

3.5 Noise

Noise impacts are addressed in Section 4.8 of the EOMSP Final EIR. The previously certified Final EIR concluded that significant and unmitigable impacts would arise due to the traffic noise generated during the EOMSP implementation. Since the adoption of the EOMSP, the County approved a SPA in 2002 that divided the Plan Area into two subareas and modified the Circulation Element of the Specific Plan, among other changes. Although the locations of some roads were changed in the Circulation Element associated with the SPA, no change in the nature or severity of potential road noise impacts was anticipated in both Subareas 1 and 2 (County of San Diego 2002). The County determined in the *Environmental Review Update Form for Projects with Previously Approved Environmental Documents* for the proposed project that there would be cumulatively significant noise impacts to existing residences on Otay Mesa Road.

Kimley-Horn and Associates (KHA) prepared a project-specific noise assessment evaluating the potential noise impacts associated with the proposed project (KHA 2010). The following subchapter summarizes information and data contained in that technical study. Specifically, this subchapter describes existing noise conditions and evaluates noise receptors that could potentially be impacted by implementation of the proposed project. Appendix C to this SEIR contains the noise assessment in its entirety.

3.5.1 Discussion of Existing Conditions Relating to Noise

Noise Descriptors

Noise can be defined as any unwanted sound. Sound levels are usually measured and expressed in units called decibels (dB). Since the human ear is not equally sensitive to all sound frequencies, noise levels are factored more toward human sensitivity using the “A” weighting scale, written as dB(A). All ground levels discussed in the noise assessment and in this SEIR are A-weighted. To evaluate the long-term characteristics of sound, accounting for the variability in sound levels over time, a mathematical average is used to describe the noise exposure. This time-averaged sound level over a specific period of time (e.g., one hour) is defined as the noise equivalent level (L_{eq}).

Because community receptors are more sensitive to unwanted noise intrusion during the evening hours and at night, state law requires that measured noise during the evening and at night be artificially increased to obtain the average sound level during a 24-hour period. This noise descriptor, which is commonly used to evaluate environmental noise, is called the Community Noise Equivalent Level (CNEL). It is obtained by adding a 5 dB penalty to measured sound levels in the evening hours (7 PM to 10 PM) and a 10 dB penalty to measured sound levels at night (10 PM to 7 AM) to account for heightened noise sensitivity during the evening and nighttime hours.

Sound generally spreads from noise source to noise receptors geometrically, with a rate reduction of approximately 3 dB per doubling distance across hard surfaces; that is, the noise level will be approximately 3 dB less at 200 feet from a source than at 100 feet away. This attenuation or reduction in sound over distance can be increased by factors such as soft ground sound absorption (which increases sound reduction to 6 dB per doubling distance), wind, temperature gradients and humidity. Natural features such as hills and woods, and manmade features such as buildings can also shield receivers from noise.

Existing Ambient Noise Levels

The project site is currently undeveloped, with the exception of a series of dirt roads used by the U.S. Border Patrol for domestic security purposes. In addition to operating vehicles on site, the U.S. Border Patrol also flies helicopters above the project area, which contributes to the existing noise environment. Existing sources of noise in the project area include: vehicular traffic on Otay Mesa Road and Alta Road, which intersect at the northwest corner of the site, and an auto recycling facility near the northwest corner of the site. Also, two airports, Brown Field and the Tijuana International Airport are near the project site. Brown Field is a general aviation airport and is in the City of San Diego approximately 2.75-miles west of the site. The Tijuana International Airport is in Tijuana, Mexico slightly more than two miles southwest. Both airports generate noise levels below 60 dB CNEL at the proposed project site.

Noise measurements were conducted by Pacific Noise Control in accordance with EOMSP guidelines at the proposed project site and along Alta Road and Old Otay Mesa Road to determine the existing noise level at the site and along nearby existing roads. The measurements were conducted on May 24, 2005 and June 7, 2005 at four locations within and adjacent to the proposed project site (Figure 3.5-1). Measured noise levels are shown in Table 3.5-1.

Noise Sensitive Receptors in Proposed Project Area

Noise sensitive receptors are land uses associated with indoor and/or outdoor activities that may be subject to stress and/or significant interference from noise. They typically include residential dwellings, dormitories, mobile homes, hotels, motels, hospitals, nursing homes, educational facilities (i.e., classrooms) and libraries. The proposed project vicinity consists primarily of undeveloped land. Located at the southwest corner of Alta Road and Otay Mesa Road is an auto storage, wrecking and recycling facility. Correctional facilities are located over a mile north of the site. The closest residences are three homes located approximately 0.75-mile west of the site on the north side of Otay Mesa Road between SR-905 and Alta Road. In addition, a residence is located along Kuebler Ranch Road approximately one mile north of the site. The County defines noise sensitive receptors as being located in noise sensitive areas.

Potential noise impacts to noise-sensitive wildlife are addressed in Subchapter 3.1, *Biological Resources*, under Indirect Impacts.

Applicable Plans and Policies

The County addresses two separate types of noise sources; mobile and stationary. In the context of the noise analysis, transportation noise levels associated with the proposed project are regulated by Policy 4b of the Noise Element in the County of San Diego General Plan. County Noise Ordinance sections 36.404 and 36.409 govern operational and construction noise levels, respectively. All of the noted noise plans and policies are outlined below and incorporated into the evaluation of project-related noise effects as appropriate.

County of San Diego Noise Element

The Noise Element of the County of San Diego General Plan establishes limitations on sound levels to be received by noise sensitive land uses (NSLUs). New development may cause an existing NSLU to

be affected by noise caused by the new development, or it may create or locate a NSLU in such a location that it is affected by noise. The Noise Element identifies airports and traffic on public roadways as the major source of noise.

The Noise Element states that an acoustical study is required if it appears that a NSLU would be subject to noise levels of CNEL equal to 60 dB(A) or greater. If that study confirms that greater than 60 dB CNEL would be experienced, modifications must be made to the development that reduce the exterior noise level to less than 60 dB CNEL and the interior noise levels to below 45 dB CNEL at the NSLU.

County of San Diego Noise Ordinance

The County Noise Ordinance (2009c) establishes prohibitions for disturbing, excessive, or offensive noise, and provisions such as sound level limits for the purposes of securing and promoting the public health, comfort, safety, peace, and quiet, for its citizens. Planned compliance with sound level limits and other specific parts of the ordinance allows presumption that the noise is not disturbing, excessive, or offensive. Limits are specified depending on the zoning placed on a property (e.g. varying densities and intensities of residential, industrial and commercial zones).

Non-transportation Noise. Section 36.404 of the County Noise Ordinance provides performance standards and noise control guidelines for determining and mitigating non-transportation, or stationary, noise source impacts to adjacent properties. Sound level limits for the Specific Planning Area (S88) zones are established according to the use being made of the property. As the project site is zoned S88 and planned for industrial use, the noise ordinance requires a property line noise level standard of 70 dBA at any time. At a boundary between two zones, the sound level limit is the arithmetic mean of the respective limits of the two zones. Like the project site, all surrounding properties are also zoned S88 and designated for industrial use, with the exception of the area designated for rural residential use northeast of the site which have noise limits of 50 dBA from 7 AM to 10 PM and 45 dBA from 10 PM to 7 AM. Therefore, the hourly property line noise level limit is 70 dBA adjacent to industrial uses, while adjacent to residential uses the hourly property line noise level limit is 60 dBA from 7 AM to 10 PM and 57.5 dBA from 10 PM to 7 AM.

Construction Noise. The Noise Ordinance establishes additional noise limitations for operation of construction equipment in Section 36.409. Except for emergency work, it is unlawful to operate construction equipment that exceeds an average sound level of 75 dB for an eight-hour period, between 7 AM and 7 PM, when measured at the boundary line of the property where the noise sources is located or on any occupied property where the noise is being received.

In addition to average sound level, the Noise Ordinance establishes limitations on impulsive noise in Section 36.410A. Except for emergency work or work on a public road project, it is unlawful to produce an impulsive noise that exceeds the maximum sound level when 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 one-hour measurement period. For the project site, adjacent properties that could potentially be occupied would be either industrial or residential. Accordingly, the maximum sound level would be 85 dB or 82 dB, respectively.

Noise Standards for Sensitive Species. In 1991, the USFWS recommended that noise levels not exceed 60 dBA to protect the coastal California gnatcatcher and other sensitive bird species. The County has

adopted this standard for all sensitive species. Therefore, the 60 dBA L_{eq} is used as the noise criterion to assess noise impacts on sensitive wildlife both on and off site. Subchapter 3.1, Biological Resources, addresses potential impacts to sensitive birds.

3.5.2 Guidelines for the Determination of Significance

The following guidelines are based on the Guidelines for Determining Significance and Report Content Requirements for Noise, approved by DPLU on January 27, 2009.

A significant noise impact would occur if the proposed project would:

1. Generate construction noise that exceeds the standards and allowable hours listed in the San Diego County Code, Section 36.409, Construction Equipment.
2. Generate non-transportation noise that exceeds the standards listed in the San Diego County Code, Section 36.404, Sound Level Limits, or Section 6300 et seq. of the San Diego County Zoning Ordinance, at all property lines or other applicable locations.
3. Generate transportation noise that exceeds 60 dB CNEL at areas of outdoor frequent use at any residence, or expose existing noise-sensitive land uses to an increase in project-related noise levels that exceed 10 dB CNEL.
4. Generate indirect biological noise impacts to noise sensitive habitat in excess of an hourly noise level of 60 dBA.

3.5.3 Analysis of Project Effects and Determination as to Significance

3.5.3.1 Construction Noise Impacts (Guidelines 1 and 4)

The noise levels generated by construction equipment would vary greatly depending upon factors such as the type and specific model of the equipment, the operation being performed and the condition of the equipment. The average sound level of the construction activity also depends upon the amount of time that the equipment operates and the intensity of the construction during the time period.

The proposed project would involve grading of the site in two phases, as previously noted. Grading Phase 1 comprises final map units 1, 2 and 3 while grading Phase 2 comprises final map units 4 and 5 (see Figure 1-4). Under a worst-case noise scenario, both grading phases could occur simultaneously. Noise generated by construction equipment would occur with varying intensities and durations during construction. Based on a preliminary equipment list, the beginning of both grading phases would require the greatest number and variety of construction equipment. The equipment would be used for clearing and grubbing, removal and recompacting of soil, rock removal, and excavation. The primary equipment would include dozers, loaders, scrapers, water trucks, compactors, a rock breaker, trucks, and graders. After the rough grading of each grading phase is complete, finish grade construction equipment (i.e., graders, water trucks, scrapers and loaders) would be used. As previously stated, the hours of construction would comply with the County's allowable hours of construction (i.e., 7 AM to 7 PM Monday through Saturday, excluding legal holidays).

Construction activities would temporarily increase the noise level in the adjacent project area. Typical hourly average noise levels associated with various pieces of equipment at 50 feet would be approximately 65 to 95 dB (USEPA 1971). The range in the maximum noise level for various pieces of construction equipment at a distance of 50 feet is shown in Table 3.5-2. The average sound level at construction sites is typically less than the maximum noise level because the equipment operates in alternating cycles of full power and low power. Also, the equipment rotates in various directions (i.e., noisiest side of the equipment to quieter sides of the equipment), and moves around the construction site, especially during clearing, grubbing and grading activities. Limited blasting may be required when oversized material is encountered during grading. Thus, the average noise levels produced would be less than the maximum level.

Construction noise in a well-defined area typically attenuates at approximately six dB per doubling of distance from the noise source (KHA 2010). No noise sensitive areas occur immediately adjacent to the project site. The closest off-site homes to the construction activities would be located approximately 0.75-mile west of the site along Otay Mesa Road. With distance accounted for, the one-hour average noise level would be less than 55 dB at the closest homes during grading of the site (assuming a “worst-case” direct line-of-sight to the construction area). The property to the west of the project site is occupied and used for vehicle parking/storage. The centroid of Lots 1 and 2 in Unit 1 would be located approximately 160 feet from the shared property line. The average construction equipment noise level is assumed to be 80 dBA at 50 feet. Assuming three pieces of construction equipment operating continuously, the average noise level would be approximately 75 dBA at the property line. The noise levels anticipated at the nearest occupied structures would comply with the County’s construction noise level criterion. The grading for the proposed project would be balanced; thus, there would be no import or export of dirt. Therefore, noise impacts associated with heavy trucks along the adjacent roads would be less than significant.

Potential construction and operational noise impacts associated with sensitive animal species would be potentially significant (BI-13 and BI-14) and are discussed in Subchapter 3.1, *Biological Resources*, with related mitigation outlined in measures BM-13 and BI-14.

3.5.3.2 *Operational (Non-Transportation) Noise Impacts (Guideline 2)*

Industrial Sources

The proposed project would develop industrial lots adjacent to existing industrial, planned industrial uses, and planned residential uses. Specific industrial uses have not been identified for the lots, but may include industrial plants. Some varied-level noise associated with unspecified industrial uses typically includes truck deliveries, loading dock activities, outdoor mechanical equipment (air compressors, pumps, fans and cooling towers), maintenance activities (parking lot sweepers, trash collection trucks and outdoor paging systems), shop tools and forklifts. Although exact noise levels cannot be determined at this time because the specific uses, location, equipment size and configuration of buildings have not been defined, the one-hour average noise level at 50 feet typically can range from approximately 60 to 75 dB depending on the equipment type. Higher noise levels are possible if the equipment is not adequately shielded, muffled or maintained.

The property boundary of the closest existing residence is approximately 0.75-mile west of the project site along Otay Mesa Road. The off-site undeveloped area adjacent to the northeastern boundary of

the site (Lots 16 through 18) is designated for residential use by the East Otay Mesa Specific Plan (at a maximum density of 1 unit per 20 acres).

The lots created by the project would be required to comply with the County Noise Ordinance. The hourly sound level limit at industrial property lines would be 70 dBA anytime, and the hourly sound level limit at the residential property lines would be 60 dBA between the hours of 7 AM and 10 PM and 57.5 dBA between the hours of 10 PM and 7 AM. Although the exact noise levels of the future industrial uses cannot be specifically quantified at this time because of many variables related to type and location of noise source(s), typical sound levels associated with the types of industrial noise sources mentioned above range from approximately 60 to 75 dBA at 50 feet from the source. However, in practice, the one-hour average sound level at 50 feet typically ranges from approximately 50 to 70 dBA, depending on the equipment and the intensity of use (i.e., duty cycle). Higher noise levels are possible if the equipment is not adequately muffled or maintained. Additional operational noise sources on site would include parking lot sweepers, trash collection and refuse compacting. Those activities would occur between the hours of 6:00 AM to 10:00 PM and would not significantly impact any of the nearby residential receptors.

Much of the project site is surrounded by land designated for mixed industrial use that would not feature noise-sensitive receptors. The exception is land to the east designated for rural residential development, which could feature large-lot (20 acre minimums) residential use at some point in the future. The closest proposed industrial lots to the noted rural residential designation east of the project site are Lots 16 through 18. At a distance of 300 feet from a property line adjacent to an area designated for residential use (based on the preliminary grading plan), a continuous sound level of 75 dBA at 50 feet from the source(s) would result in an hourly average sound level of 59.5 dBA at the property line, which would comply with the County noise ordinance limit of 60 dBA. This simplified calculation does not account for shielding achieved by on-site structures or noise reduction associated with the intermittent nature of industrial activity. Therefore, compliance of lots adjacent to areas designated for residential use is feasible. However, site-specific noise analyses would be required by the County when applicant(s) seek approval of use permits, or site plans on these individual lots to verify that the proposed uses would achieve the County Noise Element and Noise Ordinance sound level limits. Because the exact noise level generated by future industrial operations at the site cannot be determined at this time, impacts to off-site, future noise sensitive areas could potentially meet Significance Guideline 2 and, therefore, could be significant (NI-1).

Sewer Pump Station

Upon implementation of sewer service Option A shown in Figure 1-5a, a regional sewer pump station would be located on the south side of Lot 34 under the proposed project design. All surrounding lots would be industrial, with the SR-11 corridor located to the west and south, and the existing residences occur approximately 3,000 feet from the sewer pump station site. The sewer pump station would be developed in phases, although the initial building would be designed to provide noise attenuation for the ultimate pump station facility. The layout of the pump station is similar to a sewer pump station facility designed for the City of San Diego (designated SPS 88), with a conceptual layout of the proposed pump station provided in Appendix C. The proposed pump station is planned to be a 485-s.f., three-level facility with the bottom two levels located below grade. Three 25-horsepower sewer pumps would be located at the bottom level with the pump motors located below grade. The wet well would be sized for both operational and emergency storage needs and would be

approximately 700 s.f. in size. All electrical switchgear and equipment would be located inside the pump station on the upper/grade level.

For the purposes of the noise analysis, it was assumed that noise generation from the proposed project sewer pump station would be lower than that for the City of San Diego's SPS 88, which has been operational since 2003. Specifically, this assumption is based on the similar design and size of the two facilities, as well as the fact that the project sewer pump station pumps would encompass less overall horsepower and would be located below grade (thereby providing more acoustical shielding). Five-minute sound level measurements were taken at SPS 88 on December 14, 2006 (KHA 2010). Sound levels were measured on the side of the pump station that had an opening for ventilation. When the pumps were operating, sound levels were 53 dBA L_{eq} at 10 feet and 49 dBA L_{eq} at 20 feet. When the pumps and blowers were operating, sound levels were 60 dBA L_{eq} at 10 feet and 56 dBA L_{eq} at 20 feet. The ambient sound level when the pump station was not operating was 47 dBA L_{eq} . Non-pump-station noise sources consisted of distant gardening equipment.

Sound levels of the SPS No. 88 emergency generator were measured on August 8, 2007. The generator was a Cummins Onan 125 kw with a Quiet Site II sound reduction enclosure and located 6 feet from the pump station building façade. The generator, running at full capacity, was found to produce between 66 dBA and 69 dBA at 25 feet (depending on orientation). The ambient noise level was less than 50 dBA.

By requiring the proposed on-site regional sewer pump station to be constructed similar to the SPS 88 design, operation of the facility would result in sound levels less than 70 dBA at the industrial lot boundary and below 57.5 dBA at the northeastern boundary adjacent to the off-site designated Rural Residential use area. Projected impacts related to noise generation from the proposed pump station at any noise sensitive land use would, therefore, be less than significant. To verify these assumptions, sound level measurements will be conducted as part of specified project design features (see Environmental Design Considerations for Noise in Chapter 8.0) for the sewer pump station prior to final occupancy or certification for the permanent facilities of the pump station. The applicant would be required to submit to the satisfaction of the Director of DPLU a letter prepared by a County-certified acoustical consultant that verifies compliance with the property line sound level limits.

Under sewer system option B contained in the Regional Sewer Study produced for the project by PBS&J (2009) and discussed in Subchapter 3.4, *Public Services and Utilities*, the regional pump station proposed on the project site and would instead be placed at the southern end of Alta Road on Lot C of TM 5505 (Figure 1-5b). This pump station would initially be equipped with three 275-gpm pumps to be upgraded to three 550-gpm pumps with the future development of the remaining tributary properties (PBS&J 2009). The regional pump station that would otherwise be constructed on the project site would initially have a set of three 200-gpm pumps to later be upgraded to three 660-gpm pumps to provide capacity at the ultimate condition (PBS&J 2008). Despite variations in capacity and location, the layout, design, and the noise characteristics of the off-site regional pump station (option B) would be similar to the option A regional pump station and its ultimate sewer pumping capacities would be within the design assumptions used in the project noise report. To verify that noise produced by the regional pump station would not reach unacceptable levels, this option would entail the same design features and noise level verification testing, as described above. (See Environmental Design Considerations for Noise in Chapter 8.0.)

3.5.3.3 *Traffic Noise Impacts (Guideline 3)*

The proposed project would generate additional traffic along existing off-site roads in the project area. The majority of the traffic would occur on Otay Mesa Road where several existing residences occur. Noise impacts to these noise-sensitive areas associated with additional traffic are evaluated based on the worst-case traffic condition (either Existing plus Project Buildout [Units 1-5] condition or Cumulative (2020) with SR-905 1A and 1B condition). The results of the noise modeling are presented in Table 3.5-3, *Off-site Traffic Noise Levels (at 50 Feet from Centerline of Road)*.

Based on the noise modeling conducted for the proposed project, the described Future traffic condition would increase existing noise levels along project roadways by approximately 0 dBA to 10 dBA. All increases over 6 dBA would be along roadway segments with no noise sensitive receptors. The greatest noise increases in the vicinity of noise-sensitive receptors would occur on Otay Mesa Road between SR-125 and Alta Road (4 to 6 dBA). The Existing plus Project Buildout (Units 1-5) traffic on Otay Mesa Road between Vann Centre Drive and Enrico Fermi Drive, where the three existing homes occur, would result in noise levels of approximately 76 dBA at 50 feet, an increase of approximately 4 dBA as compared to the existing condition. This noise level would exceed the County Noise Element limit of 60 dBA for residential uses by 16 dBA. The usable side yard areas at these residences, however, are approximately 100 feet from the centerline of Otay Mesa Road. Because this distance is twice the noted distance of 50 feet, the resulting sound level would be decreased by 3 dBA to 73 dBA, or 13 dBA over the County limit.

The potential for significant noise impacts to these existing residences was previously identified as unmitigable in the EOMSP Final EIR and a Statement of Overriding Considerations was adopted by the County at the time of project (Specific Plan) approval. As discussed below under Subchapter 3.5.5, the impact is not a new significant impact and would still be unmitigable making the prior Statement of Overriding Considerations still valid for this subsequent approval.

3.5.3.4 *Airport Noise Impacts (Guideline 3)*

As previously stated, two airports, Brown Field and Tijuana International Airport are located near the proposed project site; however, the proposed project is not located within a Comprehensive Land Use Plan (CLUP) for airports, within one mile of a private airstrip, within two miles of a public airport or a public use airport. No noise sensitive land uses are proposed. Therefore, the project would not expose people residing or working in the project area to excessive airport related noise levels.

3.5.4 Cumulative Impact Analysis

Construction Noise

Each cumulative project listed in Table 1-5 would produce temporary construction noise. As with the proposed project, construction schedules and construction noise equipment levels would vary depending on the type of equipment and its duration of use. Although the nearby homes could be exposed to construction noise from other closer projects in the vicinity, cumulative construction noise is not anticipated to be significant because construction schedules of the various project may not overlap and each project would have to limit construction hours and noise exposure to the 75 dBA limit at the property line set in the County Noise Ordinance.

Industrial Noise

All of the projects proposed adjacent to the proposed project site are industrial in character, would not result in the construction of new noise-sensitive uses, and would be required to comply with the property line noise limits set by the County Noise Ordinance. The closest proposed residential cumulative projects that would result in the construction of new noise-sensitive uses are located over five miles from the project site, within the City of San Diego. In addition, the three existing residences along Otay Mesa Road are over 4,000 feet from the project site. Therefore, the proposed project's contribution to cumulative noise would be less than considerable since its contribution would be less than one dB. No significant cumulative industrial noise impacts are anticipated in the project area.

Traffic Noise

Future/Buildout (Year 2030) Scenario

Under Year 2030 plus Project Units 1-5 conditions, proposed state routes (i.e. SR-125, SR-905, and SR-11) and other proposed roads within the project area would be constructed and all traffic volumes along Otay Mesa Road and other roads in the area would be redistributed. The 2030 plus Project Units 1-5 traffic volumes for Otay Mesa Road between Vann Center Drive and Enrico Fermi Drive, adjacent to the three nearby residences, is projected to be 21,300 ADT, which is more than Cumulative (2020) with SR-905 1A and 1B scenario traffic volume of 5,480 ADT. Therefore, it is more appropriate to analyze potential cumulative traffic noise impact at the existing nearby residences under the Year 2030 scenario. In the 2030 condition, the without project traffic volume on this segment is projected to be 19,810 ADT, and the project traffic volume is projected to be 1,490 ADT. In this condition, the project would increase the noise level at the three residences by less than 1 dBA. For these reasons, cumulatively significant impacts would not occur under the Year 2030 plus Project Units 1-5 condition.

3.5.5 Mitigation Measures Proposed to Minimize the Significant Effects

No significant direct construction or airport noise impacts were identified; therefore, no mitigation measures are needed for those proposed noise sources. The following mitigation measure (NM-1) would address potential impacts from industrial noise sources on planned residential use (impact NI-1).

Industrial Noise

NM-1 Prior to Final Map approval for Unit 2, the applicant shall dedicate a Noise Protection Easement on Lots 16, 17, and 18. This Noise Protection Easement shall require future noise analysis with subsequent discretionary permits (Site Plan or Major Use Permit) for lot development to verify noise levels do not exceed the one-hour hourly averages of 60 dBA between the hours of 7 AM and 10 PM and 57.5 dBA between the hours of 10 PM and 7 AM pursuant to County Noise Ordinance Section 36.404. Noise protection measures to meet these requirements could include proper building orientation, selection of quieter equipment, or placement of noise-producing equipment behind buffer zones, noise enclosures, or parapet walls.

Traffic Noise

Preliminary acoustical calculations were performed by KHA using the Fresnel Diffraction Method to evaluate the effectiveness of a noise barrier in mitigating Existing plus Project Buildout (Units 1-5) traffic noise impacts at side yards of the three existing residences. The usable side yard area was estimated to be located 100 feet from the centerline of Otay Mesa Road. Because this distance is twice the reference distance of 50 feet, the sound level would decrease by 3 dBA to 73 dBA, 13 dBA over the County threshold of significance. A possible barrier placed approximately 25 feet from the roadway centerline adjacent to the homes was analyzed. The calculations indicate that the required 13-dBA insertion loss can be achieved by constructing an 11-foot-high noise wall along the roadway ROW. Return walls along the side yards perpendicular to driveways and side yard property lines would also be required to compensate for gaps at driveway openings, but the location of these walls would have to be determined in consultation with the property owner. Noise walls must be solid construction without holes or gaps and have a mass of at least 3.5 pounds per s.f.

Site Planning Standards in the EOMSP for fencing, walls and hedges are described in Table 3.2-1 of the plan. Under these standards, fencing, walls and hedges within setback areas shall have a maximum height of 6 feet above grade; however, noise walls may be higher to comply with General Plan Noise Element requirements. In addition, walls outside setback areas are permitted up to the maximum allowed height of the main building. However; Table 3.2-1 also states “the County does not want to create fortresses” that do not meet the goals of the Specific Plan Development Standards, which include the “creation of industrial and business parks with strong identities and a place of distinction and quality,” and creation of “cohesive, visually unified industrial business centers.” Therefore, an 11-foot-high noise wall, possibly in excess of 800 feet long, along East Otay Mesa Road, does not comply with the Site Planning Standards in the EOMSP for walls within setback areas, and also would create a fortress-like effect that does not meet the goals of the Specific Plan Development Standards. The insertion loss that would be generated by a more practical wall height was then evaluated. A typical 8-foot-high wall, in the same configuration as above, would generate approximately 11 dBA of insertion loss and reduce the sound level to 62 dBA at the residential side yards, which still exceeds the threshold of 60 dBA.

Based on the above considerations, significant traffic noise levels would be experienced at the side yards of the three noted residences during the Existing plus Project Buildout (Units 1-5) traffic scenario. Because these noise levels cannot feasibly be reduced to meet the applicable County standard of 60 dBA with a noise wall meeting EOMSP design and development considerations, as well as the fact that perpendicular return walls would be required for driveway openings and implementation of the wall would require approval from the adjoining property owners, the described Existing Plus Project Buildout (Units 1-5) traffic noise impacts would be significant and not mitigated to less than significant levels. The potential for a significant and unmitigable noise impact for these residences was previously recognized in the adopted EOMSP Final EIR and a Statement of Overriding Considerations was adopted by the County at the time of Specific Plan approval. This impact is not a new significant impact and would still be unmitigable making the prior Statement of Overriding Considerations still valid for this subsequent approval.

3.5.6 Conclusion

Direct construction noise impacts from the proposed project and airport noise to the proposed project would be less than significant. Potential impacts from sewer pump station noise would be avoided

through required project design measures. Future industrial uses on proposed Lots 16 through 18 could potentially result in direct noise impacts to nearby properties designated for residential use. Such potential impacts would be mitigated by dedication of a Noise Protection Easement over Lots 16 through 18. In addition, significant and unmitigable traffic noise levels would be experienced at three nearby residences during the Existing plus Project Buildout (Units 1-5) traffic condition. However, this impact was previously identified in the adopted EOMSP Final EIR and would therefore not be a new significant impact under the proposed project. Implementation of the mitigation and design measures outlined above would help to reduce the direct impacts associated with industrial and sewer pump station noise.

**Table 3.5-1
MEASURED NOISE LEVELS**

| Location | Description | Date/ Time | L _{eq} ¹ | Cars | Medium Trucks | Heavy Trucks |
|----------|---|------------------------------|------------------------------|-------|------------------|-----------------|
| 1 | Northern portion of project site | 5/24/05 9:10 to 9:20 a.m. | 41 dB | - | - | - |
| 2 | 70 feet from center line of Otay Mesa Road (SR-905) | 6/7/05 8:00 to 8:30 a.m. | 76 dB | 1,529 | 36 | 92 |
| 3 | 45 feet to center line of Old Otay Mesa Road | 5/24/05 7:00 to 8:00 a.m. | 70 dB | 535 | 9 | 21 |
| 4 | 50 feet to center line of Alta Road | 5/24/05 8:10 to 8:30 a.m. | 66 dB | 84 | 1 | 4 |

Notes: ¹Equivalent Continuous Sound Level (Average Sound Level)
 Temperature 60° F, 60 percent relative humidity, wind 2 mph west, overcast sky.
 Source: Pacific Noise Control 2005.

**Table 3.5-2
TYPICAL CONSTRUCTION EQUIPMENT NOISE GENERATION LEVELS**

| | | NOISE LEVEL (dBA) AT 50 FT | | | |
|--|------------------------------|----------------------------|----|----|-----|
| | | 70 | 80 | 90 | 100 |
| Equipment Powered by Internal Combustion Engines Earth Moving | Compactors (Rollers) | | | | |
| | Front Loaders | | | | |
| | Backhoes | | | | |
| | Tractors | | | | |
| | Scrapers, Graders | | | | |
| | Pavers | | | | |
| | Trucks | | | | |
| Equipment Powered by Internal Combustion Engines Materials Handling | Concrete Mixers | | | | |
| | Concrete Pumps | | | | |
| | Cranes (Movable) | | | | |
| | Cranes (Derrick) | | | | |
| Equipment Powered by Internal Combustion Engines Stationary | Pumps | | | | |
| | Generators | | | | |
| | Compressors | | | | |
| Impact Equipment | Pneumatic Wrenches | | | | |
| | Jack Hammers and Rock Drills | | | | |
| | Pile Drivers (Peaks) | | | | |
| Other | Vibrator | | | | |
| | Saws | | | | |

Source: U.S. Environmental Protection Agency (USEPA) 1971.

| Roadway Segment | Existing | | Future | | Increase: Existing vs. Future |
|--|----------|------|---------------------|------|-------------------------------------|
| | ADT | CNEL | ADT | CNEL | |
| Otay Mesa Road | | | | | |
| Heritage to Cactus | 64,299 | 80 | 77,067 ¹ | 81 | 1 |
| Cactus to Britannia | 71,080 | 80 | 83,848 ¹ | 81 | 1 |
| Britannia to La Media | 58,999 | 80 | 72,405 ¹ | 80 | 0 |
| La Media to Piper Ranch | 44,523 | 78 | 58,035 ¹ | 80 | 2 |
| Piper Ranch to SR-125 | 43,109 | 78 | 56,940 ¹ | 79 | 1 |
| SR-125 to SR-905 | 16,686 | 74 | 41,640 ¹ | 78 | 4 |
| SR-905 to Harvest | 9,738 | 72 | 41,640 ¹ | 78 | 6 |
| Harvest to Sanyo | 8,224 | 71 | 26,311 ¹ | 76 | 5 |
| Sanyo to Vann Centre | 9,133 | 72 | 27,220 ¹ | 76 | 4 |
| Vann Centre to Enrico Fermi | 9,133 | 72 | 27,220 ¹ | 76 | 4 |
| Enrico Fermi to Alta | 6,928 | 70 | 17,574 ¹ | 74 | 4 |
| Airway Road | | | | | |
| La Media to SR-905 | 8,093 | 71 | 9,700 ² | 72 | 1 |
| SR-905 to Sanyo | 9,631 | 72 | 10,589 ¹ | 72 | 0 |
| Sanyo to Paseo de las Americas | 5,649 | 69 | 16,030 ² | 74 | 5 |
| Paseo de las Americas to Michael Faraday | 4,513 | 68 | 6,129 ¹ | 70 | 2 |
| Michael Faraday to Enrico Fermi | 2,918 | 67 | 5,380 ² | 69 | 2 |
| Enrico Fermi to Airway | 1,160 | 63 | 11,795 ¹ | 73 | 10 |
| Airway to Alta | - | - | 10,635 ¹ | 72 | - |
| Siempre Viva Road | | | | | |
| Drucker to SR-905 | - | - | 21,180 ² | 75 | - |
| SR-905 to Paseo de las Americas | 26,653 | 76 | 53,620 ² | 79 | 3 |
| Paseo de las Americas to Michael Faraday | 9,886 | 72 | 22,180 ² | 75 | 3 |
| Michael Faraday to Enrico Fermi | 6,442 | 70 | 19,090 ² | 75 | 5 |
| Enrico Fermi to Airway | 830 | 61 | 830 ¹ | 61 | 0 |
| La Media Road | | | | | |
| Otay Mesa to St. Andrews | 15,225 | 74 | 28,210 ² | 76 | 2 |
| Sanyo Avenue | | | | | |
| Otay Mesa to Airway | 2,666 | 66 | 16,220 ² | 74 | 8 |
| Enrico Fermi Drive | | | | | |
| Otay Mesa to Airway | 2,681 | 66 | 14,895 ² | 74 | 8 |
| Airway to Siempre Viva | 7,110 | 70 | 11,491 ² | 72 | 2 |

Source: KHA 2010.

Shading indicates roadway segments adjacent to existing residential receptors.

¹Existing + Project Build Out (Units 1-5) condition

²Cumulative (2020) with SR-905 1A & 1B condition