTA and Caltrans standards described above are used to evaluate potential impacts related to project construction.

- Criterion 2a – project construction activities cause a PPV ground-borne vibration level to exceed 0.5 inches per second at any off-site residential structures; or
- Criterion 2b – Potential Human Annoyance - project construction and operation activities cause ground-borne vibration levels to exceed 0.04 inches per second PPV at off-site vibration sensitive receptors.

#### **(c) Operational Noise**

- Criterion 3a – project-related operation (i.e., any air-conditioning or air refrigerating equipment) noise sources generate noise levels that would exceed 55 dBA or measured ambient noise levels if the ambient noise level exceeds 55 dBA at a residential use between 7:00 A.M. to 10:00 P.M., or 50 dBA or measured ambient noise levels if the ambient noise level exceeds 50 dBA at a residential use between 10:00 P.M. to 7:00 A.M.
- Criterion 3b – The maximum noise ( $L_{max}$ ) generated from the operation of the parking areas (i.e., a car alarm) exceed the presumed noise level of 55 dBA or measured ambient noise levels if the ambient noise level exceeds 55 dBA by 20 dBA.
- Criterion 3c – The proposed project would cause ambient noise levels to increase by 3 dBA CNEL in a 55-dBA ambient noise environment, 2 dBA in a 60-dBA environment, 1 dBA in a 65- to 70-dBA noise environment, and any increase in noise within areas having an over 75-dBA CNEL ambient level.

#### **(d) Operational Vibrations**

As previously described, the City of Newport Beach does not have a significance threshold to assess vibration impacts during operation. Thus, the FTA and Caltrans standards described above are used to evaluate potential impacts related to project operation.

- Criterion 4 – Potential Human Annoyance - project operation activities cause ground-borne vibration levels to exceed 0.04 inches per second PPV at off-site vibration sensitive receptors.

### c. Project Design Features

As discussed in Chapter 2, *Project Description*, of this Draft EIR, the proposed project involves a number of legislative approvals that would allow for the future development of the project site with a range of allowable uses subject to project-specific Site Development Review by the City once a development proposal is brought forth. Although no specific development is proposed at this time, the Development Standards and Design Guidelines contained in the proposed Planned Community Development Plan (PCDP) include a number of requirements related to noise, which would be implemented, as applicable, as part of a future development on-site.

The following standards are provided in the PCDP Development Standards with regard to future on-site residential uses:

- **Sound Mitigation** - An acoustical analysis report, prepared by an acoustical engineer, shall be submitted describing the acoustical design features of the structure that will satisfy the exterior and interior noise standards. The residential units shall be attenuated in compliance with the report.
- **Buffering and screening** - Buffering and screening shall be provided in compliance with Municipal Code Section 20.30.020 (Buffering and Screening). Mixed-use projects shall locate loading areas, parking lots, driveways, trash enclosures, mechanical equipment, and other noise sources away from the residential portion of the development to the greatest extent feasible.
- **Notification to owners and tenants** - A written disclosure statement shall be prepared prior to sale, lease, or rental of a residential unit within the development. The disclosure statement shall indicate that the occupants will be living in an urban type of environment and that the noise, odor, and outdoor activity levels may be higher than a typical suburban residential area. The disclosure statement shall include a written description of the potential impacts to residents of both the existing environment (i.e., noise from boats, planes, and vehicles on Coast Highway) and potential nuisances based upon the allowed uses in the zoning district. Each and every buyer, lessee, or renter shall sign the statement acknowledging that they have received, read, and understand the disclosure statement. A covenant shall also be included within all deeds, leases or contracts conveying any interest in a residential unit within the development that requires: (1) the disclosure and notification requirement stated herein; (2) an acknowledgment by all grantees or lessees that the property is located within an urban type of environment and that the noise, odor, and outdoor activity levels may be higher than a typical suburban residential area; and (3) acknowledgment that the covenant is binding for the benefit and in favor of the City of Newport Beach.
- **Deed notification** - A deed notification shall be recorded with the County Recorder's Office, the form and content of which shall be satisfactory to the City Attorney. The deed notification document shall state that the residential unit is located in a mixed-use development and that an owner may be subject to impacts, including inconvenience and discomfort, from lawful activities occurring in the project or zoning district (e.g., noise, lighting, odors, high pedestrian activity levels, etc.).

In addition, the following requirement is provided as part of the Design Guidelines contained in the proposed PCDP:

- Site-specific analyses (wind patterns, noise assessments, etc.) and special design features shall be incorporated into the proposed buildings surrounding the adjacent OCSO pump station facility to offset potential noise and odor control issues associated with the existing operations of the facility.

**d. Analysis of Project Impacts**

**(1) Construction Activities**

**(a) On-site Construction Noise**

Threshold	Would the project expose persons to or generate noise levels in excess of standards presumed in the local general plan or noise ordinance, or applicable standards of other agencies?
Threshold	Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

*4.J-1 Construction activities associated with future project implementation would be conducted within the daytime hours specified in the City’s Noise Ordinance. Given the temporary nature of construction noise associated with the proposed project, impacts would be less than significant.*

Noise from construction activities would be generated by vehicles and equipment involved during various stages of future construction operations, which would include demolition, excavation, foundation, vertical construction, and paving. Additionally, a new water pipeline would be required to serve future on-site uses, and as such construction of this pipeline along one of two possible alignments would be required: one alignment would run northward along Bayside Drive near East Coast Highway then run west through Planning Area 1, while the another potential alignment would run westward along East Coast Highway near Bayside Drive then turn northwest across Planning Area 1. The noise levels created by construction equipment would vary depending on factors such as the type of equipment, the specific model, the operation being performed and the condition of the equipment. Construction noise associated with the proposed project was analyzed using a mix of typical construction equipment, estimated durations and construction phasing. The project construction noise model is based on construction equipment noise levels as published by the Federal Highway Administration (FHWA).<sup>8</sup>

In an outdoor environment, sound levels attenuate through the air as a function of distance. Such attenuation is called “distance loss” or “geometric spreading” and is based on the source configuration, point source, or line source. For a point source such as construction equipment, the rate of sound attenuation is 6 dB per doubling of distance from the noise source. For example, a noise level of 85 dBA at a reference distance of 50 feet from the equipment would attenuate to 79 dBA at 100 feet, and 73 dBA at 200 feet. **Table 4.J-8, Estimate of Construction Noise Levels (Leq) at Off-Site Sensitive Receiver Locations**, provides the estimated construction noise levels at nearby noise sensitive receptors where current sound ambient noise levels were recorded and a comparison with the noise impact criteria.

<sup>8</sup> Roadway Construction Noise Model, Federal Highway Administration, 2006

Table 4.J-8

Estimate of Construction Noise Levels ( $L_{eq}$ ) at Off-Site Sensitive Receiver Locations

Receptor	Construction Equipment	Nearest Distance between Receptor and Construction Site, feet	Estimated Construction Noise Levels at the Noise Sensitive Receptor by Construction Equipment Hourly $L_{eq}$ (dBA)
R1	Demolition	65	86
	Excavation	65	86
	Foundation	100	80
	Vertical Construction	100	82
	Paving	65	83
	Water Pipeline	40 <sup>b</sup> /80 <sup>c</sup>	87 <sup>b</sup> /83 <sup>c</sup>
R2	Demolition	35	91
	Excavation	35	92
	Foundation	60	84
	Building Construction	60	87
	Paving	35	89
	Water Pipeline	50 <sup>b</sup> /280 <sup>c</sup>	80 <sup>b</sup> /75 <sup>c</sup>
R3	Demolition	400	70
	Excavation	400	70
	Foundation	420	68
	Vertical Construction	420	70
	Paving	400	68
	Water Pipeline	550 <sup>b</sup> /450 <sup>c</sup>	64 <sup>b</sup> /66 <sup>c</sup>
R4	Demolition	1,900	57
	Excavation	1,900	57
	Foundation	1,900	54
	Vertical Construction	1,900	57
	Paving	1,900	54
	Water Pipeline	1,800 <sup>b</sup> /2,000 <sup>c</sup>	54 <sup>b</sup> /53 <sup>c</sup>
R5	Demolition	1,125	61
	Excavation	1,125	61
	Foundation	1,125	59
	Vertical Construction	1,125	61
	Paving	1,125	59
	Water Pipeline	1,200 <sup>b</sup> /1,200 <sup>c</sup>	57 <sup>b</sup> /57 <sup>c</sup>

<sup>a</sup> Detailed construction noise data and calculations are included in Appendix I of this Draft EIR.

<sup>b</sup> Alternative 1 water pipeline construction along East Coast Highway right-of-way.

<sup>c</sup> Alternative 2 water pipeline construction along Bayside Drive right-of-way.

Source: PCR Services Corporation, 2013.

These noise levels account for the project contractor(s) equipping construction equipment, fixed or mobile, with properly operating and maintained noise mufflers, consistent with manufacturers' standards. The

estimated noise levels represent a conservative scenario because construction activities are analyzed as if some of them were occurring along the perimeter of the construction area, whereas construction would typically occur throughout the site, further from noise-sensitive receptors. A summary of the construction noise impacts at the nearby sensitive receptors is provided in Table 4.J-8. Detailed noise calculations for construction activities are provided in Appendix I of this Draft EIR. As shown therein, construction-related noise would exceed ambient noise levels at the nearest mobile home uses, Locations R1 and R2, and at the nearest single-family residential uses, R3 and R5. The highest construction noise level would be 92 dBA during the excavation phase at the noise-sensitive receptor Location R2, which is primarily due to the proximity and direct line-of-sight between Bayside Village Mobile Home Park residential uses and Planning Area 1.

Noise levels usually diminish at a rate of approximately 6 dBA per doubling of distance, as noted above. Thus, as heavy equipment passes near the boundary of the project site, the peak construction noise level at a given moment in time could reach 92 dBA; however, as the equipment travels near the center of Planning Area 1, it would be approximately 150 feet from the closest mobile home uses to the north and therefore generate a lower noise level of approximately 79 dBA at the property line with the Bayside Village Mobile Home Park. Construction activities would temporarily increase the existing ambient noise in close proximity to the construction site. However, construction activities would be required to comply with the City’s allowable construction hours, as described above, and would also be temporary in nature. Since temporary construction noise is exempt from the City’s noise ordinance requirements, construction-related noise would result in a less than significant noise impact. Although no significant impacts were identified related to project construction activities, mitigation measures derived from Policy N2.6 of the City’s General Plan Noise Element are required to be implemented as part of any future on-site development to ensure that the noise impacts associated with construction activities would be reduced to the maximum extent feasible.

**(b) Off-Site Construction Noise**

Delivery and haul trucks would enter the project site via Bayside Drive and leave the site via the same driveway and onto East Coast Highway. It is estimated that during the excavation phase there would be a maximum of 53 haul truck trips per day. The project’s truck trips would generate approximately 52.7 dBA CNEL at a distance of 25 feet along Bayside Drive, north of East Coast Highway. Based on the existing traffic noise level of 56.4 dBA CNEL, as shown in Table 4.J-9 above, traffic noise levels generated by truck trips would increase traffic noise levels along Bayside Drive by 1.5 dBA, which is below the significance threshold of 2 dBA in a 60-dBA CNEL noise environment indicated above in Table 4.J-5. Therefore, impacts would be less than significant. In addition, construction activities would be required to comply with the City’s allowable construction hours, as described above, and would also be temporary in nature. Since temporary construction noise is exempt from the City’s noise ordinance requirements, construction-related haul truck noise would result in a less than significant noise impact.

**(c) Construction-Related Vibration**

Threshold	Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
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4.J-2 *Construction activities would result in sporadic, temporary vibration effects within and adjacent to the project area, which would not exceed established thresholds. Thus, construction vibration impacts would be less than significant.*

The proposed project would allow for future mixed-use development on-site that would be constructed using typical construction techniques. As such, it is anticipated that the equipment to be used during construction would not cause excessive groundborne noise or vibration. Post-construction on-site activities would be limited to residential, commercial, and boat storage operation uses that would not generate excessive groundborne noise or vibration.

The City of Newport Beach does not address vibration in the NBMC. According to the FTA, ground vibrations from construction activities very rarely reach the level that can damage structures.<sup>9</sup> A possible exception is the case of old, fragile buildings of historical significance where special care must be taken to avoid damage. The construction activities that typically generate the most severe vibrations are blasting and impact pile driving, which would not be utilized for the proposed project. The proposed project would utilize typical construction equipment and methods such as the use of bulldozers and excavators, which would generate limited ground-borne vibration during excavation and foundation activities. Based on the vibration data by the FTA, the typical vibration velocity from the operation of a large bulldozer would be approximately 0.089 inches per second PPV at 25 feet from the source of activity. The nearest residential building (mobile home uses at Location R2), which is approximately 35 feet from the project construction site, would be exposed to a vibration velocity of 0.05 inches per second PPV. As this value is considerably lower than the 0.5 inches per second PPV significance threshold regarding potential building damage for older residential buildings, vibration impacts associated with construction would be less than significant at the nearest residential building. Although this level of vibration would not result in potential structural damage to nearby structures, as noted above, such vibration could cause temporary annoyance effects for residents occupying the mobile homes closest to Planning Area 1. This is because the anticipated vibration velocity of 0.05 inches per second PPV would slightly exceed the 0.04 inches per second PPV significance threshold for potential human annoyance. However, this analysis assumes a worst-case scenario where the equipment is operating at the perimeter of Planning Area 1, as close to the adjacent mobile home uses as could possibly occur, when in reality this condition would occur for only a few days at any one location during future demolition and excavation phases. Since vibration-producing equipment moves around the site, any annoyance caused by vibration generated by construction equipment would be sporadic and short-term in nature. Therefore, vibration-related annoyance impacts during construction activities are considered less than significant.

**(2) Operation**

**(a) Operational Noise**

Threshold	Would the project expose persons to or generate noise levels in excess of standards presumed in the local general plan or noise ordinance, or applicable standards of other agencies?
Threshold	Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

<sup>9</sup> U.S. Department of Transportation, Federal Transit Administration, *Transit Noise and Vibration Impact Assessment, 2006*

*4.J-3 Future project implementation would increase noise levels at adjacent noise-sensitive receptors in the project area. However, project-related noise generation would not exceed established thresholds and therefore impacts in this regard would be less than significant. Impacts related to future operation of on-site residential uses would be potentially significant due to existing traffic-related noise levels along East Coast Highway; however, mitigation measures would reduce impacts to less than significant.*

The existing noise environment in the project vicinity is dominated by traffic noise from East Coast Highway, as well as nearby commercial and residential activities. Long-term operation of the proposed project would have a minimal effect on the noise environment in proximity to the project site. Noise generated by the proposed project would result primarily from parking activities, normal operation of building mechanical equipment, refuse collection area, outdoor dining areas at restaurants, public promenade activity, boat storage-related activities, and off-site traffic.

**(i) Off-Site Traffic Noise**

Future roadway noise levels were calculated along various arterial segments adjacent to the proposed project. Roadway-noise attributable to project development was calculated using the traffic noise model previously described and compared to baseline noise levels that would occur under the “No Project” condition.

For existing conditions, as shown in **Table 4.J-9, Off-Site Traffic Noise Impacts**, the maximum increase in project-related traffic noise levels over existing traffic noise levels would be 3.7 dBA, which would occur along Bayside Drive just north of East Coast Highway. For future project buildout, the maximum project-related noise increase of 2.4 dBA would occur along Bayside Drive just north of East Coast Highway.

As shown in Table 4.J-5, future project-related traffic would result in an increase of more than 2 dBA CNEL within the existing 60-dBA ambient conditions along Bayside Drive just north of East Coast Highway. However, the mobile home uses at Location R1, along Bayside Drive, north of East Coast Highway are already developed with sound walls, which reduce roadway traffic noise by approximately 5 dBA. The sound walls reduce traffic-related noise levels below the significance threshold along Bayside Drive at this location. Therefore, impacts would be less than significant and no mitigation measures are necessary.

**(ii) Fixed Mechanical Equipment**

The operation of mechanical equipment such as air conditioners, fans, generators, and related equipment may generate audible noise levels (noise associated with stationary equipment related to boat storage and service areas is discussed separately below). These types of equipment would likely be used within the project site. Mechanical equipment would typically be located on rooftops or within buildings, shielded from nearby land uses to attenuate noise and avoid conflicts with adjacent uses. In addition, all mechanical equipment would be designed with appropriate noise control devices, such as sound attenuators, acoustics louvers, or sound screen/ parapet walls, to comply with noise limitation requirements provided in the NBMC. Therefore, operation of mechanical equipment would not exceed the project thresholds of significance and impacts would be less than significant. As such, no mitigation measures are required.

**(iii) Parking Areas**

Per the future project conceptual plan, on-site parking would be provided in a parking structure near the primary site access and a parking area along the primary site access. Automobile movements would comprise the most continuous noise source and would generate a noise level of approximately 65 dBA at a



Table 4.J-9

## Off-Site Traffic Noise Impacts

Roadway Segment	Calculated Traffic Noise Levels at 25 feet from Roadway, CNEL (dBA)							Exceed Threshold?
	Weekday				Existing Project Increment <sup>d</sup> (B - A)	Future Project Increment <sup>e</sup> (D - C)	Cumulative Increment <sup>f</sup> (D - B)	
	Existing (A)	Existing with Project <sup>a</sup> (B)	Future No Project <sup>b</sup> (C)	Future with Project <sup>c</sup> (D)				
<b>West Coast Highway</b>								
West of Newport Boulevard	72.1	72.1	72.9	72.9	0.0	0.0	0.8	No
Between Tustin Avenue and Dover Drive	71.8	71.9	72.7	72.7	0.1	0.0	0.9	No
Between Dover Drive and Bayside Drive	73.7	73.8	74.5	74.5	0.1	0.0	0.8	No
<b>East Coast Highway</b>								
Between Bayside Drive and Jamboree Road	73.1	73.2	73.9	73.9	0.1	0.0	0.8	No
Between Jamboree Road and Newport Center Drive	72.2	72.3	73.2	73.2	0.1	0.0	1.0	No
East of Newport Center Drive	70.9	70.9	71.9	72.0	0.0	0.1	<b>1.1</b>	<b>Yes<sup>g</sup></b>
<b>Dover Drive</b>								
Between West Coast Highway and 16 <sup>th</sup> Street	70.1	70.1	70.5	70.6	0.0	0.1	0.5	No
Between 16 <sup>th</sup> Street and Westcliff Drive	68.5	68.6	68.8	68.9	0.0	0.1	0.4	No
Between Westcliff Drive and 19 <sup>th</sup> Street	66.5	66.5	66.7	66.7	0.0	0.0	0.2	No
<b>19<sup>th</sup> Street</b>								
West of Dover Drive	62.0	62.0	62.0	62.0	0.0	0.0	0.0	No
<b>San Joaquin Hills Road</b>								
Between Jamboree Road and Santa Cruz Drive	68.5	68.5	69.0	69.0	0.0	0.0	0.5	No
Between Santa Cruz Drive and Santa Rosa Drive	67.3	67.4	67.8	67.8	0.1	0.0	0.5	No
Between Santa Rosa Drive and MacArthur Boulevard	69.0	69.0	69.3	69.3	0.0	0.0	0.3	No
<b>Jamboree Road</b>								
Between East Coast Highway and Santa Barbara Drive	70.9	70.9	71.7	71.8	0.0	0.1	0.9	No

Table 4.J-9 (Continued)

## Off-Site Traffic Noise Impacts

Calculated Traffic Noise Levels at 25 feet  
from Roadway, CNEL (dBA)  
Weekday

Roadway Segment	Calculated Traffic Noise Levels at 25 feet from Roadway, CNEL (dBA) Weekday				Existing Project Increment <sup>d</sup> (B - A)	Future Project Increment <sup>e</sup> (D - C)	Cumulative Increment <sup>f</sup> (D - B)	Exceed Threshold?
	Existing (A)	Existing with Project <sup>a</sup> (B)	Future No Project <sup>b</sup> (C)	Future with Project <sup>c</sup> (D)				
Between Santa Barbara Drive and San Joaquin Hills Road	71.5	71.6	72.3	72.3	0.1	0.0	0.8	No
<b>Irvine Avenue</b>								
Between 19 <sup>th</sup> Street/Westcliff Drive and 19 <sup>th</sup> Street	69.8	69.8	70.1	70.1	0.0	0.0	0.3	No
North of 19 <sup>th</sup> Street	70.4	70.4	70.6	70.6	0.0	0.0	0.2	No
<b>Westcliff Drive</b>								
Between Irvine Avenue and Dover Drive	65.9	66.0	66.6	66.6	0.1	0.0	0.7	No
<b>Bayside Drive</b>								
North of East Coast Highway	56.4	60.1	59.0	61.4	3.7	2.4	5.0	Yes <sup>h</sup>
South of East Coast Highway	65.5	65.5	66.3	66.3	0.0	0.0	0.8	No

<sup>a</sup> Include existing plus proposed project traffic.

<sup>b</sup> Include future growth plus related (cumulative) projects identified in the traffic study.

<sup>c</sup> Include future growth plus related (cumulative) projects and proposed project traffic.

<sup>d</sup> Increase due to project-related traffic only at existing.

<sup>e</sup> Increase due to project-related traffic only at project build-out.

<sup>f</sup> Increase due to future growth, related (cumulative) projects, and project traffic.

<sup>g</sup> Traffic-related noise at this location exceeds established thresholds under cumulative conditions only. However, project-related impacts are reduced to less than significant due to the presence of existing sound walls that reduce noise levels at nearby sensitive receptors to acceptable levels.

<sup>h</sup> Traffic-related noise at this location exceeds established thresholds under project-level and cumulative conditions. However, project-related impacts are reduced to less than significant due to the presence of existing sound walls that reduce noise levels at nearby sensitive receptors to acceptable levels.

Source: PCR Services Corporation, 2011.

distance of 25 feet. Car alarm and horn noise events generate sound levels as high as 83 dBA at a reference distance of 25 feet.<sup>10</sup> The nearest mobile home uses (Location R2) are approximately 100 feet from the outdoor parking lot along the access road. Based on a noise level's source strength of 83 dBA at a reference

<sup>10</sup> Noise measurements conducted for a moving automobile in a parking lot, PCR, May 1998.

distance of 25 feet and distance attenuation (minimum 12 dBA insertion loss), parking-related noise would be reduced to 71 dBA from the parking lot. Car alarm and horn-related noise from the parking lot would not exceed the 80-dBA significance threshold at Location R2. Therefore, impacts from parking area noise on the nearest sensitive receptors would be less than significant and no mitigation measures are required.

***(iv) Boat Dry-Stack Storage and Service Areas***

The dry stack boat storage and service area would be located, conceptually, along the project bayfront in Planning Area 1, while a secondary boat service area could also be located within Planning Area 2 immediately south of the East Coast Highway bridge. A combination lift/tractor system is anticipated to be used to retrieve and launch boats from the dry stack boat storage inlet, or whether traditional boat service would be provided for all types and sizes of vessels or limited to only smaller boats. It is likely that most boats would be moved by lift or tractor system into and out of both the dry stack storage building in Planning Area 1. Boats will be trailered or transported to Planning Area 2 for service work.

To be conservative, this analysis assumed that a diesel-powered lift tractor system would be utilized for the boat retrieval/storage system at the dry-stack storage and service location in Planning Area 1 (which generates greater noise levels than other types of systems). New technology to reduce noise levels and energy consumption will be implemented as available (i.e., natural gas, electric, etc.). The enclosed dry stack boat storage and launching facilities would be located within a wrap-around structure along the project site's northern bayfront. It is assumed that both a diesel-powered fork lift and the diesel lift tractor system would be utilized for the boat storage system and repair activities at this location. These details would be reevaluated as part of the City's Site Development Review process at the time a specific development proposal is submitted; however, for the purposes of this analysis these assumptions comprise a worst-case scenario. For the dry-stack interior storage and outdoor service area, the fork lift and tractor would generate noise levels of approximately 75 dBA and 80 dBA at a distance of 50 feet, respectively. The nearest mobile home uses are located approximately 200 feet northeast of the boat storage and launching facilities. The boat inlet area would be surrounded by the dry-stack storage structure, and further obstructed by adjacent on-site retail and residential buildings that would be located between the launching facilities and the nearest mobile home uses. Based on noise level source strengths of 75 dBA and 80 dBA, respectively, at a reference distance of 50 feet, and accounting for barrier-insertion loss for project buildings (minimum 10 dBA insertion loss) and distance attenuation (minimum 12 dBA loss for the 200-foot distance), the noise associated with long-term operation of the fork lift and tractor would be reduced to 53 dBA and 58 dBA at the nearest mobile home uses, represented by Location R2, respectively. As fork lift and tractor noise levels at the dry-stack boat storage and service area would not exceed the measured ambient noise level of 60 dBA at the nearest mobile home uses, Location R2, impacts would be less significant and no mitigation measures are required.

For the boat service area in Planning Area 2, given the limited space for structural improvements at this location, the outdoor service area (if any) would be located on the north side of the building. Based on the conceptual plan for a future development on-site, space constraints on the south, east, and west of the marine service and office building within Planning Area 2 preclude any sizeable outdoor work areas at these locations. As such, the following analysis assumes that boat service work within Planning Area 2 would be generally conducted inside the structure, but any outdoor service work would be limited to the north side of the building facing East Coast Highway. No tractor system would be required at this location, as all boat drop-off and pick-up would be via vehicle trailers, but it is assumed that a diesel-powered fork lift would be used to move boats around within the site. The fork lift would generate a noise level of approximately 75

dBA at a distance of 50 feet. The nearest single-family residential uses (Location R3) are located approximately 480 feet south of this boat service area, and as such the boat service area building would be located between the service area and these residential uses. Based on a noise level source strength of 75 dBA at a reference distance of 50 feet, and accounting for barrier-insertion loss for project buildings (minimum 10 dBA insertion loss) and distance attenuation (minimum 18 dBA loss for 400 feet distance), noise associated with the fork lift operation would be reduced to 47 dBA at the nearest residential uses at Location R3. As fork lift noise levels would not exceed the measured ambient noise level of 60 dBA at the nearest residential uses, impacts would be less significant and no mitigation measures are required.

The existing Bayside Village Marina contains 220 wet slips. No development would occur within the Bayside Village Marina or the De Anza Bayside Marsh Peninsula. Therefore, wet slip and boat operation-related noise would be consistent with the existing ambient noise levels and impacts would be less than significant.

***(v) Outdoor Dining Areas***

The outdoor dining areas are located the northwest corner of Bayside Drive and East Coast Highway and along the promenade nearby boat launching area. Based on noise measurement data at restaurant patio areas by PCR, outdoor dining related activity including background music would generate approximately 64 dBA at a reference distance of 5 feet.<sup>11</sup>

The nearest mobile home uses (Locations R1 and R2) are located approximately 100 feet from the outdoor dining area located along the promenade and 120 feet from the outdoor dining area located at the northwest corner of Bayside Drive and East Coast Highway. Based on a noise level's source strength of 64 dBA at a reference distance of 5 feet, and distance attenuation (minimum 22 dBA insertion loss for Location R1 and 20 dBA insertion loss for Location R2), and accounting for barrier-insertion loss for walls at Location R1 (minimum 5 dBA), outdoor dining-related activity noise levels would be reduced to 31 dBA at Location R1 and 38 dBA at Location R2. As outdoor dining related activity noise levels would not exceed the measured ambient noise level of 52 dBA at Location R1 and the nighttime significance threshold of 50 dBA at Location R2, the noise threshold would not be exceeded and impacts would be less than significant.

***(vii) Composite Noise Level Impacts from Proposed Project Operations***

An evaluation of noise from all the project's noise sources (i.e., composite noise level) was conducted to conservatively ascertain the potential maximum project-related noise level increase that may occur at the noise-sensitive receptor locations included in this analysis. The overall sound environment at the areas surrounding the project is comprised of contributions from each individual noise source associated with the typical daily operation of the proposed project. Primary noise sources associated with the project would include traffic on nearby roadways, on-site mechanical equipment, boat storage-related facilities, outdoor dining areas, and on-site parking areas (which are addressed individually above).

Based on a review of the noise-sensitive receptors and the project's noise sources, the only noise-sensitive location wherein composite noise impacts could occur is at the nearby mobile home uses at Locations R1 and R2, and at the single-family residential uses at Location R3. The project noise sources that could potentially affect the other noise-sensitive locations are roadway noise and parking area noise.

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<sup>11</sup> Noise measurements conducted for outdoor dining activities at a patio area, PCR, May 2008.

Project-related traffic would increase the ambient noise in the vicinity of the project site. However, mobile home uses near Location R1 along Bayside drive north of East Coast Highway are already developed with sound walls. The sound wall would reduce traffic related noise levels below the significance threshold along Bayside Drive north of East Coast Highway. Therefore, impacts would be less than significant. As previously mentioned, mechanical noise sources are expected to comply with all noise limitation requirements provided in the NBMC, which would ensure that future development would not exceed the project thresholds of significance. On-site parking areas would increase the ambient sound level at the nearest mobile home uses at Location R2. However, as discussed above, impacts from parking areas would be less than significant. Boat storage and service area noise levels would not exceed the significance thresholds, as also discussed above. Overall, relative to the existing noise environment, the proposed project is estimated to increase the ambient sound level at the nearest noise-sensitive receptors (Locations R2 and R3), but by a less than significant margin. Composite noise level increases at all other receptor locations are expected to be less than significant as well, given their distance from the project site. As such, the composite noise level impact due to the proposed project's future operations would be less than significant.

***(viii) Site Compatibility (Proposed On-site Noise Sensitive Uses)***

The project would locate new noise sensitive uses on the site, including residential units. As indicated by the noise measurement data presented in Table 4.J-6, the proposed residential uses would be exposed to noise levels that currently exceed the City's land use compatibility standard of 65 dBA CNEL for residential uses. Therefore, noise insulation features should be included in the design of the residential buildings, to achieve the interior noise limits of 45 dBA CNEL. Incorporation of the Mitigation Measure J-2 described below would reduce noise levels to 45 dBA CNEL at the interior of the residential units, and thus, would reduce potential impacts associated with the introduction of residential uses to a less than significant level.

**(c) Operational Vibration**

Threshold	Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
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*4.J-4 Project implementation would not generate excessive vibration levels to nearby sensitive receptors. Thus, long-term vibration impacts would be less than significant.*

The proposed project would include typical commercial-grade stationary mechanical and electrical equipment such as air handling units, condenser units, and exhaust fans, which would produce vibration. In addition, the primary sources of transient vibration would include passenger vehicle circulation within the proposed parking area activity. Ground-borne vibration generated by each of the above-mentioned activities would be similar to the existing sources (i.e., traffic on adjacent roadways) adjacent to the project site. The potential vibration impacts from all proposed project sources at the closest structure locations would be less than the significance threshold of 0.04 inches per second PPV for perceptibility. As such, vibration impacts associated with operation of the proposed project would be below the significance threshold and impacts would be less than significant.

**(3) Consistency With Regulatory Framework**

<b>Threshold</b>	Would the project conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan and municipal code) adopted for the purpose of avoiding or mitigating an environmental effect?
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*Impact 4.J-5 Implementation of the proposed project would not conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project with regard to noise (including, but not limited to the General Plan and Municipal Code). This impact is considered less than significant.*

The proposed project would not conflict with applicable policies contained in the City’s General Plan regarding noise, as discussed below in **Table 4.J-10, General Plan Consistency Analysis**. As shown in Table 4.J-10, impacts related to consistency with the Newport Beach General Plan regarding noise would be less than significant.

**Table 4.J-10**

**General Plan Consistency Analysis**

Applicable Policies	Project Consistency Statement
<i>Noise Element</i>	
<b>Policy N 1.1 - Noise Compatibility of New Development.</b> Require that all proposed projects are compatible with the noise environment through use of Table 4.J-1 above, and enforce the interior and exterior noise standards shown in Table 4.J-2 above.	<b>Consistent.</b> The proposed project would implement various mitigation measures (for construction), development standards, and design guidelines in order to ensure that future on-site development is compatible with the noise environment and achieve all applicable interior and exterior noise standards. Further, a project-specific acoustical analysis would be required to be performed as part of the Site Development Review process once a specific project has been submitted to implement the proposed legislative approvals at the site.
<b>Policy N 1.2 - Noise Exposure Verification for New Development.</b> Applicants for proposed projects that require environmental review and are located in areas projected to be exposed to a CNEL of 60 dBA and higher, as shown on Figure N4, Figure N5, and Figure N6 may conduct a field survey, noise measurements or other modeling in a manner acceptable to the City to provide evidence that the depicted noise contours do not adequately account for local noise exposure circumstances due to such factors as, topography, variation in traffic speeds, and other applicable conditions. These findings shall be used to determine the level of exterior or interior, noise attenuation needed to attain an acceptable noise exposure level and the feasibility of such mitigation when other planning considerations are taken into account.	<b>Consistent.</b> As required by the proposed PCDP, and required by mitigation below, a detailed acoustic analysis would be prepared to determine the design and mitigation requirements for residential uses to be constructed on-site, such that established City interior noise standards are achieved for future development. As discussed above, no significant noise impacts are anticipated to occur as a result of future project development with implementation of applicable mitigation, which includes preparation of a project-specific acoustical analysis and inclusion of appropriate noise-reducing features as part of future residential construction to reduce noise levels at on-site sensitive receptors to acceptable levels.

**Table 4.J-10 (Continued)**

**General Plan Consistency Analysis**

Applicable Policies	Project Consistency Statement
<p><b>Policy N 1.5 – Infill Projects.</b> Allow a higher exterior noise level standard for infill projects in existing residential areas adjacent to major arterials if it can be shown that there are no feasible mechanisms to meet the exterior noise levels. The interior standard of 45 dBA CNEL shall be enforced for any new residential project.</p>	<p><b>Consistent.</b> While a future project to be developed on the project site would be considered an “infill” project, the Site Development Review process would require that a project-specific acoustical study be conducted for the project that determines design features or other measures to be implemented such that the City’s 45-dBA interior noise standard for residential uses is achieved.</p>
<p><b>Policy N 1.6 – Mixed-Use Developments.</b> Encourage new mixed-use developments to site loading areas, parking lots, driveways, trash enclosures, mechanical equipment, and other noise sources away from the residential portion of the development.</p>	<p><b>Consistent.</b> Although no specific development project is currently under consideration by the City, the development standards and design guidelines contained in the project PCDP would serve to minimize noise-related impacts to on-site residential uses resulting from operation of on-site commercial uses. Furthermore, the Site Development Review process for a future development project on-site would also address potential noise-related incompatibilities associated with on-site land uses.</p>
<p><b>Policy N 1.7 – Commercial/Entertainment Uses.</b> Limit hours and/or require attenuation of commercial/entertainment operations adjacent to residential and other noise-sensitive uses in order to minimize excessive noise to these receptors.</p>	<p><b>Consistent.</b> To the extent required by the City, future on-site commercial uses located in proximity to residential uses would be subject to operational conditions which would serve to minimize noise-related conflicts with residential and other noise-sensitive uses.</p>
<p><b>Policy N 1.8 – Significant Noise Impacts.</b> Require the employment of noise mitigation measures for existing sensitive uses when a significant noise impact is identified. A significant noise impact occurs when there is an increase in the ambient CNEL produced by new development impacting existing sensitive uses. The CNEL increase is shown in the Table 4.J-3 above.</p>	<p><b>Consistent.</b> As discussed above, future on-site development would not result in significant project-related noise impacts to nearby sensitive receptors. Furthermore, off-site traffic noise levels would not exceed established thresholds at sensitive receptor locations along affected roadways given the presence of existing sound walls at these locations.</p>
<p><b>Policy N 2.1 – New Development.</b> Require that proposed noise-sensitive uses in areas of 60 dBA and greater, as determined the analyses stipulated by Policy N1.1, demonstrate that they meet interior and exterior noise levels.</p>	<p><b>Consistent.</b> Future development of allowable uses on the project site would meet applicable interior and exterior noise standards with implementation of applicable design features.</p>

Table 4.J-10 (Continued)

## General Plan Consistency Analysis

Applicable Policies	Project Consistency Statement
<p><b>Policy N 2.2 – Design of Sensitive Land Uses.</b> Require the use of walls, berms, interior noise insulation, double paned windows, or other noise mitigation measures, as appropriate, in the design of new residential or other new noise-sensitive land uses that are adjacent to major roads. Application of the Noise Standards in Table 4.J-2 above shall govern this requirement.</p>	<p><b>Consistent.</b> As deemed necessary and appropriate based on a future project-specific noise study, noise reduction measures would be implemented as part of a future development project in order to achieve the City’s established noise standards.</p>
<p><b>Policy N 2.3 – Limiting Hours of Truck Deliveries.</b> Limit the hours of truck deliveries to commercial uses abutting residential uses and other noise sensitive land uses to minimize excessive noise unless there is no feasible alternative. Any exemption shall require compliance with nighttime (10:00 P.M. to 7:00 A.M.) noise standards.</p>	<p><b>Consistent.</b> To the extent feasible, truck deliveries for future land uses on-site would be limited to daytime hours. Construction activities associated with potential relocation of a water pipeline in East Coast Highway may involve nighttime work, including truck deliveries, on a temporary basis in order to minimize disruption of daytime traffic flow along East Coast Highway.</p>
<p><b>Policy N 2.5 – Boating Activities.</b> Enforce compliance of all boating activities with the noise standards defined in the Municipal Code.</p>	<p><b>Consistent.</b> Boating activities associated with potential future marine-related uses (including dry stack boat storage and marine commercial uses) would be carried out in compliance with the City’s established noise standards for such activities.</p>
<p><b>Policy N 3.2 – Residential Development.</b> Require that residential development in the Airport Area be located outside of the 65 dBA CNEL noise contour no larger than shown in the 1985 JWA Master Plan and require residential developers to notify prospective purchasers or tenants of aircraft overflight and noise.</p>	<p><b>Consistent.</b> As shown in Figure N1 of the Newport Beach General Plan Noise Element, the project site is located outside the 60 dBA noise contour for John Wayne Airport. As such, aircraft noise is not expected to result in any adverse impacts to future development on-site.</p>
<p><b>Policy N 3.3 – Avigation Easement.</b> Consider requiring the dedication of avigation easements in favor of the County of Orange when noise-sensitive uses are proposed in the JWA planning area, as established in the JWA Airport Environs Land Use Plan (AELUP).</p>	<p><b>Consistent.</b> Given the project site’s distance from John Wayne Airport, and the site’s location outside of the airport’s existing 60-dBA noise contour, adverse aircraft noise impacts are not expected to occur and as such no avigation easement is warranted.</p>



**Table 4.J-10 (Continued)**

**General Plan Consistency Analysis**

Applicable Policies	Project Consistency Statement
<p><b>Policy N 4.1 – Stationary Noise Sources.</b> Enforce interior and exterior noise standards outlined in Table 4.J-2, and in the City’s Municipal Code to ensure that sensitive noise receptors are not exposed to excessive noise levels from stationary noise sources, such as heating, ventilation, and air conditioning equipment.</p>	<p><b>Consistent.</b> As discussed above, stationary noise sources including mechanical equipment, parking areas, and boat storage and service areas would not exceed established noise standards at nearby sensitive receptors given the design concept and the development standards and design guidelines provided in the project’s PCDP. Furthermore, subsequent acoustic analysis of particular uses and physical design features would be required as part of future Site Development Review once a specific development is brought forth.</p>
<p><b>Policy N 4.2 – New Uses.</b> Require that new uses such as restaurants, bars, entertainment, parking facilities, and other commercial uses where large numbers of people may be present adjacent to sensitive noise receptors obtain a use permit that is based on compliance with the noise standards in Table 4.J-2 and the City’s Municipal Code.</p>	<p><b>Consistent.</b> As required by the City of Newport Beach, commercial uses on-site would be subject to various conditions associated with use permits issued for the future development, including noise-related restrictions, as appropriate, the specifics of which would be determined through the Site Development Review process once a specific project has been proposed.</p>
<p><b>Policy N 4.3 – New Commercial Development.</b> Require that new commercial developments abutting residentially designated properties be designed to minimize noise impacts generated by loading areas, parking lots, trash enclosures, mechanical equipment, and any other noise generating features specific to the development to the extent feasible.</p>	<p><b>Consistent.</b> Subject to review and approval as part of the Site Development Review process, future commercial development on-site would be designed to minimize adverse noise impacts on adjacent and on-site residential and other noise-sensitive uses.</p>
<p><b>Policy N 4.5 – Sound-Amplifying Equipment.</b> Regulate the use of sound-amplifying equipment through the City’s Municipal Code.</p>	<p><b>Consistent.</b> The use of sound-amplifying equipment as part of future project operations would be subject to the requirements of the City of Newport Beach Municipal Code.</p>
<p><b>Policy N 4.6 – Maintenance or Construction Activities.</b> Enforce the Noise Ordinance noise limits and limits on hours of maintenance or construction activity in or adjacent to residential area, including noise that result from in-home hobby or work related activities.</p>	<p><b>Consistent.</b> As discussed previously in this section, future construction activities would be carried out in accordance with the City’s Noise Ordinance, thereby minimizing adverse impacts to adjacent and nearby residential uses.</p>
<p><b>Policy N 4.7 – Nuisances.</b> Regulate the control of nuisances, such as residential party noise, boat party noise, private fireworks, and barking dogs, through the City’s Municipal Code.</p>	<p><b>Consistent.</b> To the extent required by the City’s Municipal Code, nuisance noise would be regulated on-site in order to minimize noise levels in the project area.</p>

Table 4.J-10 (Continued)

## General Plan Consistency Analysis

Applicable Policies	Project Consistency Statement
<b>Policy N 4.8 – Mechanized Landscaping Equipment.</b> Regulate the use of mechanized landscaping equipment.	<b>Consistent.</b> To the extent required by the City’s Municipal Code, noise associated with mechanized landscaping equipment would be regulated on-site in order to minimize noise levels in the project area.
<b>Policy N 5.1 – Limiting Hours of Activity.</b> Enforce the limits on hours of construction activity.	<b>Consistent.</b> Future construction activities would be limited to established construction hours identified in the NBMC.

Source: PCR Services Corporation, 2013.

### 3. CUMULATIVE IMPACTS

The geographic context for the analysis of cumulative noise impacts depends on the impact being analyzed. For construction impacts, only the immediate area around the proposed project site would be included in the cumulative context. For operational/roadway related impacts, the context is build-out of the City of Newport Beach General Plan, including existing and future development of cumulative projects within the City of Newport Beach, as well as adjacent communities that would be potentially impacted. This cumulative impact analysis considers development of the proposed project, in conjunction with ambient growth as discussed in Chapter 3, *Basis for Cumulative Analysis*, in this EIR, and other development within the vicinity of the proposed project in the City of Newport Beach and surrounding jurisdictions. Noise is by definition a localized phenomenon, and significantly reduces in magnitude as the distance from the source increases. As such, only projects and growth due to occur in the immediate project area, including development within the City of Newport Beach, would be likely to contribute to cumulative noise impacts.

#### a. Construction Noise

Increases in noise at adjacent sensitive uses would occur as a result of construction of the proposed project, along with other construction in the vicinity. As discussed under Impact 4.J-1, construction of the proposed project would be conducted within the daytime hours specified in the City’s Noise Ordinance. Additionally, although this construction noise would be temporary, mitigation measures derived from the General Plan Noise Element would be implemented, as appropriate, to reduce the noise impacts to the maximum extent feasible.

Other construction that may occur in the vicinity of the proposed project site would contribute noise levels similar to those generated for the proposed project. Where this development adjoins the proposed project construction, the combined construction noise levels would have a cumulative effect on nearby sensitive uses. Noise is not strictly additive, and a doubling of noise sources would not cause a doubling of noise

levels; as such, cumulative construction noise levels are expected to be below the City's Municipal Code exterior standards at nearby sensitive receptors.

Under Section 10.26.035 (Exemptions) of Chapter 10.26 of the City's Municipal Code, noise sources associated with construction are exempt from the requirements of the Municipal Code, provided that construction activities do not occur between the hours of 7:00 A.M. to 6:30 P.M. on weekdays and , 8:00 A.M. to 6:00 P.M. on Saturday, or at any time on Sunday or a federal holiday. Because compliance with this construction time limit is required by the Newport Beach Municipal Code, the proposed project and all other cumulative development would be exempt, and the cumulative impact associated with construction noise in the Newport Beach area would be considered less than significant. Similarly, because construction-related noise generated under the proposed project would be exempt from established noise standards, the cumulative impact of the proposed project and related projects would also be less than significant.

## **b. Operation**

Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the proposed project and other projects within the project site. Therefore, cumulative traffic-generated noise impacts have been assessed based on the contribution of the proposed project to the future cumulative base traffic volumes in the project vicinity. The noise levels associated with cumulative base traffic volumes without the project, and cumulative base traffic volumes with the project are identified above in Table 4.J-9. Noise level increases in the project area would reach a maximum of 5 dBA CNEL along Bayside Drive north of East Coast Highway, which would exceed the 3-dBA significance threshold and therefore would be considered a significant impact. However, the mobile home uses along Bayside drive, north of East Coast Highway are already developed with sound walls. The sound wall would reduce traffic-related noise levels below the significance threshold at this location on Bayside Drive just north of East Coast Highway. In addition, noise level increases along East Coast Highway, east of Newport Center Drive would reach an increase of 1.1 dBA, CNEL, which would exceed the 1-dBA significance threshold in a 65- to 70-dBA noise environment and therefore would be considered a significant impact. However, the single-family residential uses along the south side of East Coast Highway east of Newport Center Drive are already developed with sound walls, which reduce roadway traffic noise by approximately 5 dBA. The sound walls reduce traffic-related noise levels from cumulative development below the significance threshold at this location. As such, traffic-related noise levels associated with related project development would not result in a significant cumulative operational noise impact, and the proposed project's contribution to this impact would not be considerable.

With regard to stationary sources, noise would be generated by sources at the proposed project and other projects in the vicinity, including the operation of existing commercial uses located along East Coast Highway. The major stationary source of noise that will be introduced into the project area would likely be HVAC equipment of new commercial developments. Noise levels from individual stationary sources would not exceed the applicable City noise standard, and because new permits for HVAC equipment in or adjacent to residential areas shall be designed not to exceed 50 dBA or not to exceed 55 dBA when the equipment would be installed with a timing device that will deactivate the equipment during the hours of 10 P.M. to 7 A.M. The proposed project would not contribute to a significant cumulative operational noise impact from stationary sources. Therefore, cumulative noise impacts would be less than significant and no additional mitigation measures are necessary.

### c. Ground-Borne Vibration

Due to the rapid attenuation characteristics of ground-borne vibration and distance of the related projects to the project, there is no potential for a cumulative construction- or operational-period impact with respect to ground-borne vibration.

## 4. MITIGATION MEASURES

The following mitigation measures address the potential significant noise impacts from the proposed project.

### a. Construction Noise and Vibration

#### (1) Noise

Although project-related construction noise impacts would be less than significant, the following mitigation measures recommended in the Noise Element would be implemented (and complied with prior to issuance of any grading permit), as appropriate, as part of the proposed project to reduce construction noise levels associated with the proposed project:

**Mitigation Measure J-1:** Temporary noise barrier shall be used to block the line-of-site between the construction equipment and the noise-sensitive receptors during project construction, as follows:

- Provide a temporary 15-foot tall noise barrier along the eastern boundary of Planning Area 1 to reduce construction noise at mobile home uses across Bayside Drive (Location R1).
- Provide a temporary 15-foot tall noise barrier along the northern boundary of Planning Area 1 to reduce construction noise at mobile home uses immediately to the north (Location R2).
- Provide a temporary 15-foot tall noise barrier along the south boundary of the Boat Service and Marina Related office construction site (Planning Area 2) to reduce construction noise at single-family residential uses on Linda Isle to the south (Location R3).

#### (2) Vibration

No mitigation measures are necessary.

### b. Operational Noise and Vibration

#### (1) Noise

Operational noise levels at future on-site residential uses would exceed established thresholds due to existing and future traffic volumes along East Coast Highway. As such, the following mitigation measure requires future that a project-specific acoustical analysis be conducted and noise reduction features implemented to reduce these impacts.

**Mitigation Measure J-2:** As required by City of Newport Beach Noise Element, an acoustical analysis of the architectural plans of the proposed residential building shall be prepared

by a qualified acoustical engineer, prior to issuance of building permits, to ensure that the building construction (i.e., exterior wall, window, and door) would provide adequate sound insulation to meet the acceptable interior noise level of 45 dBA CNEL.

## **(2) Vibration**

No mitigation measures are necessary.

## **5. LEVEL OF SIGNIFICANCE AFTER MITIGATION**

### **a. Construction**

Mitigation Measure J-1 would reduce construction noise levels at the exterior of mobile home uses, Locations R1 and R2 and single-family residential uses R3 by up to 10 dBA. Although the noise reduction provided by the noise barrier is considered substantial, construction noise levels would still increase the daytime ambient noise level at mobile home uses, Locations R1 and R2. Construction activities would be required to comply with the City's allowable hours as described above and would be temporary in nature. Since temporary construction noise is exempt from the City's noise ordinance requirements provided it is conducted within the allowable construction hours, construction-related noise would result in a less than significant impact. Construction-related vibration would occur on a temporary basis during future project construction activities; however, as no potential structural damage would occur from project-related vibration, and vibration-related annoyance effects would be sporadic and temporary, impacts associated with construction vibration would be less than significant and no mitigation measures is required.

### **b. Operation**

Project-related noise and vibration resulting from future on-site development, including noise and vibration from stationary and mobile sources, would not exceed established thresholds at nearby off-site sensitive receptors. As such, impacts would be less than significant and no mitigation measures are necessary. Additionally, noise impacts to future on-site residential uses would be reduced to less than significant with implementation of applicable mitigation.