5.9 - Noise

5.9.1 - Introduction

This section describes the existing noise setting and the proposed project's potential impacts on the site and its surrounding area. Descriptions and analysis in this section are based on the Acoustical Analysis Technical Report included in this EIR as **Appendix I**.

5.9.2 - Regulatory Setting

State Agencies

Office of Noise Control Standards

The former California Office of Noise Control has set land use compatibility noise standards and has encouraged local jurisdictions to adopt them. Noise/land use compatibility standards for various land uses are generally expressed in the Noise Element of the local jurisdiction's General Plan to insure that noise is considered in development decisions.

Caltrans Vibration Guidance

Construction vibration is regulated in accordance with standards (**Table 5.9-1**) set forth in the Transportation and Construction-Induced Vibration Guidance Manual (Caltrans 2004). **Table 5.9-1** illustrates the maximum peak particle velocity allowed, above which an impact could occur. Transient sources, such as blasting, create a single, isolated vibration event. Continuous/frequent sources, such as pile driving, and vibratory compaction equipment, create vibration other than in single events.

Table 5.9-1: Groundborne Vibration Exposure Standards

Structure ,Condition and Perception	Maximum Peak Particle Velocity (inches/second)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic building, ruins, ancient monuments	0.12	0.08
Older residential structures with plaster walls/ceilings	0.50	0.30
New residential structures with gypsum board walls/ceilings	1.00	0.50
Modern industrial/commercial buildings	2.00	0.50
Strongly perceptible	0.90	0.10
Source: California Department of Transportation, 2004.		

Local Agencies

City of Newport Beach General Plan

City of Newport Beach noise standards are established in the City of Newport Beach General Plan Noise Element (2006), Table N2. The standards are contained in the Land Use Compatibility Matrix. (**Exhibit 5.9-1**), which is based on the State of California Office of Noise Control model element guidelines. The standards include the acceptable range of ambient noise levels for open space (park)

Table N2 Land Use Noise Compatibility Matrix

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

SOURCE: Newport Beach, 2006

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

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

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

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

Source: Newport Beach General Plan

Exhibit 5.9-1
Land Use Compatibility Matrix

developments, transient lodging (that would apply to the boat slips) and institutional (that could apply to the Girl Scout House), as well as the existing residential uses that are located in close proximity to the site within the City of Newport Beach.

In Newport Beach, open space (park) uses are considered clearly compatible with noise levels up to 65 dBA and normally (on further study) compatible up to 70 dBA. Transient lodging is considered clearly compatible up to 60 dBA and normally compatible up to 70 dBA. Institutional uses are considered normally compatible up to 60 dBA. Surrounding residential uses are considered clearly compatible up to 60 dBA and normally compatible up to 65 dBA. As shown in **Table 5.9-4** below existing noise levels along Balboa Boulevard (the Girl Scout House and tennis courts) are 63 dBA CNEL and interior to the site (Las Arenas park) 59 dBA CNEL.

City of Newport Beach land use compatibility standards generally apply to discretionary actions such as development approval. They are designed to protect various land uses from sources of noise pre-empted from local control such as cars, aircraft, ships, trains, etc. Sources of noise within the jurisdiction of local government are typically regulated by the noise ordinance as part of the municipal code.

Newport Beach Municipal Code

The City of Newport Beach Municipal Code contains the City's Noise Ordinance, which establishes the City's noise standards (**Table 5.9-2**). The Noise Ordinance identifies Designated Noise Zones for various land uses with specific numerical noise exposure standards for the different uses (Section 10.26.025 Exterior Noise Standards; Section 10.26.030 Interior Noise Standards).

Table 5.9-2: City of Newport Beach Noise Standards

Designated Noise Zone	Exterior Noise Standards		Interior Noise Standard	
	7:00 a.m.-10:00 p.m. (dBA)	10:00 p.m.-7:00 a.m. (dBA)	7:00 a.m.-10:00 p.m. (dBA)	10:00 p.m.-7:00 a.m. (dBA)
Noise Zone 1: All single, two- and multiple-family residential properties	55	50	45	40
Noise Zone 2: All commercial properties	65	60	—	—
Noise Zone 3: Residential portions of mixed-use properties	60	50	45	40
Noise Zone 4: Industrial or manufacturing	70	70	—	—
Source: City of Newport Beach Municipal Code, 2008.				

Noise ordinance standards apply to on-site noise generation from mechanical equipment, site maintenance, social functions, etc. These standards ensure that sensitive noise receptors are not exposed to excessive noise levels from stationary noise sources, such as heating, ventilation, and air conditioning equipment. If the measurement location is on a boundary between two different noise zones, the lower noise level standard of the adjacent zones shall apply.

Section 10.28.040 of the City of Newport Beach Municipal Code exempts construction activity from noise standards provided they are conducted between 7:00 a.m. and 6:30 p.m. Monday through Friday and between 8:00 a.m. and 6:00 p.m. on Saturdays.

5.9.3 - Existing Conditions

Acoustical Terminology

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise is generally defined as unwanted sound. Sound is characterized by various parameters, but the "sound pressure level" has become the most common descriptor used to characterize loudness. The unit of sound pressure level is called a decibel (dB).

The decibel (dB) is a unit of measurement that indicates the relative intensity of a sound. The zero point on the dB scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Changes of 3 dB or less are only perceptible in laboratory environments. Audible increases in noise levels generally refer to a change of more than 3 dB, as this level has been found to be barely perceptible to the human ear in outdoor environments. Since the human ear is not equally sensitive to all sound frequencies within the entire spectrum, noise levels at maximum human sensitivity are factored more heavily into sound descriptions in a process called "A weighting," written as dBA. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. All decibel values in this analysis written as dB refer to A-weighted values.

Because sound or noise can vary in intensity by over one million times within the range of human hearing, dB are expressed on a logarithmic scale similar to the Richter scale used for earthquake magnitude; this approach keeps sound intensity numbers convenient and manageable. An increase of 10 dB represents a 10-fold increase in acoustic energy, 20 dB is 100 times more intense, and 30 dB is 1,000 times more intense. Each 10-dB increase is perceived as approximately a doubling of loudness. As examples of sound attenuation as measured in decibels, a 3-dB increase or decrease in the average traffic noise level is realized by a doubling or halving of the traffic volume, or by about a 7-mile-per-hour increase or decrease in average speed. Each doubling of distance from a point noise source reduces the sound level by 6 dB. Accordingly, if a person is 100 feet from a machine and moves 200 feet from that source, the sound level will drop by approximately 6 dB, and moving 400 feet away will reduce sound levels approximately another 6 dB. For each doubling of distance from a line source, such as a roadway, noise levels are reduced 3 to 5 decibels, depending on conditions.

Several other terms and descriptors are used in noise analysis. Time variations in noise exposure are typically expressed in terms of a steady-state energy level equal to the energy content of the time-varying period (called L_{eq}) or as a statistical description of the sound pressure level that is exceeded over some fraction of a given observation period. For example, the noise levels exceeded on 10 percent of readings is called L_{10}, the median (50th percentile) reading is called L_{50}, etc.

Another commonly used method is the day/night average level or L_{dn}. The L_{dn}, which is based on the L_{eq}, is a measure of the 24-hour average noise level at a given location. It was adopted by the U.S.

Environmental Protection Agency (EPA) for developing criteria for the evaluation of community noise exposure. The L_{dn} is calculated by averaging the L_{eq} for each hour of the day at a given location after penalizing the sleeping hours (defined as 10:00 p.m. to 7:00 a.m.) by 10 dBA to account for the increased sensitivity of people to noises that occur at night.

Finally, because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law requires that, for planning purposes, an artificial dB increment be added to quiet-time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL). CNEL is obtained by adding an additional 5 dBA to sound levels in the evening from 7:00 PM to 10:00 PM and 10 dBA to sound levels in the night before 7:00 AM and after 10:00 PM. Because CNEL accounts for human sensitivity to sound, the L_{dn} and CNEL 24-hour figures are always higher than the actual 24-hour average.

Existing Noise

The noise environment within the project area is dominated primarily by vehicle traffic and community activity. There are no airports or railroads in the project vicinity. Within the project area, there are noise-sensitive residential land uses to the south, west and east. Traffic along West Balboa Boulevard generates the majority of the ambient noise in the project area. Occasional aircraft overflight and motorcycle drive-bys generate relatively high noise levels, but are not the major noise events in the project area. Of primary concern is the level of noise experienced by sensitive receptors..

Sensitive Receptors

Sensitive receptors are land uses that are sensitive to increases in ambient noise levels. For purposes of CEQA, the General Plan Noise Element considers a sensitive receptor to be residential uses, public and private educational facilities, hospitals, convalescent homes, day cares, and other (undefined) facilities that are considered noise sensitive.

Sensitive receptors for the proposed project (**Table 5.9-3**) were identified by radiating out from the project site to locate the closest ones. Identifying the nearest sensitive receptors generally represents the worst-case scenario related to noise, as more remote receptors would experience less impact. Existing on-site residential uses are not considered sensitive receptors because they would be removed at the start of the construction of the proposed project.

The closest offsite sensitive receptors are residential land uses located to the south, west, and east of the project site. Several homes located approximately 40 feet to the west of the project site, across 18th Street, residences are located along the east side of 15th Street, approximately 75 feet east of the project site, and residences are located approximately 100 feet south of the project boundary across West Balboa Boulevard. In addition, there are residences across the Bay to the north on Lido Isle, approximately 700 feet from the public beach. The nearest church to the project site is approximately 320 feet from the southeast corner of the project boundary. The closest school to the project site is Newport Elementary, located approximately 830 feet from the southeast corner of the project

boundary. Although there are other sensitive receptors at greater distances from the project site, this assessment concentrates on the nearest sensitive receptors because they would receive the greatest impact from project noise; if noise at these receptors does not exceed the standards, then receptors farther away need not be analyzed quantitatively.

Table 5.9-3: Existing Sensitive Receptors

Receptor	Relationship to Project Site
Residence on the west side of 18th Street	40 feet to the west
Residences along the east side of 15th Street	75 feet to the east
Residences along the south side of West Balboa Boulevard	100 feet to the south
Our Lady of Mount Carmel Catholic Church on West Balboa Boulevard	320 feet to the southeast
Residences across the Bay to the north on Lido Isle	700 feet to the north
Newport Elementary on West Balboa Boulevard	830 feet to the southeast
Source: Michael Brandman Associates, 2008.	

Existing Noise Levels

Existing noise levels in the project's vicinity (**Table 5.9-4**), measured in 2004 for a previous project on the site of the proposed project, are due almost exclusively to vehicular traffic on the streets in the area. The 24-hour CNEL values at both monitoring locations are compatible with the City of Newport Beach's Land Use Community Noise Matrix (Exhibit 5.9-1).

Table 5.9-4: On-Site Noise Modeling Results (dBA)

Parameter	Property Line	
	Play Area Las Arenas Park	Girl Scout Office/ Tennis Courts
24-Hour CNEL	59	63
Maximum 1-Hour LEQ	63	65
When (?)	3:00 p.m. to 4:00 p.m.	3:00 p.m. to 4:00 p.m.
2nd-Highest Hourly LEQ	60	63
When (?)	11:00 a.m. to 12:00 p.m.	8:00 a.m. to 9:00 a.m.
Minimum 1-Hour LEQ	44	45
When (?)	2:00 p.m. to 3:00 p.m.	2:00 p.m. to 4:00 p.m.
1-Second Maximum	89	91
1-Second Minimum	40	30
Source: Giroux, 2004, in Appendix I.		

Other noise sources in the project area include recreational activities, especially water craft. Newport Beach has the largest concentration of small boats in southern California. Thousands of boats operate near the noise-sensitive residential uses that border much of Newport Bay. Charter boats generate

engine noise and noise from passengers, loudspeakers, and live entertainment. Land-based recreational activities, including league and youth sports, generate noise as a result of people shouting and blowing whistles and horns blowing, as well as using loudspeakers.

5.9.4 - Thresholds of Significance

According to the CEQA Guidelines' Appendix G Environmental Checklist, to determine whether noise impacts are significant environmental effects, the following questions are analyzed and evaluated. Would the project result in:

a.) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b.) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

c.) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

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

Two other noise-related CEQA checklist questions (Appendix A, Initial Study Checklist, XI Noise, questions e and f) are not analyzed in this EIR. Both questions relate to projects on or very near airports or private airstrips, but as the project site does not lie within an airport land use plan, within two miles of a public airport, or within the vicinity of a private airstrip, those questions do not apply to this project.

Thresholds for Substantial Noise Increase

The CEQA Guidelines provides no definition of what constitutes a substantial noise increase. The City of Newport Beach General Plan (Noise Policy 1.8) indicates that a significant noise impact occurs when there is an increase in the ambient CNEL produced by new development impacting existing sensitive uses as follows:

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

The project site experiences noise levels of 59 dBA (along Las Arenas park) to 63 dBA CNEL (along Balboa Boulevard) and therefore the applicable threshold of significance would be 1 dBA along Balboa Boulevard and 2 dBA interior to the site.

Groundborne Vibration Thresholds

Groundborne vibration consists of rapidly fluctuating motions of the ground that have an average motion of zero. Groundborne vibration usually affects only people, but extreme vibration can damage buildings. Although groundborne vibration can be felt outdoors, it is typically an annoyance only indoors, where it is exacerbated by the shaking of the building. Groundborne noise due to groundborne vibration typically only exists indoors, consisting of the rattling of windows, dishes, etc.

Peak particle velocity (PPV) relates to the maximum instantaneous peak of the vibration signal and is often used in measuring the magnitude of vibration. Scientific studies have shown that human responses to vibration vary by the source of vibration: continuous or transient. Continuous sources of vibration include construction, while transient sources include passing trucks. Generally, the thresholds of perception and annoyance are higher for transient sources than continuous sources. Based on the thresholds established in the Caltrans manual, the proposed project would create a significant vibration impact if it generated groundborne vibration levels on sensitive receptors in excess of 0.5 PPV during construction and 1.0 PPV during operations.

5.9.5 - Project Impact Analysis and Mitigation Measures

This section discusses potential impacts associated with the proposed project and provides mitigation measures where necessary.

Noise Levels in Excess of Standards

5.9-A: The project would not result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Project-Specific Analysis

Noise levels in the project area would be influenced by construction activity in the short term and by operational activities (traffic, watercraft, and recreation) in the long-term. This impact discussion analyzes the potential for project construction noise and operational noise to cause noise levels in excess of established City of Newport Beach noise standards. The potential for substantial long-term increases in noise are analyzed under Impact 5.9-C, Permanent Increase in Ambient Noise Levels.

Construction Noise

Construction noise causes a short-term increase in ambient noise levels. Noise impacts from construction activities associated with the proposed project would be due to the amount of noise generated by construction equipment, the location of the equipment, the sensitivity of nearby land uses, and the timing and duration of the construction activities. Section 10.28.040 of the City of Newport Beach Municipal Code exempts construction activity from noise standards provided it is conducted between 7:00 a.m. and 6:30 p.m. Monday through Friday and between 8:00 a.m. and 6:00 p.m. on Saturdays. Although there are no standards for construction noise, all construction activity is required to be conducted in accordance with the City of Newport Beach Municipal Code.

Accordingly, construction noise would not generate noise levels in excess of standards and therefore would not expose people to noise levels that exceed standards. Construction noise would have no impact related to noise standards.

Operational Noise

As discussed above, the land-use compatibility guidelines in **Exhibit 5.9-1** establish the acceptable range of ambient noise levels for on-site and adjacent uses within the City of Newport Beach. Traffic noise modeling using the data in the traffic report for the project (**Appendix K**) was conducted for existing and future (Year 2011) noise levels for full project (Phase 3) buildout; since full buildout resulted in a maximum increase in noise of 0.1 dBA, Phases 1 and 2 were not separately modeled. As shown in **Tables 5.9-6** and **5.9-7** (see Impact 5.9-C), future traffic noise levels would result in an increase in noise levels in the project vicinity of 0.1 dBA. This would be less than the 1 dBa threshold and therefore would result in a less than significant impact.

The proposed park use is indicated as clearly compatible with a noise environment up to 65 dBA and would therefore be compatible with the existing and anticipated future noise environment. Transient lodging is considered clearly compatible up to 60 dBA and normally compatible up to 70 dBA; the proposed boating slips (transient lodging) are located well away from Balboa Boulevard, therefore would experience a noise level of less than 60 dBA, and would therefore be compatible with the existing and future noise environment. The existing Girl Scout House is located along Balboa Boulevard and experiences noise levels of 63 dBA CNEL, which is in the normally compatible range for institutional use. The new Girl Scout House would be set back from Balboa Boulevard and would be expected to experience noise levels of less than 60 dBA, putting it in the clearly acceptable range for that use.

On implementation of Phase 3, noise from vessels would occur when the vessels run their engines. Since these vessels would be located within the marina, noise levels would be governed by the City's Municipal Code, which has specific allowed noise levels and durations. Vessels would be required to comply with the noise regulations in the City's Municipal Code, which would be enforced by the Harbor Patrol. Noise from recreational activities in the park would come primarily from children playing and, possibly, group events inside and adjacent to the community buildings. The children's play area would be remote from sensitive receptors, being located in the middle of the proposed park, and could not generate enough noise to exceed the noise standards. Group events, which could generate music and voices, would be infrequent and subject to City of Newport Beach noise ordinances. Accordingly, the operational activities of the proposed project would result in less than significant noise impacts on adjacent residents.

Cumulative

Short-term construction activities on the project site would result in less than significant impacts related to noise standards. The short-term noise levels of the project would contribute to cumulative noise levels; however, the project's contribution to cumulative noise impacts would not cause exceedances of noise standards and would therefore be less than cumulatively considerable.

Long-term operational impacts would result in less than significant noise levels, as onsite uses would be required to comply with existing noise regulations in the City's Municipal Code. The proposed project would contribute to long-term cumulative noise levels; however, this contribution would not cause exceedances of noise standards and is considered less than cumulatively considerable.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Level of Significance After Mitigation

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

Excessive Groundborne Vibration

5.9-B: The project would not result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

Project-Specific Analysis

This impact discussion analyzes the potential for short-term construction and long-term operational activities to cause excessive levels of groundborne vibration.

Construction

The primary sources of groundborne vibration during construction would be from pile driving, bulldozers, backhoes, crawler tractors, and scrapers.

Phase 1 and 2 would only involve demolition activities (Phase 1) and rough grading (Phases 1 and 2); use of construction equipment would be of short duration (approximately 4 weeks for Phase 1) and 8 weeks for Phase 2, and would not include pile driving activities.

During Phase 3, the major source of vibration would be the impact pile driver, which would be expected to produce groundborne vibration on the order of 0.644 PPV at 25 feet. While the majority of pile driving would occur relatively far from sensitive receptors (in the marina), some pile driving may be undertaken to construct the proposed buildings. The proposed marina and Balboa Center are about 200 feet from the closest sensitive receptor. A vibratory roller that would be used to level the project site would come closer to sensitive receptors than the pile driving activities and would produce 0.210 PPV at 25 feet. Vibration falls off quickly with distance. Nonetheless, these construction-related vibrations may be felt by adjacent uses and sensitive receptors (**Table 5.9-5**).

Construction activities would include both single vibratory events and periods in which multiple or continuous vibration would occur, such as pile driving. Therefore, construction impacts were assessed using the continuous/frequent intermittent structural damage vibration threshold of 0.5 PPV for construction. **Table 5.9-5** below provides the estimated construction vibration levels at the residences and other sensitive receptors.

Table 5.9-5: Estimated Construction Vibration Levels

Nearest Sensitive Receptor	Predicted Maximum Peak Particle Velocity (inches/second)	Structural Damage Threshold
Residences along west side of 18th Avenue	0.26	0.5
Residences along the east side of 15th Street	0.14	0.5
Residences along south side of West Balboa Boulevard	0.105	0.5
Our Lady of Mount Carmel Catholic Church on West Balboa Boulevard	0.033	0.5
Residences across the Bay to the north on Lido Isle	0.015	0.5
Newport Elementary on West Balboa Boulevard	0.013	0.5
Source: Michael Brandman Associates, 2008, Sirius Environmental 2009		

Construction-related vibration would be an annoyance to nearby residents, particularly during periods of pile driving and vibratory compaction. The construction-related impact would be temporary, lasting for about 4 weeks for Phase 1, 8 weeks for Phase 2 and up to twelve months for Phase 3.

During the Phase 3 construction period neither pile driving nor compaction would be continuous. For example, piles for building foundations would take less than a month to drive, the sheet piles for the marina bulkheads would take approximately 2 to 2.5 months to drive, and the guide piles for the docks and floats would take no more than one month to drive. In between those activities, normal construction-related vibration would occur that would produce low-level vibration at nearby receptors. The maximum vibration that the nearest residential receptor would be expected to experience is 0.26 PPV, which is below the 0.5 PPV significance level for potential structural damage. Therefore, construction-related vibration impacts from the proposed project on existing sensitive receptors would be less than significant.

Operation

The park, community activities, and marina activities would not be expected to result in increased vibration during operation. Occasional delivery trucks may operate in the area, but would not generate vibration in excess of current conditions. Accordingly, project operation would have no impact related to groundborne vibrations.

Cumulative

The proposed Project would result in construction vibration, but would not exceed significance thresholds at the nearest existing residential receptors, and therefore, would not be cumulatively considerable.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Level of Significance After Mitigation

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

Permanent Increase in Ambient Noise Levels

5.9-C: The project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Project-Specific Analysis

This impact discussion analyzes the potential for 1) a substantial permanent increase in ambient noise levels in the project vicinity associated with operation of the proposed project, 2) impacts of offsite vehicular noise on the project, and 3) exposure of neighboring land uses to stationary noise generated by the project. Potential noise impacts associated with the operations of the proposed project would be the result of project-generated vehicular traffic on project-vicinity roadways, along with onsite recreational noises. The operation of the proposed project could, in turn, be affected by ambient noise from outside the project area, including traffic on nearby streets and roads. Project buildout would not introduce new sensitive receptors to the project site.

Future peak hour traffic noise levels were modeled using the Federal Highway Administration Noise Prediction Model (FHWA-RD-77-108); details of the model, model inputs, and model results for existing conditions and year 2011 with and without the project are presented in Appendix I. The model calculates noise levels for varying traffic volumes and speeds[1].

[1] The modeling of traffic noise is based on the traffic analysis conducted for the first Draft EIR that assumed slightly greater increases in traffic as a result of the project, and thus the model represents a conservative analysis of potential noise impacts. Phases 1 and 2 were not modeled because Phase 3 does not result in a significant impact.

Stationary Noise Sources

The Newport Beach Zoning Code requires that noise from HVAC equipment (Girl Scout House and Balboa Center) not exceed 50 dBA (or 55 dBA if installed with a timing device that deactivates the equipment between 10:00 pm and 7:00 am) and also requires that roof-mounted equipment be screened. Compliance with the Zoning Code would ensure that HVAC equipment does not result in a significant impact on noise in the area.

Recreational Noise

Sources of stationary noise from the project site may include typical recreational noise such as vessels (Phase 3 only), children playing, and pets (no organized sports would take place in the new park). Those noises would be intermittent, would not be expected to exceed 65 dB, and would thus not represent a substantial contribution to ambient noise experienced by sensitive receptors. Noise from recreational activities would not expose future receptors at the project site to substantial increases in noise levels (i.e., an increase of 3 dBA or more); therefore, impacts would be less than significant.

Vehicular Noise

Incremental long-term noise impacts would result from vehicular traffic associated with the project. **Tables 5.9-6** and **5.9-7** present existing noise and future modeled noise from project-related traffic, show that future noise levels with the project for 2011 would not produce a perceptible change in noise levels compared to future conditions without the project (the greatest impact was calculated at 0.1 dBA). As previously discussed, a 1dBA to 2 dBA threshold would be applicable to the project site; implementation of the project would result in a less than significant permanent noise increase impact.

Table 5.9-6: Existing and Future Traffic Noise Levels (AM Peak Hour)

Roadway Intersection (Distance to Centerline in feet)	Noise Levels (dBA CNEL)				
	Existing Condition	Future Condition (2011)		Project-Related Increase	Potentially Significant Impact?
		Without Project	With Project		
Newport Boulevard at Hospital Road (300)	57.7	57.9	57.9	0	N
Balboa Boulevard/Superior Avenue at Coast Highway (175)	62.3	62.7	62.7	0	N
Newport Boulevard at Coast Highway (375)	56.6	57.0	57.0	0	N
Riverside Avenue at Coast Highway (600)	49.1	49.7	49.7	0	N
Tustin Avenue at Coast Highway (450)	44.1	44.7	44.7	0	N
Newport Boulevard at Via Lido (75)	65.5	65.6	65.6	0	N
Newport Boulevard at 32nd Street (200)	58.1	58.1	58.2	0.1	N
Source: Michael Brandman Associates, 2008.					

Table 5.9-7: Existing and Future Traffic Noise Levels (PM Peak Hour)

Roadway Intersection (Distance to Centerline in feet)	Noise Levels (dBA CNEL)				
	Existing Condition	Future Condition (2011)		Project-Related Increase	Potentially Significant Impact?
		Without Project	With Project		
Newport Boulevard at Hospital Road (300)	57.6	58.0	58.0	0	N
Balboa Boulevard/Superior Avenue at Coast Highway (175)	62.4	63.0	63.0	0	N
Newport Boulevard at Coast Highway (375)	56.9	57.4	57.4	0	N
Riverside Avenue at Coast Highway (600)	49.7	50.3	50.3	0	N
Tustin Avenue at Coast Highway (450)	44.7	45.5	45.5	0	N
Newport Boulevard at Via Lido (75)	66.2	66.3	66.3	0	N
Newport Boulevard at 32nd Street (200)	58.9	58.9	59.0	0.1	N
Source: Michael Brandman Associates, 2008.					

Cumulative

Since the proposed project would increase vehicular traffic noise imperceptibly, the project's contribution to the cumulative noise increase is considered less than cumulatively considerable; therefore, less than significant.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Level of Significance After Mitigation

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

Temporary or Periodic Increase in Ambient Noise Levels

5.9-D: The project could result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Project-Specific Analysis

Construction noise represents a short-term increase in ambient noise levels. Noise impacts from construction activities associated with the proposed project would be a function of the noise generated by construction equipment, equipment location, the sensitivity of nearby land uses, and the timing and duration of the construction activities. Construction noise would occur primarily from the noise generated onsite during demolition, excavation and grading, dredging, and construction activities.

As discussed under 5.9-B, construction noise associated with Phases 1 and 2 would be relatively limited. Phase 1 would include demolition and very rough grading (4 weeks); Phase 2 would include additional grading and placement of sod and associated irrigation equipment.

Table 5.9-8 lists typical construction equipment noise levels for equipment that would be used during construction of the proposed project. Some non-typical equipment, including pile drivers, excavators, and dredging equipment, would be used for excavation and dredging of material from the marina during Phase 3 (**Table 5.9-9**).

During Phase 3, excavation and pile driving for the buildings would take approximately two months (including up to 3 weeks of pile driving). Excavation and dredging for the marina would take approximately two months to complete, and construction of the sea wall and sheet piling would take approximately six months (including up to 14 weeks of pile driving). Excavation and construction of the buildings on the upland portion of the site could happen simultaneously with excavation and pile driving of the marina. The sheet piling and sea wall would be constructed using jetting and vibrating for the majority of construction and driving for the last two feet of depth. Construction activities would be carried out in discrete steps, each of which would have a particular mix of equipment and, consequently, noise characteristics. These sequential phases would change the character of the noise levels surrounding the construction site as work progresses.

Table 5.9-8: Noise Associated with Typical Construction Equipment

Construction Phases	Maximum Noise Levels Measured (dBA at 50 feet)
Grading	89
Backhoe	90
Pneumatic tools	88
Air compressor	86
Crane	83
Plate compactor	89
Concrete vibrator	85
Trucks	87
Source: Federal Transit Agency, 1995.	

Table 5.9-9: Noise Associated with Excavation and Dredging Equipment

Equipment	Typical Noise Levels Measured (dBA at 50 feet)
Excavator	85
Diesel-powered barges	85
Dump Trucks	84
Small clamshell dredge	80
Pile driver	95 - 101
Crane	82
Source: Thalheimer 1996.	

On the basis of their proximity to the project site, the residential land uses to the west, east and south of the project site are the sensitive receptors of most concern to project construction noise. Calculated maximum construction noise (all phases of the project), not including pile driving, at sensitive receptors would vary from a maximum of 92 dB at the residences along the west side of 18th Avenue, west of the project site, to a minimum of 66 dB at Newport Elementary, located southeast of the project site (**Table 5.9-10**). Note that construction noise often varies significantly on a day-to-day basis; the noise levels shown in the table represent the maximum case. Simultaneous construction activities at the upland building sites and the marina would not be expected to increase noise levels above those shown in **Table 5.9-10**.

Table 5.9-10: Estimated Construction Noise Levels at Sensitive Receptors

Receptor	Distance and Direction From Project Site (feet)	Maximum Noise Levels (L_{max}, dB)
Residences along the west side of 18th Avenue, west of the project site	40 feet to the west	92
Residences along the east side of 15th Street, east of the project site	75 feet to the east	87
Residences along the south side of West Balboa Boulevard, south of the project site	100 feet to the south	84
Our Lady of Mount Carmel Catholic Church, located southeast of the project site	320 feet to the southeast	75
Residences across the Bay to the north on Lido Isle.	700 feet to the north	67
Newport Elementary, located southeast of the project site	830 feet to the southeast	66
Notes: Noise levels based on construction noise at 90 dB measured at 50 feet from project site; assumes a 6-dB reduction for each doubling of distance. Noise levels in this table depict peak levels and do not predict the 24-hour weighted average (CNEL). This table does not include pile driving associated with building and marina construction. Source: Michael Brandman Associates, 2008.		

Pile driving (Phase 3 only) would increase the noise levels above those expressed in **Table 5.9-8**. Pile driving by equipment of the size anticipated for this project would produce between 95 and 101 dB at 50 feet (**Table 5.9-9**). Assuming a decrease of 6 dB per doubling of distance, receptors 100 feet from the pile driver would experience a noise level of approximately 89-95 dB from the pile driver alone. As most of the pile driving would occur at the site of the proposed marina, near the eastern end of the site, the closest sensitive receptors would be the residences along 15th Street (400 feet from the marina site) and across West Balboa Boulevard (200 feet from the marina site). Those receptors could experience noise from pile driving of approximately 77-83 dB and 83-89 dB, respectively. Noise abatement technology is available that could reduce those noise levels by up to 20 dB (see MM-5.9-D.2). With noise abatement technology the intermittent, sudden nature of pile driving sounds would still be annoying to sensitive receptors, and the impact would still be considered potentially significant.

Construction activities would be performed in accordance with the City's Municipal Code noise regulations that set the times during the day when construction activities are allowed. Adherences to the Code would reduce the project's potential temporary noise impact. Nevertheless, because of the proximity of sensitive receptors to construction noise and the duration of construction activities (including up to 14 weeks of pile driving for the marina and up to 3 weeks of pile driving for buildings), especially pile drivers, increases in temporary ambient noises due to construction are considered potentially significant.

Cumulative

Construction noise would result in temporary increases in ambient noise levels. There are no proposed large construction projects that could result in overlapping construction noise with construction noise from the project; therefore, there would not be a cumulative impact to which the project would contribute.

Mitigation Measures

Project-Specific

MM-5.9-D.1 During all phases of construction, the City of Newport Beach shall ensure that all construction equipment on-site is properly maintained and tuned to minimize noise emissions and that construction equipment is fit with properly operating mufflers, air intake silencers, and engine shrouds no less effective than as originally equipped by the manufacturer.

MM-5.9-D.2 During Phase 3 construction, the City of Newport Beach shall ensure that noise abatement technology is used (e.g., shrouds and barriers) to minimize the sound from pile drivers; no pile driving shall take place outside the hours specified for construction activities in the City of Newport Beach Municipal Code, Section 10.28.040.

MM-5.9-D.3 During all phases of construction, the City of Newport Beach shall ensure that all stationary noise sources (e.g., generators, compressors, staging areas) are located as far from residential and recreational receptors as is feasible.

MM-5.9-D.4 During all phases of construction, material delivery, soil haul trucks, equipment servicing, and construction activities shall be restricted to the hours set forth in the City of Newport Beach Municipal Code, Section 10.28.040.

Cumulative

No mitigation measures are required.

Level of Significance After Mitigation

Project-Specific

Significant impact.

Cumulative

Less than significant impact.