3.1.7 Noise

The following section is based on a noise study completed by Ldn Consulting, Inc. on January 19, 2010. The complete noise impact analysis is included as Appendix M. This study utilizes the *County of San Diego Guidelines for Determining Significance and the Report Format Requirements for Noise* (2009) as a guidance tool.

Introduction

Noise is generally defined as unwanted or annoying sound that is typically associated with human activity and which interferes with or disrupts normal activities. Although exposure to high noise levels has been demonstrated to cause hearing loss, the principal human response to environmental noise is annoyance.

Sound Pressure Levels (SPLs) are typically measured using a non-dimensional logarithmic ratio known as the decibel (dB). Sound waves, traveling outward from a source, exert a sound pressure level (commonly called "sound level"), measured in the aforementioned non-dimensional dB units. In a similar fashion, the A-weighted decibel (dB(A)) is a measure of sound corrected for the variation in frequency response of the typical human ear. There are no absolute standards by which to gauge individual reactions to changes in background noise levels. Typically, a 1 dB increase in noise level is nearly imperceptible. Changes from 3 to 5 dB(A) may be noticed by some individuals who are sensitive to changes in noise. A 5 dB(A) increase is readily noticeable.

The decibel level of sound decreases (or attenuates) exponentially as the distance from the source of that sound increases. For a single point source such as a piece of mechanical equipment, the sound level normally attenuates by about 6 dB(A) for each doubling of distance from the source. Other factors that typically affect sound propagation in an outdoor environment are structural barriers and atmospheric conditions.

Community noise levels are generally not a steady state, and vary as a function of time. Under the conditions of non-steady-state noise, some type of measurement is necessary in order to quantify human responses to noise. Several rating scales have been developed for the analysis of adverse effects of community on people. These scales include the Energy Equivalent Noise Level (L_{eq}) and the Community Noise Equivalent Level (CNEL).

L_{eq} is the sound level corresponding to a steady-state sound level containing the same total energy as a time-varying signal over a given sample period. In the analysis which follows, a one-hour sample period was used for L_{eq} measurements. CNEL further extends the L_{eq} by measuring sound over a 24-hour interval and applying a weighting factor to evening and nighttime noise events (when sleep disturbance is a concern). CNEL is obtained through the addition of 5 dB(A) to sounds levels between the hours of 7:00 PM and 10:00 PM and 10 dB(A) to sound levels between 10:00 PM and 7:00 AM.

3.1.7.1 Existing Conditions

Please see Section 1.4 of the EIR for a general summary of existing site conditions and environmental setting. Noise measurements were conducted on the project site to determine the existing noise level. The meter was located on the eastern portion of the project site adjoining Aqueduct Road near proposed Lots 24 and 25 in order to obtain an estimate of the worst-case existing background noise levels on-site. The measurement was performed on January 15, 2010 between approximately 1:15 PM and 1:30 PM.

The measurement collected along Aqueduct Road reflects the typical sound levels associated with the community setting with the existing adjacent roadway activities. The average sound levels recorded over the monitoring period was 46.0 dB(A) at ML 1. The existing noise sources in the project area consisted primarily of residential activities and distant traffic on West Lilac Road. The measured ambient sound levels are shown on Table 3.1.7-1.

As indicated by the monitoring equipment, at least 90 percent of the time (L90) of the on-site sound level at ML 1 was 39.4 dB(A). The lowest attainable sound levels for the project area and near Aqueduct Road during peak hour traffic times was determined to be 31.2 dB(A) at ML 1. These noise measurements indicate that the project site is acoustically compatible with the County's noise policies.

The noise levels and the distances to the 60 dB(A) CNEL contours for the roadways in the vicinity of the Project site are given in Table 3.1.7-2.

Applicable Plans and Regulations

County of San Diego Standards

Section 36.404 of the County of San Diego Noise Ordinance provides performance standards and noise control guidelines for determining and mitigating non-transportation, or stationary, noise source impacts to residential properties. The purpose of the noise ordinance is to protect, create and maintain an environment free from noise and vibration that may jeopardize the health or welfare, or degrade the quality of life.

According to the County's stationary source exterior noise standards, no person shall operate any source of sound at any location within the County or allow the creation of any noise on a property which causes the noise levels to exceed the exterior noise limits at the property boundary within all non-industrial zones. The noise ordinance sets an exterior noise limit for residential land uses in and adjacent to the property of 50 dB(A) L_{eq} for daytime hours of 7 AM to 10 PM and 45 dB(A) L_{eq} during the noise sensitive nighttime hours of 10 PM to 7 AM.

Section 36.409 of the County of San Diego ordinance controls construction equipment noise. Except for emergency work, it shall be unlawful for any person, including the County of San Diego, to operate construction equipment at any construction site, except as outlined in subsections (a) and (b) below:

> (a) It shall be unlawful for any person to operate construction equipment between the hours of 7 PM of any day and 7 AM of the following day.
>
> (b) It shall be unlawful for any person to operate construction equipment on Sundays, and days appointed by the President, Governor, or the Board of Supervisors for a public fast, Thanksgiving, or holiday, but a person may operate construction equipment on the above-specified days between the hours of 10 AM and 5 PM at his residence or for the purpose of constructing a residence for himself, provided that the average sound level does not exceed 75 decibels during the period of operation and that the operation of construction equipment is not carried out for profit or livelihood.
>
> (c) Except for emergency work, it shall be unlawful for any person to operate construction equipment or cause construction equipment to be operated, that exceeds an average sound level of 75 decibels for an eight-hour period, between 7 AM and 7 PM, when measured at the boundary

line of the property where the noise source is located or on any occupied property where the noise is being received.

In 1991, the United States Fish and Wildlife Service (USFWS) recommended that noise levels not exceed 60 dB(A) or ambient conditions, whichever is greater, to protect the Coastal California Gnatcatcher and other bird species. The County of San Diego has adopted this standard for all sensitive species. Therefore, the 60 dB(A) L_{eq}, or ambient, will be used as the noise criteria to assess noise impacts on sensitive wildlife both on and off site.

Section 36.410 of the County of San Diego Ordinance controls impulsive noise levels. In addition to the general limitations on sound levels in Section 36.404 and the limitations on construction equipment in Section 36.409, the following additional sound level limitations shall apply:

(a) Except for emergency work or work on a public road project, no person shall produce or cause to be produced an impulsive noise that exceeds the maximum sound level of 82 dB(A) at residential or civic uses and 85 dB(A) at agricultural, commercial or industrial uses as described in the County Zoning Ordinance. This is measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is received, for 25 percent of the minutes in the measurement period, as described in the Guidelines for Determining Significance for Noise subsection (c) below. The minimum measurement period is 1 hour as specified in subsection (c) below. The maximum sound level depends on the use being made of the occupied property.

(b) Except for emergency work, no person working on a public road project shall produce or cause to be produced an impulsive noise that exceeds the maximum sound level shown in 85 dB(A) at residential or civic uses and 90 dB(A) at agricultural, commercial or industrial uses as described in the County Zoning Ordinance. This is measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is received, for 25 percent of the minutes in the measurement period, as described in Subsection (c) below. The maximum sound level depends on the use being made of the occupied property.

(c) The minimum measurement period for any measurements conducted under this section shall be one hour. During the measurement period a measurement shall be conducted every minute from a fixed location on an occupied property. The measurements shall measure the maximum sound level during each minute of the measurement period. If the sound level caused by construction equipment or the producer of the impulsive noise, exceeds the maximum sound level for any portion of any minute it will deemed that the maximum sound level was exceeded during that minute.

3.1.7.2 Analysis of Project Effects and Determination of Significance

Guidelines for the Determination of Significance

For purposes of this EIR, a significant noise impact would occur if the project would result in:

1. The exposure of any on- or off-site, existing or reasonably foreseeable future noise sensitive land use to exterior or interior noise (including noise generated from the project, together with noise from roads [existing and planned], railroads, airports, heliports and all other noise sources) in excess of any of the following:

Exterior Locations:

i. 60 dB (CNEL); or

ii. An increase of 10 dB (CNEL) over pre-existing noise.

In the case of single-family residential detached NSLUs, exterior noise shall be measured at an outdoor living area which adjoins and is on the same lot as the dwelling, and which contains at least the following minimum area:

(1) Net lot area up to 4,000 square feet: 400 square feet
(2) Net lot area 4,000 square feet to 10 acres: 10% of net lot area
(3) Net lot area over 10 acres : 1 acre

For all other projects, exterior noise shall be measured at all exterior areas provided for group or private usable open space.

Interior Locations:

45 dB (CNEL) except for the following cases:
i. Rooms which are usually occupied only a part of the day (schools, libraries, or similar facilities), the interior one-hour average sound level due to noise outside should not exceed 50 decibels (A).
ii. Corridors, hallways, stairwells, closets, bathrooms, or any room with a volume less than 490 cubic feet.

2. Airborne noise which, together with noise from all sources, will be in excess of either of the following:

A. (a) [Non-Construction Noise] Except as provided in section 36.409 of this chapter, it shall be unlawful for any person to cause or allow the creation of any noise, which exceeds the one-hour average sound level limits in Table 36.404, when the one-hour average sound level is measured at the property line of the property on which the noise is produced or at any location on a property that is receiving the noise.

Zone	Time	One-hour Average Sound Level Limits (dBA)
(1) RS, RD, RR, RMH, A70, A72, S80, S81, S87, S90, S92 and RV and RU with a density of less than 11 dwelling units per acre.	7 AM to 10 PM 10 PM to 7 AM	50 45
(2) RRO, RC, RM, S86, V5 and RV and RU with a density of 11 or more dwelling units per acre.	7 AM to 10 PM 10 PM to 7 AM	55 50
(3) S94, V4 and all commercial zones.	7 AM to 10 PM 10 PM to 7 AM	60 55
(4) V1, V2 V1, V2 V1 V2 V3	7 AM to 7 PM 7 PM to 10 PM 10 PM to 7 AM 10 PM to 7 AM 7 AM to 10 PM 10 PM to 7 AM	60 55 55 50 70 65
(5) M50, M52 and M54	Anytime	70
(6) S82, M56 and M58.	Anytime	75
(7) S88 (see subsection (c) below)		

(b) Where a noise study has been conducted and the noise mitigation measures recommended by that study have been made conditions of approval of a Major Use Permit, which authorizes the noise-generating use or activity and the decision making body approving the Major Use Permit determined that those mitigation measures reduce potential noise impacts to a level below significance, implementation and compliance with those noise mitigation measures shall constitute compliance with subsection (a) above.

(c) S88 zones are Specific Planning Areas which allow different uses. The sound level limits in Table 36.404 above that apply in an S88 zone depend on the use being made of the property. The limits in Table 36.404, subsection (1) apply to property with a residential, agricultural or civic use. The limits in subsection (3) apply to property with a commercial use. The limits in subsection (5) apply to property with an industrial use that would only be allowed in an M50, M52 or M54 zone. The limits in subsection (6) apply to all property with an extractive use or a use that would only be allowed in an M56 or M58 zone.

B. Noise generated by construction activities related to the project will exceed the standards listed in San Diego County Code Section 36.410, Construction Equipment.

Rationale for Guideline Selection

These guidelines were selected based upon the County of San Diego *Guidelines for Determining Significance and the Report Format Requirements for Noise* (2009).

Analysis (Guidelines 1 and 2A – Project Operational Noise)

The off-site project related roadway segment noise levels were calculated using the methods in the Highway Noise Model published by the Federal Highway Administration (FHWA Highway Traffic Noise Prediction Model, FHWA-RD-77-108, December 1978). The FHWA Model uses the traffic volume, vehicle mix, speed, and roadway geometry to compute the equivalent noise level.

The future traffic noise model utilizes a typical, conservative vehicle mix of 95 percent autos, 3 percent medium trucks, and 2 percent heavy trucks for all analyzed roadway segments. The vehicle mix provides the hourly distribution percentages of automobile, medium trucks and heavy trucks for input into the noise modeling software.

Direct and cumulative roadway noise impacts would be considered significant if the project increases noise levels for a noise sensitive land use by over 3 dB(A) CNEL and if: (1) the existing noise levels already exceed the 60 dB(A) CNEL residential standard, or (2) the project increases noise levels from below the 60 dB(A) CNEL standard to above 60 dB(A) CNEL in the area adjacent to the roadway segment.

If cumulative impacts are found, the County of San Diego requires that the Cumulative without Project scenario and the cumulative with project scenario be compared to the existing noise levels to determine if the project has a cumulatively considerable significant impact. Project generated cumulatively considerable roadway noise impacts would be significant if the project raises the Cumulative without Project noise level by greater than 1 dB(A). If the project and cumulative projects do not increase the existing noise levels to sensitive land uses by 3 dB(A) CNEL, no significant cumulative noise impacts occur and the project would not result in a cumulatively considerable impact.

Off-Site Noise

Table 3.1.7-3 presents the noise levels for the Existing plus Project Scenario and Table 3.1.7-4 presents the comparison of the Existing Year with and without project related noise levels.

As indicated in Table 3.1.7-4, the overall roadway segment noise levels will increase from 0.1 dB(A) CNEL to 2.6 dB(A) CNEL with the development of the project. The highest noise level increases of 1.5 dB(A) CNEL and 2.6 dB(A) CNEL occur along the two local roads east and west of the project site, Via Ararat Drive and Aqueduct Road, respectively. Even with the roadway noise increases along these two segments the existing plus project noise levels are well below the County threshold of 60 dB(A) CNEL for both Via Ararat Drive (53.7 dB) and Aqueduct Road (51.7 dB).

The project will not create a direct impact of more than 3.0 dB(A) CNEL on any roadway segment. Therefore, the project's direct contributions to off-site roadway noise increases are less than significant to any existing or future noise sensitive land uses.

On-Site Noise

The results of the acoustical modeling for all proposed project lots are shown in Table 3.1.7-5. The table output shows the unmitigated noise sensitive area sound levels on-site modeled with average pavement for each of the 28 lots proposed.

The primary sources of future traffic noise on and near the project site would be from West Lilac Road, Aqueduct Road, and Via Ararat Drive. Future traffic estimates for each of these roadways adjacent to the project site predicted volumes for West Lilac Road, Aqueduct Road, and Via Ararat Drive as high as 7,900 average daily trips (ADT), 500 ADT, and 500 ADT, respectively (Darnell & Associates, 2009).

As indicated in Table 3.1.7-5, all 28 lots proposed as part of the project would be well below the County Noise Element significance standard of 60 dB(A) CNEL. Future noise levels on-site ranged from a low of 44.0 dB(A) CNEL on Lot 1 to 50.8 dB(A) CNEL at the ground level for Lot 8. For most of the proposed lots, traffic noise on-site will be in the high-40 dB range, well below the County Noise Standard of 60 dB(A) CNEL.

Noise modeling completed for the project also considered noise increases associated with vehicular noise levels along adjacent roadways. For each roadway segment examined, the worst case ADT and observed/predicted speeds were used along with the corresponding referenced noise level at 50 feet in dB(A). Additionally, the line-of-sight distance to the 60 and 65 dB(A) CNEL contours from the roadway centerline were used as an indication of the worst-case unobstructed theoretical traffic noise contour placement.

Analysis (Guideline 2B – Construction Related Noise)

Ldn Consulting (January 19, 2010) prepared an analysis to evaluate construction noise and off-site roadway noise associated with the proposed project (Appendix M). Construction noise represents a short-term impact on the ambient noise levels. Noise generated by construction equipment includes haul trucks, water trucks, graders, dozers, loaders and scrapers can reach relatively high levels. The most effective method of controlling construction noise is through local control of construction hours and by limiting the hours of construction to normal weekday working hours.

The United States Environmental Protection Agency (USEPA) has compiled data regarding the noise generating characteristics of specific types of construction equipment. Noise levels generated by heavy construction equipment can range from 60 dB(A) to in excess of 100 dB(A) when measured at 50 feet. However, these noise levels diminish rapidly with distance from the construction site at a rate of approximately 6 dB(A) per doubling of distance. For example, a noise level of 75 dB(A) measured at 50 feet from the noise source to the receptor would be reduced to 69 dB(A) at 100 feet from the source to the receptor, and would be reduced to 63 dB(A) at 200 feet from the source.

Using a point-source noise prediction model, calculations of the expected construction noise impacts were completed. The essential model input data for these performance equations include the source levels of each type of equipment, relative source to receiver horizontal and vertical separations, the amount of time the equipment is operating in a given day, also referred to as the duty-cycle and any transmission loss from topography or barriers. To determine the worst-case noise levels for the grading operations no topographic attenuation or barrier reductions were utilized.

Construction noise impacts for the proposed project was completed based upon construction equipment required for the project pursuant to a November 25, 2008 report from J.T. Kruer & Company attached as Appendix A of the supplemental noise study (Appendix M of the EIR). Grading and construction of the project may occur under several different scenarios. The project may be developed all at one time, as two separate phases or on a lot-by-lot basis, which may result in some lots undergoing grading and construction simultaneously. All the internal roadways will be graded prior to the grading of any proposed Lots under any of the aforementioned scenarios. Additionally, no rock crushing or blasting is required during the grading operations of the project site. The grading of the proposed roadways and the proposed lots were analyzed separately below.

Construction Noise - Roadway Grading Operations

The November 25, 2008 J.T. Kruer & Company report on construction activities for the project indicated that under a worst case scenario balancing and base operations for the street improvements for the project would require one 14 H (motor grater), two scrapers, one skip loader, two vibratory rollers, and a 2,000-gallon water truck. During asphalt paving and construction of the dyke for the street improvements, construction equipment would consist of one paving machine, one skip loader, and two rollers. This information is shown on page 4 of the J.T. Kruer & Company report. Based on the USEPA noise emissions, empirical data and the amount of equipment needed, worst case noise impacts from this construction equipment for roadway operations would occur during the base operations (grading). Reference noise levels for each piece of equipment during the grading and base operations are provided in Table 3.1.7-6.

Based upon physical constraints and normal roadway grading operations either the two scrapers, the combination of a dozer and loader or the vibratory rollers will be working along the project roadways in a single area at any given time with the use of a water truck. This activity will be intermittent as the grading progresses and the equipment will be spread out throughout the site. Scrapers have the highest reference noise level, of the equipment listed, of 75 dB(A) L_{eq} at 50-feet, as can be seen in Table 3.1.7-7, and the worst-case condition would occur when the two scrapers and the water truck are working work in close proximity to each other. The cumulative noise levels from these three pieces of equipment are provided in Table 3.1.7-7. As shown in Table 3.1.7-7, the cumulative noise level is 78.6 dB(A) L_{eq} at a distance of 50 feet and at a distance of 80 feet the noise levels would drop below the County threshold of 75 dB(A) L_{eq}.

Most of the internal roadways are located more than 200 feet from the project boundaries with the exception of the proposed roadway located along the south eastern property line, near the intersection of Mr. Ararat Road and Mt. Ararat Lane that provides access to proposed Lots 1 and 2. This proposed roadway is directly adjacent to the property to the east. The property to the east has no dwelling unit and is considered unoccupied. According to the County Noise Ordinance Section 36.409 (c), the 75 dB(A) threshold pertains to a property having a legal dwelling unit and therefore the property to the east is not subject to this noise standard. The nearest legal dwelling unit to the east is over 1,000 feet and to the south is more than 250 feet from the end of the roadway. Therefore no impacts are anticipated from the grading operations of the project's internal roadways.

Construction Noise - Residential Lot Grading (Mass Grading)

The November 25, 2008 J.T. Kruer & Company report indicates that construction equipment for clearing and grubbing will consist of a D-8R dozer, one loader, and four high side end dumps. Remedial and mass grading will consist of six scrapers, two D-9 dozers, one rubber tire dozer, one blade (motor grader) and two 4,000-gallon water trucks. Finished grading equipment will include two dozers, one scraper, one motor grater, two 4,000-gallon water trucks, and one vibratory compactor. These grading operations will not occur simultaneously. Based on the USEPA noise emissions, empirical data and the amount of equipment needed, worst case noise impacts from this construction equipment for site preparation would occur during the remedial and mass grading operations. Reference noise levels for each piece of equipment during the mass grading operations are provided in Table 3.1.7-8.

The equipment is anticipated to be spread out over the entire site; some equipment may be operating at or near the property line while the rest of the equipment may be located more than 300 feet from the same property line. As can be seen in Table 3.1.7-9, if all the equipment was operating in the same location, which is not physically possible, at a distance as close as 160 feet from the nearest property line the point source noise attenuation from construction activities is 10.1 dB(A) (assuming a 6 dB(A) reduction per doubling of distance).

This would result in an anticipated worst-case combined noise level of 74.8 dB(A) at the property line. Given this and the spatial separation of the equipment, the noise levels will comply with the County of San Diego's 75 dB(A) standard at all project property lines. If the project site was graded in two phases (west and east) the separation of each phase is more than 500-feet and noise levels during the grading operations will comply with the 75 dB(A) standard. Therefore, the impacts from the mass residential lot grading operations are less than significant.

Construction Noise - Residential Lot Grading (Developed Individually)

The construction equipment needed for each individual lot will typically consist of one dozer, a compactor and a water truck during the preparation and grading of each pad. A backhoe and cement truck are anticipated for the installation of utilities and driveways. These operations will not occur simultaneously. Based on the USEPA noise emissions, empirical data and the amount of equipment needed, worst case noise impacts from this construction equipment for site preparation would occur during the grading operations. Reference noise levels for each piece of equipment during the individual lot grading operations are provided in Table 3.1.7-10.

The nearest proposed residential property lines are located 80 feet or more from the grading operations for each lot. As can be seen in Table 3.1.7-10, at a distance of 80 feet the point source noise attenuation from construction activities and the nearest property line is 4.1 dB(A). All other property lines are located

further from the acoustic center of proposed grading operations. Given this, the noise levels will comply with the County of San Diego's 75 dB(A) L_{eq} standard at all project property lines. If complications arise that require the utilization of more equipment during the grading of the proposed access noise levels may exceed the County standard if a proposed adjacent property is occupied. This would require the grading contractor to install an 8-foot high temporary barrier along the nearest occupied property line. This environmental design feature has been added in Chapter 7.2. As currently proposed, the project impacts would be less than significant.

Construction Noise - Biological Resources

A biological resource report was completed for the project by Vincent Scheidt on August 12, 2009. There are no sensitive species and no native habitats on or adjacent to the project site, with the exception of a drainage course, including southern coast live oak riparian forest habitat, located off-site, northeast of proposed Lot 16. The Agricultural Open Space easement, which has a minimum of 100 feet width, would avoid most noise impacts. Grading activities on Lot 16 could elevate noise in the closest portion of this off-site habitat (approximately 150 feet away) to greater than 60 dB(A) and therefore may impact sensitive riparian bird breeding should they be present.

Therefore, as part of the design features for the project (Table 1-1), site grading and/or the removal of vegetation on Lot 16 from 1 January to 31 August will require a pre-construction nesting survey to evaluate the presence of sensitive nesting birds in the adjacent riparian northeast of Lot 16. If the pre-construction survey indicates the presence of sensitive birds, then a noise report shall be prepared and submitted to the County and shall include measures to reduce noise during construction in the occupied habitat to maintain noise at or below the standard noise levels of 60 dB(A), or the noise producing construction activities shall be prohibited until after the breeding season.

This design feature is appropriate in lieu of mitigation because the on-site surveys were negative for sensitive species, there are no records of sensitive species in the vicinity of the off-site riparian area, and because the design feature is specific and results in avoidance of any potential noise impacts to sensitive species off-site.

3.1.7.3 Cumulative Impact Analysis

To determine if cumulative off-site noise level increases associated with the development of the project and other planned or permitted projects in the vicinity will create noise impacts. The noise levels for the near-term project buildout and other planned and permitted projects were compared with the existing conditions. Utilizing the project's traffic assessment noise contours were developed for the following traffic scenarios:

- Existing: Current day noise conditions without construction of the project.
- Existing Plus Cumulative Projects Plus Project: Current day noise conditions plus the completion of the project and the completion of other permitted or planned projects.
- Existing vs. Existing Plus Cumulative Plus Project: Comparison of the existing noise levels and the related noise level increases from the combination of the project and all other planned or permitted projects in the vicinity of the site.

The existing plus project noise levels and the distances to the 60 dB(A) CNEL contours for the roadways in the vicinity of the Project site are given in Table 3.1.7-3. The near-term cumulative noise conditions are

provided in Table 3.1.7-11. No noise barriers or topography that may affect noise levels were incorporated in the calculations. Table 3.1.7-12 presents the comparison of the existing versus existing plus project plus cumulative noise levels on area roads.

The overall roadway segment cumulative noise levels will increase from 0.1 dB(A) CNEL to 2.9 dB(A) CNEL with the development of the project. The highest noise level increases of 2.9 dB(A) CNEL occur along Aqueduct Road. Even with the cumulative roadway noise increases along Via Ararat Drive and Aqueduct Road, the noise levels are below the County threshold of 60 dB(A) CNEL. Cumulative plus project noise on Via Ararat is 53.9 dB CNEL and cumulative plus project noise on Aqueduct Road is 52.0 dB CNEL well below the 60 dB CNEL noise standard.

As noted in Section 2.1.3 of this EIR, the Accretive Plan Amendment Authorization (PAA) requesting permission to process a general plan amendment and specific plan for a master plan community was granted by the Planning Commission on December 17, 2010. The Planning Commission action noted it made no judgment on the project and the project cannot proceed unless the County ultimately approves the general plan amendment, specific plan, and tentative and final subdivision map. Additional water, sewer, and fire approvals must also be obtained. At this juncture, no applications have been submitted to the County of San Diego on the Accretive project and environmental review has not commenced. Accordingly, the Accretive project is not a probable future project. Nonetheless, the Accretive project has been analyzed in this EIR based upon the limited information currently available to determine if it would alter any of the cumulative noise impact analysis. The Accretive project consists of approximately 416 acres of land located approximately 3,000 feet east of I-15 with the northern portion of this land transecting West Lilac Road and Valley Center. The project is located approximately one mile east of the project site in the Valley Center Community Planning Area and is separated from the project site by both Old Highway 395 and I-15. The Accretive PAA requests permission to process the General Plan amendment and specific plan for a master planned community consisting of a maximum of 1,746 dwelling units, two schools, a neighborhood-serving commercial village center with retail uses and an active park, and a transit center.

Since the Accretive site is located more than one mile from the project site and it is separated from the project site by the physical noise barriers of both Old Highway 395 and I-15, potential cumulative noise impacts associated with the construction activities on the Accretive site are located too far from the project site to create any cumulatively significant construction noise impacts. These potential construction noise impacts are also limited, given the physical barriers to noise migration from the Accretive project created by both Old Highway 395 and I-15. As discussed in Section 3.1.7 of this EIR, noise impacts associated with the worst-case combined construction activities for the proposed project are below the 75 dB(A) standard at all project property lines. Therefore, there would not be any cumulative construction noise impacts anticipated to occur from the project in combination with any future development of the Accretive site. Cumulative off-site noise impacts associated with the project are discussed in this Section and are shown on Table 3.1.7-12. No cumulative noise level increases of 3 dB(A) CNEL were found on any of the roadway segments. The principal off-site noise associated with the project occurs on the two local roads adjoining the project site, Via Ararat Drive and Aqueduct Road where project noise increases noise levels by 2.9 dB(A) on Aqueduct Road and 1.7 dB(A) on Via Ararat Drive. In each case, Aqueduct Road and Via Ararat Drive and the cumulative noise condition operate at 52 dB(A) and 53.9 dB(A), respectively, which is well below the 60 decibel cumulatively significant noise standard. No traffic from any future development of the Accretive project is anticipated on either of these local roads. Accordingly, cumulatively significant noise impacts on off-site roads are not anticipated as a result of the project in combination with any future development of the Accretive project.

No significant cumulative noise level increases of 3 dB(A) CNEL were found on any of the roadway segments. Therefore cumulative noise is projected to be less than significant and no future analysis is required.

3.1.7.4 Significance of Impacts Prior to Mitigation

Based upon the analysis presented in Sections 3.1.7.1 and 3.1.7.2, the project will have less than significant noise and vibration impacts, both individually or cumulatively, and no mitigation is required.

3.1.7.5 Conclusion

Based upon the analysis presented in Sections 3.1.7.1, 3.1.7.2, and 3.1.7.3, the project will have less than significant noise and vibration impacts, both individually or cumulatively, and no mitigation is required.

TABLE 3.1.7-1
Measured Ambient Sound Levels

Site	Start Time	1-Hour Noise Level Descriptors in dB(A)					
		L_{eq}	L_{max}	L_{min}	L10	L50	L90
ML1	1:15PM	46.0	61.3	31.2	47.1	42.1	39.4

Source: Ldn Consulting, 2010

Monitoring Location
(ML1) East portion of project site facing Aqueduct Road.

TABLE 3.1.7-2
Existing Noise Levels (Roadway Segments)

Roadway	Segment	ADT	Vehicle Speeds (mph)	Noise Level at 50 feet (dB(A) CNEL)	60 dB(A) CNEL Contour Distance (Feet)
Camino Del Rey	SR-76 to Old River Rd	9,840	45	69.3	429
	Old River Rd to W. Lilac Rd	9,517	45	69.2	415
West Lilac Rd	Camino Del Rey to Via Ararat Dr.	2,121	45	62.7	92
	Via Ararat Dr to Aqueduct Rd	2,130	45	62.7	93
	Aqueduct Rd to Old Hwy 395	2,292	45	63.0	100
Old Hwy 395	Dulin Rd to W. Lilac Rd	4,174	55	67.6	288
	W. Lilac Rd to Via Urner Way	4,280	55	67.7	295
Via Ararat Dr	W. Lilac Rd to Mt. Ararat Way	326	35	52.2	8
Aqueduct Rd	W. Lilac Rd to Via Urner Way	253	25	49.1	4
Via Urner Way	Aqueduct Rd to Old Hwy 395	956	25	54.9	15

Source: Ldn Consulting, 2010

TABLE 3.1.7-3
Existing Plus Project Noise Levels

Roadway	Segment	ADT	Vehicle Speeds (MPH)[1]	Noise Level at 50-feet (dB(A) CNEL)	60 dB(A) CNEL Contour Distance (Feet)
Camino Del Rey	SR-76 to Old River Rd	9,948	45	69.4	433
	Old River Rd to W. Lilac Rd	9,625	45	69.2	419
West Lilac Road	Camino Del Rey to Via Ararat Dr	2,229	45	62.9	97
	Via Ararat Dr to Aqueduct Rd	2,248	45	62.9	98
	Aqueduct Rd to Old Hwy. 395	2,520	45	63.4	110
Old Highway 395	Dulin Rd to W. Lilac Rd	4,227	55	67.7	292
	W. Lilac Rd to Via Urner Way	4,455	55	67.9	307
Via Ararat Drive	W. Lilac Rd to Mt. Ararat Way	457	35	53.7	12
Aqueduct Road	W. Lilac Rd to Via Urner Way	458	25	51.7	7
Via Urner Way	Aqueduct Rd to Old Hwy. 395	956	25	54.9	15

Source: Ldn Consulting, 2010

TABLE 3.1.7-4
Existing vs. Existing Plus Project Noise Levels

Roadway	Segment	Existing Noise Level at 50 feet (dB(A) CNEL)	Existing plus Project Noise Level at 50 feet (dB(A) CNEL)	Project Related Direct Noise Level Increase (dB(A) CNEL)
Camino Del Rey	SR-76 to Old River Rd	69.3	69.4	0.1
	Old River Rd to W. Lilac Rd	69.2	69.2	0.0
West Lilac Rd	Camino Del Rey to Via Ararat Dr.	62.7	62.9	0.2
	Via Ararat Dr to Aqueduct Rd	62.7	62.9	0.2
	Aqueduct Rd to Old Hwy 395	63.0	63.4	0.4
Old Hwy 395	Dulin Rd to W. Lilac Rd	67.6	67.7	0.1
	W. Lilac Rd to Via Urner Way	67.7	67.9	0.2
Via Ararat Dr	W. Lilac Rd to Mt. Ararat Way	52.2	53.7	1.5
Aqueduct Rd	W. Lilac Rd to Via Urner Way	49.1	51.7	2.6
Via Urner Way	Aqueduct Rd to Old Hwy 395	54.9	54.9	0.0

Source: Ldn Consulting, 2010

TABLE 3.1.7-5
Predicted On-Site Transportation Noise Levels

Receptor No.	Receptor Location	Receptor Elevation (Feet)[1]	Unmitigated Outdoor Noise Level (dBA CNEL)[2]	Second Floor Facade Noise Levels (dBA CNEL)[3]
1	Lot 1	750	44.0	44.0
2	Lot 2	740	44.7	44.7
3	Lot 3	745	45.7	45.7
4	Lot 4	732	46.0	46.0
5	Lot 5	740	47.0	47.0
6	Lot 6	750	49.4	49.4
7	Lot 7	752	48.8	48.8
8	Lot 8	775	50.8	50.7
9	Lot 9	785	47.6	47.6
10	Lot 10	785	47.0	47.0
11	Lot 11	765	47.1	47.1
12	Lot 12	815	49.4	49.4
13	Lot 13	810	50.2	50.2
14	Lot 14	780	50.2	50.2
15	Lot 15	775	50.3	50.3
16	Lot 16	765	50.0	50.0
17	Lot 17	805	48.6	48.6
18	Lot 18	810	49.1	49.1
19	Lot 19	790	47.8	47.8
20	Lot 20	820	47.4	47.4
21	Lot 21	825	47.4	47.4
22	Lot 22	830	47.3	47.3
23	Lot 23	865	47.3	47.3
24	Lot 24	870	50.4	50.3
25	Lot 25	885	49.6	49.6
26	Lot 26	865	48.3	48.3
27	Lot 27	830	48.2	48.2
28	Lot 28	815	48.3	48.3

Source: Ldn Consulting, 2010
[1] Receptor Elevation is 5-feet above the Pad Elevation
[2] No Exterior Mitigation is required per County Guidelines
[3] No Interior Noise Study required per County Guidelines

TABLE 3.1.7-6
Reference Noise Levels for Roadway Construction

Construction Phase	Construction Equipment	Quantity	Source Level at 50 feet (dB(A) L_{eq})[1]
Grading and Base Operations	Water Truck	1	70
	Scraper	2	75
	Motor Grader	1	73
	Skip Loader	1	72
	Vibratory Roller	2	74

1. USEPA 1971 and Empirical Data

TABLE 3.1.7-7
Roadway Construction Noise Levels

Construction Equipment	Quantity	Source Level at 50 feet (dB(A) L_{eq})	Dust Cycle (hours/day)	Cumulative Noise Level at 50 feet (dB(A) L_{eq})
Water Truck	1	70	8	70
Scraper	2	75	8	78
Cumulative Levels at 50 feet (dBA)				**78.6**
Distance to Property Line				**80**
Noise Reduction due to Distance				**-4.1**
Nearest Property Line Noise Level				**74.5**

Source: Ldn Consulting, 2010

TABLE 3.1.7-8
Reference Noise Levels for Mass Grading

Construction Phase	Construction Equipment	Quantity	Source Level at 50 feet (dB(A) L_{eq})[1]
Mass Grading Operations	Dozer	2	75
	Motor Grader	1	73
	Scrapers	6	75
	Rubber Dozer	1	72
	Water Truck	2	70

1. USEPA 1971 and Empirical Data

TABLE 3.1.7-9
Construction Noise Levels (Mass Grading)

Construction Equipment	Quantity	Source Level at 50 feet (dB(A) L_{eq})	Dust Cycle (hours/day)	Cumulative Noise Level at 50 feet (dB(A) L_{eq})
Dozer	2	75	8	78
Motor Grader	1	73	8	75
Scrapers	6	75	8	83
Rubber Dozer	1	72	8	72
Water Truck	2	70	8	73
Cumulative Levels at 50 feet (dBA)				**84.9**
Distance to Property Line				**160**
Noise Reduction due to Distance				**-10.1**
Nearest Property Line Noise Level				**74.8**

Source: Ldn Consulting, 2010

TABLE 3.1.7-10
Construction Noise Levels (Individual Lots)

Construction Equipment	Quantity	Source Level at 50 feet (dB(A) L_{eq})	Dust Cycle (hours/day)	Cumulative Noise Level at 50 feet (dB(A) L_{eq})
Compactor	1	75	8	75
Dozer	1	75	8	75
Water Truck	1	70	8	70
Cumulative Levels at 50 feet (dB(A))				**78.6**
Distance to Property Line				**80**
Noise Reduction due to Distance				**-4.1**
Nearest Property Line Noise Level				**74.5**

Source: Ldn Consulting, 2010

TABLE 3.1.7-11
Existing Plus Project Plus Cumulative Noise Levels

Roadway	Segment	ADT[1]	Vehicle Speeds (MPH)[1]	Noise Level at 50 feet (dB(A) CNEL)	60 dB(A) CNEL Contour Distance (Feet)
Camino Del Rey	SR-76 to Old River Rd	11,620	45	70.1	506
	Old River Rd to W. Lilac Rd	10,414	45	69.6	454
West Lilac Road	Camino Del Rey to Via Ararat Dr.	2,853	45	64.0	124
	Via Ararat Dr to Aqueduct Rd	2,967	45	64.1	129
	Aqueduct Rd to Old Hwy 395	3,285	45	64.6	143
Old Hwy 395	Dulin Rd to W. Lilac Rd	5,935	55	69.1	410
	W. Lilac Rd to Via Urner Way	6,230	55	69.3	430
Via Ararat Drive	W. Lilac Rd to Mt. Ararat Way	481	35	53.9	12
Aqueduct Road	W. Lilac Rd to Via Urner Way	492	25	52.0	8
Via Urner Way	Aqueduct Rd to Old Hwy 395	989	25	55.1	16

Source: Ldn Consulting, 2010
1. Project traffic study prepared by Darnell & Associates (2009)

TABLE 3.1.7-12
Existing vs. Existing plus Project Plus Cumulative Noise Levels

Roadway	Segment	Existing Noise Level at 50 feet (dB(A) CNEL)	Cumulative plus Project Noise Level at 50 feet (dB(A) CNEL)	Cumulative Direct Noise Level Increase (dB(A) CNEL)
Camino Del Rey	SR-76 to Old River Rd	69.3	70.1	0.8
	Old River Rd to W. Lilac Rd	69.2	69.6	0.4
West Lilac Road	Camino Del Rey to Via Ararat Dr.	62.7	64.0	1.3
	Via Ararat Dr to Aqueduct Rd	62.7	64.1	1.4
	Aqueduct Rd to Old Hwy 395	63.0	64.6	1.5
Old Hwy 395	Dulin Rd to W. Lilac Rd.	67.6	69.1	1.5
	W. Lilac Rd to Via Urner Way	67.7	69.3	1.6
Via Ararat Drive	W. Lilac Rd to Mt. Ararat Way	52.2	53.9	1.7
Aqueduct Road	W. Lilac Rd to Via Urner Way	49.1	52.0	2.9
Via Urner Way	Aqueduct Rd to Old Hwy 395	54.9	55.1	0.1

Source: Ldn Consulting, 2010
Note: Sound Levels provided are worst-case and do not take into account topography or shielding from barriers.

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