

2.9 Noise

This section characterizes the ambient noise environment and identifies significant noise-related impacts associated with implementation of the proposed project, particularly on any nearby sensitive receptors. The analyses in this section are based on existing conditions, applicable policies, and the County's thresholds of significance, as well as the Noise Impact Analysis (LSA 2018) which is included in Appendix Q of this EIR.

2.9.1 Existing Conditions

The project site is located in the El Monte Valley, within the Lakeside community of San Diego County. The El Monte Valley is a semi-rural area with background noise levels that are typical of rural/semi-developed areas. The primary existing noise source in the project area is traffic noise from five nearby roads: El Monte Road, Willow Road, Ashwood Street, Lake Jennings Park Road, and SR-67. The portion of Willow Road adjacent to the project site is a dirt road for several miles with minimal traffic. The other four roads are paved and have much higher traffic volumes, as described below. Other sources of ambient noise include commercial and private airplanes and helicopters that fly over at high altitudes. The farms in the area have livestock, horses, and dogs, all of which contribute to the background noise levels. The sounds of insects and wind are also prevalent (LSA 2018).

Existing land uses in the El Monte Valley include rural residential, intensive agriculture, dairy farming, field and orchard crops, public lands, public utilities easements, and undeveloped land. Existing land uses are of low intensity with the valley exhibiting a rural residential/agricultural setting. Land use is limited by physical constraints including the presence of the San Diego River floodway which passes through the project site in an east to west direction and by steep terrain to the north and south of the valley. There are existing residences to the north and south of the project site. These residences, which are located at various distances and elevations from proposed project activities, are considered noise-sensitive land uses (NSLU). A NSLU is any residence, hospital, school, hotel, resort, library, or similar facility, where quiet is an important attribute of the environment (LSA 2018).

2.9.1.1 Existing Noise Measurements

To determine the existing noise levels in the project vicinity, one long-term (LT-1) and five short-term (ST-1 through ST-5) noise level measurements were taken at sensitive receiver locations throughout El Monte Valley near the community of Lakeside in San Diego County, California, on March 2 and 3, 2011, and June 11, 2015. The noise measurements were made in 1-hour periods (L_{eq} [1 hr]). Figure 2.9-1 depicts the noise monitoring locations for the project site, which are described as follows:

- LT-1 is located at 14660 El Monte Road; this measurement was taken from the closest sensitive outdoor frequent use zone on the southern side of the project site. LT-1 includes the northwest corner of a farm, where the property owner trains animals and maintains a stable on the property.
- ST-1 is located at 13117 Willow Road near the western portion of the project site near the baseball diamonds at Matt LaChappa Field. The noise sources during the measurement included traffic on nearby roadways, animals in the area, and a distant remote-controlled airplane.
- ST-2 is located at 14512 Willow Road, near the single-family home and farm uses north of the project site across from The Magic Horse. The noise sources during the measurement included birds chirping, animals in the area, and distant traffic. Willow Road at this location is not paved.
- ST-3 is located at 15016 Willow Road, just south of the Happy Holstein, which is an activity center for children. The noise sources during the noise measurement included birds chirping, animals in the area, and distant traffic.
- ST-4 is located at 14732 El Monte Road and east of the single-family homes south of the project site. The noise sources during the noise measurement included traffic on El Monte Road, birds chirping, and tools operating in the area.
- ST-5 is located at 13969 El Monte Road on the north side of the road, near the entrance of the Helix Property. The noise sources during the noise measurement included traffic on El Monte Road, birds chirping, and planes in the distance.

The existing ambient noise levels in the project vicinity are listed in Table 2.9-1. The results were as follows: 50 Community Noise Equivalent Level (CNEL) dBA (24-hour) at LT-1, 42.7 L_{eq} 1 hr dBA at ST-1, 41.0 L_{eq} 1 hr dBA at ST-2, 39.9 L_{eq} 1 hr dBA at ST-3, 42.6 L_{eq} 1 hr dBA at ST-4, and 57.1 L_{eq} 1 hr dBA at ST-5.

Table 2.9-2 depicts the traffic noise levels in 2011 measured along Lake Jennings Park Road and El Monte Road, from a distance of 50 feet from the roadway centerline. All of the roadway segments analyzed in the project area, which included segments of Lake Jennings Park Road and El Monte Road, exceeded the County's 60 CNEL residential property line noise limit.

2.9.1.2 Regulatory Framework

Federal

Federal Transit Administration Standards

Although the FTA standards are intended for federally funded mass transit projects, the impact assessment procedures and criteria included in the FTA Transit Noise and Vibration Impact Assessment Manual (May 2006) are routinely used for projects proposed by local jurisdictions, including the County of San Diego. According to the FTA Transit Noise and Vibration Impact Assessment, the potential for vibration damage can vary depending on the building category of the nearest buildings to the potential construction area. For example, for a building that is constructed with reinforced concrete with no plaster, the FTA guidelines show that a vibration level of up to 0.5 inch per second (in/sec) peak particle velocity (PPV) (an equivalent to 102 VdB) is considered safe and would not result in any construction vibration damage. For a non-engineered timber and masonry building, the construction vibration damage criterion is 0.2 in/sec PPV (94 VdB). The PPV values for building damage thresholds based on information from the California Department of Transportation (Caltrans) are shown in Table 2.9-3.

State

California Noise Control Act

Sections 46000-46080 of the California Health and Safety Code find that excessive noise is a serious hazard to the public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also finds that there is a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the State to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

Local

County of San Diego General Plan, Noise Element (adopted February 20, 1975, latest Amendment August 2011)

The following goal and policies from the County's Noise Element are relevant to the proposed project:

Goal N-1: Land Use Compatibility. A noise environment throughout the unincorporated County that is compatible with the land uses.

Policies

N-1.1: Noise Compatibility Guidelines. Use the Noise Compatibility Guidelines and the Noise Standards as a guide in determining the acceptability of exterior and interior noise for proposed land uses.

N-1.2: Noise Management Strategies. Require the following strategies as higher priority than construction of conventional noise barriers where noise abatement is necessary:

- Avoid placement of noise sensitive uses within noisy areas
- Increase setbacks between noise generators and noise sensitive uses
- Orient buildings such that the noise sensitive portion of a project are shielded from noise sources
- Use sound-attenuating architectural design and building features
- Employ technologies when appropriate that reduce noise generation (i.e., alternative pavement materials on roadways)

N-1.3: Sound Walls. Discourage the use of noise walls. In areas where the use of noise walls cannot be avoided, evaluate and require where feasible, a combination of walls and earthen berms and require the use of vegetation or other visual screening methods to soften the visual appearance of the wall.

Goal N-3: Groundborne Vibration. An environment that minimizes exposure of sensitive land uses to the harmful effects of excessive groundborne vibration.

Policies

N-3.1: Groundborne Vibration. Use the FTA and Federal Railroad Administration guidelines, where appropriate, to limit the extent of exposure that sensitive uses may have to groundborne vibration from trains, construction equipment, and other sources.

Goal N-5: Non-transportation-Related Noise Sources. A noise environment that provides minimal noise spillovers from industrial, commercial, agricultural, extractive, and similar facilities to adjacent residential neighborhoods.

Policies

N-5.1: Truck Access. Design development so that automobile and truck access to industrial and commercial properties abutting residential properties is located at the maximum practical distance from residential zones.

N-5.2: Noise-Generating Industrial Facilities. Locate noise-generating industrial facilities at the maximum practical distance from residential zones. Use setbacks between noise generating equipment and noise sensitive uses and limit the operation of noise generating activities to daytime hours as appropriate where such activities may affect residential uses.

County Code of Regulatory Ordinance, Chapter 4, Noise Abatement and Control, Section 36.404 General Sound Level Limits

In Section 36.404 within Chapter 4 of the San Diego County Code of Regulatory Ordinance, the County specifies maximum noise levels for the 1-hour average sound level at any point on or beyond the boundaries of the property on which the sound is produced. These maximum noise levels are shown in Table 2.9-4. If the measured ambient level exceeds the applicable limits noted in Table 2.9-4, the allowable 1-hour average sound level shall be equal to the ambient noise level. Alleged noise violation sources should not be operating when ambient noise is measured. The 1-hour average property line sound level limit is 45 dBA during nighttime hours, or between 10 p.m. and 7 a.m.

The sound level limit for sites located at the boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts. However, the 1-hour average sound level limit applicable to extractive industries, including but not limited to borrow pits and mines, is 75 dB at the property line, regardless of the zone where the extractive industry is actually located.

Where a noise study has been conducted and the noise mitigation measures recommended by that study have been made conditions of approval of a MUP that authorizes the noise-generating use or activity, and the decision-making body approving the MUP 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 the noise ordinance requirements.

County Noise Abatement and Control Ordinance, Section 36.409, Sound Level Limitations on Construction Equipment

Section 36.409 of the County Noise Abatement and Control Ordinance regulates sound levels on construction equipment. Specifically, Section 36.409 states that “Except for emergency work, it shall be unlawful for any person to operate construction equipment or cause construction equipment to be operated, that exceed an average of 75 decibels for an 8-hour period, between 7 a.m. and 7 p.m., when measured at the property line of the property where the noise source is located or on any occupied property where the noise is being received.”

County Noise Abatement and Control Ordinance, Section 36.410, Sound Level Limitations on Impulsive Noise

In addition to the general limitations on sound levels and the limitations on construction equipment, Section 36.410 of the County Noise Abatement and Control Ordinance regulates impulsive noise levels by stipulating the following additional sound limitations:

- 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 shown in Table 2.9-5 when measured at the boundary line of the property line 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. The uses in Table 2.9-5 are as described in the County Zoning Ordinance.
- 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 Table 2.9-6 when measured at the boundary line of the property line 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. The uses in Table 2.9-6 are as described in the County Zoning Ordinance.
- c. The minimum measurement period for any measurements concluded under this section shall be 1 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 be deemed that the maximum sound level was exceeded during that minute.

2.9.2 Analysis of Project Effects and Determination as to Significance

For the purpose of this EIR, the identified significance thresholds are based on criteria provided in the County Guidelines for Determining Significance and Report Format and Content Requirements for Noise (County Guidelines for Noise), revised January 27, 2009.

2.9.2.1 Issue 1 and 3: Excessive Noise Levels

Guidelines for the Determination of Significance

Based on the County Guidelines for Noise, a significant impact would occur if the proposed project would result in the exposure of any onsite or offsite, existing or reasonably foreseeable future NSLUs to exterior or interior noise (including noise generated from the project, together with noise from roads, railroads, airports, heliports and all other noise sources) in excess of any of the following:

- Exterior Locations:
 1. 60 dB (CNEL); or
 2. 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 sq. ft. to 10 acres: 10 percent 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:

1. Rooms which are usually occupied only a part of the day (schools, libraries, or similar facilities), the interior 1-hour average sound level due to noise outside should not exceed 50 decibels.
2. Corridors, hallways, stairwells, closets, bathrooms, or any room with a volume less than 490 cubic feet.

Additionally, based on the County Guidelines for Noise, a significant impact would also occur if the proposed project would generate airborne noise which, together with noise from all sources, will be in excess of either of the following:

- **Non-Construction Noise:** The limit specified in San Diego County Code Section 36.404, General Sound Level Limits, 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. Section 36.404 provides the limits shown in Table 2.9-4.

Analysis

Noise Sensitive Land Uses Exterior and Interior Noise

The CNEL metric described above is reserved solely for transportation-related constant noise sources where there is a varying vehicle traffic noise source 24 hours per day. The proposed project, which is not a transportation project, although it will have truck trips during daytime hours, would not be suited to a CNEL threshold for evaluation, as CNEL is a day-night average as the truck trips would not operate beyond daytime hours. Additionally, Section 36.404 of the San Diego County Code applies to non-traffic related (and non-construction related) noise sources, including mining operations. As shown in Table 2.9-4, the appropriate Section 36.404 threshold for mining operations, and therefore the project, would be the limit of 75 dBA. Therefore, there would be **no impact** on this NSLU threshold.

Project Operations Noise Impacts

For purposes of this analysis, project operations are discussed below separately as excavation and reclamation activities, processing plant operation, and traffic-related noise impacts.

Excavation and Reclamation Operational Noise Impacts

The operational activities that would occur at various times and locations across the project site are associated with particular sets of equipment and, consequently, very specific noise characteristics. Therefore, the noise levels vary as operations progress through the various phases and activities. Despite the variety in the type and size of equipment, similarities in the dominant noise sources and patterns of operation allow operation-related noise levels to be categorized by individual activities within each work phase. The composite noise levels (based on the equipment and activities provided by the project description) produced by each different activity with all of the heavy machinery operating simultaneously, are shown in Table 2.9-7. These calculations take into account the number of pieces of equipment, usage factor or duty cycle assumed for each piece of equipment, and ground effect at a reference distance of 50 feet.

Table 2.9-8 shows the offsite receptors that would be potentially affected by the mining excavation operations and reclamation activities, the distances from the operational activities to the property lines, and the estimated noise level at each

receptor. The noise level at each receptor is rounded to the nearest decibel and assumes no shielding due to intervening terrain. Figure 2.9-2 shows the locations of the offsite receptors and the distances from extraction and reclamation activities to the property line.

As shown previously in Table 2.9-7, mining operations cause a noise impact of 75 dBA L_{eq} at 150 feet. Based on the noise levels shown in Table 2.9-8, Receptors R-3, R-4, R-8 and R-10 show that the shortest distance from the edge of mining activities to the nearest property line is 170 feet, which produce a noise level of 74 dBA. However, excavation and reclamation activities could be located within 75 feet of the project boundaries, therefore exceeding the 75 dBA threshold. This would result in a **significant impact (Impact N-1a)**.

Aggregate Processing Plant Operations Noise Impact

The proposed mining activities would include a mobile aggregate processing plant and a southwest (stationary) processing plant that would be located in the southwest corner of the project site throughout Phases 1 through 4 (southwest processing plant). The mobile plant would screen rubble, and the stationary southwest processing plant would wash the alluvial material. Based on a discussion with the project design engineers, it was determined that the location of the mobile processing plant would remain close to the haul route which would run through the middle of the project site. In order to remain conservative, it is assumed that all pieces of equipment that make up the processing plant are operating simultaneously at the locations identified along the haul route. The location of the haul road and stationary southwest processing plant location is shown in Figure 2.9-3. Table 2.9-9 shows the offsite receptors that would be potentially affected by processing plant operations, the 75 dBA L_{eq} buffer zone associated with the plant activities, and the estimated noise level at each of the receptors. For receptors R-1 through R-13, the noise levels are rounded to the nearest decibel and assume no shielding by intervening terrain.

As shown in Table 2.9-9, none of the nearest offsite receptors would be exposed to noise levels that would exceed 75 dBA L_{eq} during operation of the mobile processing plant close to the haul route that runs through the middle of the project site. Receptor R-10 shows that the shortest distance from the path of portable mining activities to the nearest property line is 880 feet; therefore, the project activities will not result in a significant noise impact.

In addition to the mobile processing plant, a stationary plant comprised of similar equipment will be located approximately 450 feet from the nearest receiver and is expected to cause a noise impact of 65 dBA L_{eq} . The greatest noise impact experienced at any of the receptors would occur when the mobile plant is closest to the stationary southwest plant nearest receiver R-1. At this location, approximately 880 feet southeast of R-1, as shown on Figure 2.9-3, the

combined noise levels of the two plants would approach 66 dBA L_{eq} ; therefore, the project activities would be **less than significant**.

Furthermore, for the resulting noise level at the nearest receptor to remain below the 75 dBA L_{eq} criterion, the processing plant operation activities would need to be located 170 feet or more from the property line of a receptor. However, because the processing plant equipment may operate within 170 feet or less of a receptor, impacts would be **significant (Impact N-1b)**.

It is expected that the stationary southwest processing plant would be located as close as 100 feet from the proposed project boundary. However, the project proposes an 8-foot high berm as a project design feature along the property line near the stationary processing plant. It is expected that the berm will provide a noise reduction of approximately 6 dBA which would allow the processing plant to operate as close as 100 feet from the berm without causing a noise impact. However, because the processing plant equipment may operate within 100 feet or less from the berm, this would result in a **significant impact (Impact N-1c)**.

Existing and proposed trails/trail users are not considered sensitive land uses by the county, although the increase in noise levels associated with the mining operation would be perceptible to trail users in the vicinity of the project site. However, the trail user's proximity to the operational activities would vary depending on the trail's distance from the operation and the location of the operational activity at the time of trail usage. Noise impacts to trail users are considered temporary due to the transient nature of trail walking and riding. As a result, noise impacts to trail users would result in a **less than significant impact**.

Project Traffic-Related Noise Impacts

The projected mining operations traffic would be comprised of 157 heavy truck trips (one-way), and 28 light vehicle (24 employee and 4 vendor) round trips. The 157 heavy truck trips (one-way) have a passenger car equivalent (PCE) of 2.5, which is equivalent to 785 trips plus the 28 light vehicle trips, which totals a maximum of 813 trips per day for employee/vendor vehicles and heavy trucks (LLG 2018). These traffic volumes of 813 ADT associated with implementation of the proposed project would be relatively small number when compared to the existing traffic volumes on Lake Jennings Park Road (12,010 ADT for the El Monte to Ashwood segment and 15,610 ADT for the Blossom Valley Road to El Monte Road segment); and less than half of those of El Monte Road (2,510 ADT). In order to increase traffic noise to a level perceptible to a healthy ear, i.e., 3 dBA increase, traffic volumes would have to double (i.e., doubling a noise source increases noise level by 3 dBA). The increase in offsite automobile and truck traffic due to the proposed project would not double traffic volumes on even the lowest ADT roadway (i.e., El Monte Road at 2,510 ADT); therefore, the increase to existing noise levels would be less than the 3 dBA threshold normally

perceptible by the human ear. Therefore, project traffic-related noise impacts would be **less than significant**.

In addition to the daily traffic noise levels, the project could also cause short-term hourly noise level impacts when haul trucks access the site. Based on the traffic study for the proposed project, it is expected that up to 30 truck trips per hour may occur along El Monte Road (LSA 2018). The existing peak hour traffic volumes on the roadway segment between Lake Jennings Park Road and the project site has a peak hour volume of approximately 200 vehicles. The additional 30 trips associated with the proposed project within the peak hour would result in a noise level increase of less than 3 dBA. Therefore, hourly traffic volumes from the proposed project would be **less than significant**.

2.9.2.2 Issue 2: Ground-borne Vibration Impacts

Guidelines for the Determination of Significance

Based on the County Guidelines for Noise, a significant impact would occur if the proposed project would expose the uses listed in Tables 2.9-10 and 2.9-11 to ground-borne vibration or noise levels equal to or in excess of the levels shown.

Analysis

Construction-related site preparation and mining operation phases of the proposed project would use similar heavy equipment. Bulldozers and other heavy-tracked equipment generate approximately 87 VdB of ground-borne vibration when measured at 25 feet (LSA 2018). This level of ground-borne vibration exceeds the threshold of human perception, which is approximately 65 VdB. Based on the Caltrans Transportation-Related Earthborne Vibration, Technical Advisory (1992), the vibration level at 50 feet is approximately 9 VdB lower than the vibration level at 25 feet. Vibration at 100 feet from the source is more than 9 VdB lower than the vibration level at 50 feet, or more than 18 VdB lower than the vibration level at 25 feet (LSA 2018). Every doubling of distance from 25 feet results in the reduction of the vibration level by 9 VdB; therefore, receptors at 50 and 100 feet from the operational activity may be exposed to ground-borne vibration up to 78 and 69 VdB, respectively. The project site is primarily underlain by unconsolidated saturated sands; therefore, vibration levels would diminish more rapidly, which would potentially result in vibration levels lower than provided in the calculations above. Although this range of ground-borne vibration levels would result in potential annoyance at residences adjacent to the project site, it would not cause any damage to the structures. Ground vibrations from normal heavy equipment activities do not often reach the levels that can damage structures, but they can achieve the audible and sensate ranges in structures very close to the project site. Problems with ground-borne vibration from heavy equipment sources are usually localized to areas within

approximately 100 feet from the vibration source. Table 2.9-12 lists the potential vibration levels from various heavy equipment sources.

The existing structures in the project vicinity, including residential buildings to the north, east, and south, are located at least 170 feet from the proposed mining and reclamation areas, where ground-borne vibration would be approximately 62 VdB, below the threshold of human perception of 65 VdB. At R-1, approximately 615 feet from the construction areas, vibration levels would be approximately 56 VdB. Therefore, operations on the project site would not result in the exposure of persons to ground-borne vibration or ground-borne noise levels exceeding 65 VdB, the threshold of human perception.

Additionally, the rubber tires and suspension systems of buses and other on-road vehicles provide vibration isolation; therefore, it is unusual for on-road vehicles to cause ground-borne noise or vibration problems. When on-road vehicles result in the rattling of windows, the source is almost always airborne noise. Most problems with on-road, vehicle-related vibration can be directly related to a pothole, bump, expansion joint, or other discontinuity in the road surface. Smoothing the bump or filling the pothole will usually solve the problem. Vehicles with rubber tires would not generate any significant ground-borne vibration.

Therefore, operations on the project site would not result in the exposure of persons to excessive ground-borne vibration or ground-borne noise levels, and impacts would be **less than significant**.

2.9.2.3 Issue 4: Temporary Increase in Ambient Noise

Guidelines for the Determination of Significance

Based on the County Guidelines for Noise, a significant impact would occur if the proposed project would generate airborne noise which, together with noise from all sources, will be in excess of either of the following:

- **Construction Noise:** Noise generated by construction activities related to the project will exceed the standards listed in San Diego County Code Section 36.409, Sound Level Limitations on Construction Equipment. Section 36.409 states: 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 8-hour period, between 7 a.m. and 7 p.m., 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.
- **Impulsive Noise:** Noise generated by the project will exceed the standards listed in San Diego Code Section 36.410, Sound Level Limitations on Impulsive Noise (see Table 2.9-5 and Table 2.9-6).

Analysis

Temporary Construction Site Preparation Noise Impacts

As described in Section 1.4.2.2 Site Preparation, site preparation would begin with the development of the sub-grade haul road (see Figure 1-4). Excavated material would be stored as stockpile/topsoil berms. Site preparation would establish a pad for the stationary and mobile processing plants approximately 10 feet below the existing ground surface (bgs) located in the southwestern and northeastern segment of the excavation area. Initially, the northeastern processing pad would be located north of the river channel near the eastern excavation boundary and would be moved westward as the mining phases advance. Figure 1-6 includes details of the stationary processing plant. The mobile processing plant would be constructed in the northeastern segment of the excavation area, and would move from east to west during mining close to the haul route which would run through the middle of the project site. Eight-foot high earthen berms would be constructed around the sides of the southwest processing plant area to screen the equipment and operation from public view, as depicted in Figure 1-6. Temporary power lines and the processing plants equipment would also be installed. A two lane onsite access road, which connects to the haul road from El Monte Road to the processing plant, would be excavated to approximately 10 to 12 feet bgs to accommodate over-the-road truck access to the processing plants.

As mining operations commence, a drop structure would be constructed across the San Diego River floodway at the east end of the extraction area to prevent channel erosion during periods of water flow in the channel. Site preparation is anticipated to occur for approximately 30 days. Power poles that are located within the limits of mining activities would be abandoned and relocated, per SDG&E requirements.

Noise impacts associated with the short-term construction-related noise impacts must comply with the standards presented within Section 36.409 of the County of San Diego Municipal Code. For the purposes of this analysis, it is assumed that construction activities would potentially occur for longer than 8 hours at a time and that construction-related noise impacts would be the same for each hour within any given 8-hour period to provide a conservative analysis (LSA 2018). Table 2.9-13 shows the receivers that would be potentially affected by the site preparation construction activities, the distances from the activities to the property lines, and the estimated noise level at each receptor. Figure 2.9-4 shows the location of the offsite receptors and distance from construction site preparation activities to the property line. As shown in Table 2.9-7, site preparation construction activities would cause a noise impact of 75 dBA 8-hour L_{eq} at 120 feet. The noise levels at each of the receptors are rounded to the nearest decibel and assume no shielding due to intervening terrain.

Receptor R-1 is located at approximately 615 feet from the edge of site preparation activities, and therefore would not result in a significant impact. Receptors R-3, R-4, R-8, and R-10 are located at the shortest distance from the edge of the site preparation activities to the nearest property line (170 feet), which would also not result in a significant noise impact. However, construction related activities could be located within 120 feet of the project boundary, exceeding the 75 dBA 8-hour L_{eq} criteria. Therefore, temporary site preparation construction impacts would be **significant (Impact N-2)**.

2.9.2.4 Issue 5 and 6: Aircraft Noise

Guidelines for the Determination of Significance

The County does not have specific guidelines for determining the significance for aircraft noise. Therefore, for the purpose of this EIR, Appendix G of the CEQA Guidelines applies to the impact analysis as the applicable threshold. Appendix G of the CEQA Guidelines states that a significant impact would occur if the proposed project would expose people residing or working to excessive noise levels within 2 miles of a public or private airport.

Analysis

The nearest public airport to the project site is Gillespie Field, which is located approximately 5.3 miles southwest of the project site. Gillespie Field is owned and operated by the County, and is the oldest and largest of the County's eight airports and includes runways, towers, a terminal, and airport-related businesses. The nearest private airport to the project site is On the Rocks Airport-1CA6, located approximately 11 miles southeast of the project site. According to the Gillespie Field Airport Land Use Compatibility Plan (ALUCP), the proposed project site is not located within the 60 dBA CNEL noise contour of Gillespie Field. Due to the distance to Gillespie Field and On the Rocks Airport-1CA6, the proposed project site is not anticipated to be exposed to excessive noise levels from both airports. Therefore, aircraft noise impacts would be **less than significant**.

2.9.3 Cumulative Impact Analysis

Issue 1 and 3: Excessive Noise Levels

The geographic context for the analysis of cumulative noise impacts is the immediate surrounding vicinity of the project site, as noise impacts are localized and decrease as distance from the source increases. There are no cumulative projects in the immediate surrounding area that would be operating nearby and simultaneously with the proposed project. Thus, potential project impacts related to noise would not be additive with other projects, and no cumulative impacts would occur to the receptors analyzed. Therefore, there is no cumulative impact

associated with operational noise of the excavation, reclamation, and processing plant operations.

Table 2.9-2 lists the existing traffic CNEL noise levels along Lake Jennings Park Road and El Monte Road. At a distance of 50 feet from the roadway centerline, all of the roadway segments that were analyzed currently exceed the County's 60-dBA CNEL residential property line noise limit.

Table 2.9-14 lists the existing traffic plus cumulative future traffic (due to increased developments) CNEL noise levels along Lake Jennings Park Road and El Monte Road. The cumulative traffic would cause the existing traffic noise levels to increase by 0.6 dBA CNEL along Lake Jennings Park Road–Blossom to El Monte, 0.6 dBA CNEL along Lake Jennings Park Road–El Monte to Ashwood, and 0.0 dBA CNEL along El Monte Road.

Table 2.9-15 lists the existing plus cumulative plus project traffic CNEL noise levels along Lake Jennings Park Road and El Monte Road. The existing traffic plus cumulative traffic plus project traffic would cause the existing traffic noise levels to increase by 0.2 dBA CNEL along Lake Jennings Park Road–Blossom Valley Road to El Monte, 0.2 dBA CNEL along Lake Jennings Park Road–El Monte to Ashwood, and 2.4 dBA CNEL along El Monte Road. The increase in roadway noise levels under the cumulative buildout condition would not exceed the 3 dBA threshold normally perceptible by the human ear. Therefore, impacts associated with cumulative roadway noise are **not considered cumulatively considerable**.

Issue 2: Ground-borne Vibration Impacts

The geographic context for the analysis of cumulative impacts in regards to vibration is the immediate surrounding vicinity of the proposed project, as vibration is a localized phenomenon and is progressively reduced as the distance from the source increases. There are currently no other planned cumulative projects immediately surrounding the project site that would be constructed or operating at the same time as the proposed project. Therefore, there is no cumulative impact associated with vibration.

Issue 4: Temporary Increase in Ambient Noise

The geographic context for the analysis of cumulative impacts in regards to temporary increase in ambient noise is the immediate surrounding vicinity of the project site, as noise impacts are localized and reduce as distance from the source increases. There are no cumulative projects immediately surrounding the project site that would be constructed or operating nearby and simultaneously with the proposed project. Thus, potential impacts related to temporary increases in ambient noise would not be additive with other cumulative projects and

therefore, there is no cumulative impact associated with temporary increase in ambient noise.

Issue 5 and 6: Aircraft Noise

Impacts related to nuisance noise from aircraft overflights are site specific and are not cumulative in nature. No additional aviation uses are planned to be introduced in the immediate vicinity of the project site by cumulative projects. In addition, the proposed project does not propose any new air traffic or place new NSLUs on the project site. No NSLUs would be exposed to excessive noise levels from aviation as a result of cumulative projects or the proposed project. Therefore, there is no cumulative impact associated with aircraft noise.

2.9.4 Significance of Impacts Prior to Mitigation

The following significant impacts related to noise would occur with project implementation:

Impact N-1a Excavation and reclamation activities could be located within 75 feet of the project boundaries, resulting in the exposure of receptors to noise levels exceeding the 75 dBA L_{eq} criteria for equipment operations.

Impact N-1b Processing plant operation could be located within 170 feet of the project boundaries, resulting in the exposure of receptors to noise levels exceeding the 75 dBA L_{eq} criteria for equipment operations.

Impact N-1c Processing plant operation in the southwest corner of the project site could be located within 100 feet from the 8-foot berm, resulting in the exposure of receptors to noise levels exceeding the 75 dBA L_{eq} criteria for equipment operations.

Impact N-2 Site preparation construction activities could be located within 120 feet of the project boundary, resulting in the exposure of receptors to noise levels exceeding the 75 dBA 8-hour L_{eq} criteria.

2.9.5 Mitigation

M-N-1: All operations shall be limited to the hours of 7:00 a.m. to 5:00 p.m. on any working day except Sundays and holidays, in accordance with the MUP for the proposed project, and is consistent with the San Diego County Code of Regulatory Ordinance, Chapter 4 Noise Abatement and Control, Section 36.404 General Sound Level Limits, daytime hours. Operational noise levels shall not exceed an equivalent continuous sound level of 75 dBA (75 dBA L_{eq}) for any hour at the project boundary. No activities are permitted outside of these hours or on Sundays and

holidays. No queuing of trucks at the project entrance prior to 7:00 a.m. is allowed.

M-N-2: During all project-related activities, the project contractor shall equip all equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.

M-N-3: The project contractor shall place all stationary equipment so that emitted noise is directed away from sensitive receptors nearest the project site.

M-N-4: The project contractor shall locate equipment staging in areas that will create the greatest distance between operations-related noise sources and the noise-sensitive receptors nearest the project site during all project operations.

M-N-5: During the excavation and reclamation operational phases, the project contractor shall require all onsite activities to occur a minimum of 150 feet from the project boundaries, which is the distance to the 75 dBA Leq contour from the maximum noise level of 87 dBA Leq, as shown in Table 2.9-7.

M-N-6: During the operation of the processing plants, the project contractor shall require all plant related onsite activities occur a minimum of 170 feet from the project boundaries, except when processing plant operations occur in the southwest corner of the project site. A distance of 170 feet is the distance to the 75 dBA Leq contour from the maximum noise level of 89 dBA Leq, as shown in Table 2.9-7. When the stationary processing plant operations occur in the southwest corner of the project site, equipment must remain a distance of 100 feet or more from the 8-foot high berm.

M-N-7: During the site preparation and construction phase, the project contractor shall require all onsite activities to occur a minimum of 120 feet from the project boundaries, which is the distance to the 75 dBA Leq contour from the maximum noise level of 84 dBA Leq, as shown in Table 2.9-7.

2.9.6 Conclusion

Implementation of the proposed project would involve excavation and reclamation activities that could be located within 75 feet of the project boundaries, therefore exceeding the 75 dBA threshold (**Impact N-1a**). However, with implementation of Mitigation Measures **M-N-1** through **M-N-7**, impacts would be reduced to **less than significant**.

The proposed stationary processing plant could be located within 170 feet of the project boundaries, therefore exceeding the 75 dBA L_{eq} criteria (**Impact N-1b**). However, with implementation of Mitigation Measures **M-N-1** through **M-N-4**, and **M-N-6**, impacts would be reduced to **less than significant**.

The proposed stationary processing plant could also be located within 100 feet of the 8-foot berm, exceeding the 75 dBA L_{eq} criteria (**Impact N-1c**). However, with implementation of Mitigation Measures **M-N-1** through **M-N-4**, and **M-N-6**, impacts would be reduced to **less than significant**.

The increase in offsite automobile and truck traffic due to the proposed project would increase the existing noise levels by less than the 3 dBA threshold normally perceptible by the human ear. Therefore, worker commutes and equipment transport noise impacts would be **less than significant** and no mitigation would be required.

The proposed project would not result in the exposure of persons to excessive ground-borne vibration or ground-borne noise levels, and impacts would be **less than significant**.

Site preparation construction activities could be located within 120 feet of the project boundary, exceeding the 75 dBA 8-hour L_{eq} criteria (**Impact N-2**). However, implementation of Mitigation Measures **M-N-2** through **M-N-3**, and **M-N-7** would reduce site preparation impacts to **less than significant**.

Due to the distance to the nearest public and private airports, the proposed project site is not anticipated to be exposed to excessive noise levels from airports, and no mitigation would be required.

Table 2.9-1: Existing Ambient Noise Levels

Measurement ID	Measurement Location	Time	Ambient Noise Levels	
			Leq (1 hr) dBA	CNEL dBA
LT-1	14660 El Monte Road	March 2-3, 2011	33.0-50.0	50.0
ST-1	13117 Willow Road	June 11, 2015 at 9:43 a.m.	42.7	42.7
ST-2	14512 Willow Road	June 11, 2015 at 10:24 a.m.	41.0	43.0
ST-3	15016 Willow Road	June 11, 2015 at 10:55 a.m.	39.9	41.9
ST-4+	14732 El Monte Road	June 11, 2015 at 11:35 a.m.	42.6	44.6
ST-5	13969 El Monte Road	June 11, 2015 at 11:58 a.m.	57.1	59.1

Source: LSA 2018.

Table 2.9-2: Existing Traffic (2011) Noise Levels

Roadway Segment	ADT ¹	Centerline to 70 CNEL ² (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL (dBA) ³ 50 feet from Centerline of Outermost Lane
Lake Jennings Park Road – Blossom to El Monte Road	13,060	<50	90	192	67.5
Lake Jennings Park Road – El Monte to Ashwood	10,540	<50	79	167	66.0
El Monte Road	2,500	<50	<50	64	60.9

Source: LSA 2018

¹ Average Daily Traffic² Community Noise Equivalent Level³ A-weighted decibels

Table 2.9-3: Guideline Vibration Potential Threshold Criteria

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources ¹	Continuous/Frequent Intermittent Sources ²
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.20	0.10
Historic and some old buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial/commercial buildings	2.00	0.50

¹ Transient sources create a single, isolated vibration event, such as blasting or drop balls.

² Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

in/sec = inches per second

PPV = peak particle velocity

Source: LSA 2018.

Table 2.9-4: San Diego County Code Section 36.404, Sound Level Limits in Decibels (dBA)

Zone	Time	One-Hour Average Sound Level Limits (dBA)
(1) R-S, R-D, R-R, R-MH, A-70, A-72, S-80, S-81, S-87, S-90, S-92 and R-V and R-U with a density of less than 11 dwelling units per acre.	7 a.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45
(2) R-RO, R-C, R-M, S-86, V5 and R-V and R-U with a density of 11 or more dwelling units per acre.	7 a.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
(3) S-94, V4 and all other commercial zones.	7 a.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	55
(4) V1, V2	7 a.m. to 7 p.m.	60
V1, V2	7 p.m. to 10 p.m.	55
V1	10 p.m. to 7 a.m.	55
V2	10 p.m. to 7 a.m.	50
V3	7 a.m. to 10 p.m.	70
	10 p.m. to 7 a.m.	65
(5) M-50, M-52 and M-54	Anytime	70
(6) S-82, M-58, and all other industrial zones	Anytime	75

dBA=A-weighted decibels

Source: San Diego County Code of Regulatory Ordinance, 2015

**Table 2.9-5: San Diego County Code Section 36.410,
Maximum Sound Level (Impulsive) Measured at
Occupied Property in Decibels (dBA)**

Occupied Property Use	Decibels (dBA)
Residential, village zoning or civic use	82
Agricultural, commercial or industrial use	85

dBA=A-weighted decibels

Source: San Diego County Code, Table 36.410A, Section 36.410

**Table 2.9-6: San Diego County Code Section 36.410,
Maximum Sound Level (Impulsive) Measured at
Occupied Property in Decibels (dBA) for Public Road Projects**

Occupied Property Use	Decibels (dBA)
Residential, village zoning or civic use	85
Agricultural, commercial or industrial use	90

dBA=A-weighted decibels

Source: San Diego County Code, Table 36.410B, Section 36.410

Table 2.9-7: Composite Noise Levels

Activity	L _{eq} at 50 ft dBA ¹	Distance to 75 dBA L _{eq} Contour (ft)
Site Preparation ²	84	120
Mining Operation – Excavation and Reclamation	87	150
Mining Operation – Aggregate Processing Plant Operations	89	170

¹As shown in Appendix Q, the hourly noise levels calculated take into account the usage factor or duty cycle of each piece of equipment.

²Noise levels associated with construction -related site preparation activities are based on an 8-hour L_{eq} criterion. For the purposes of this analysis, the projected composite noise levels are the same for a 1-hour L_{eq} and an 8-hour L_{eq}.

dBA = A-weighted decibels

ft = feet

L_{eq} = equivalent continuous sound level

Source: LSA 2018.

Table 2.9-8: Extraction and Reclamation Activities

Receiver	Distance to Property Line (ft)	Noise Level at Receptor (dBA)
R-1	615	60
R-2	380	65
R-3	170	74
R-4	170	74
R-5	185	73
R-6	720	58
R-7	2,795	43
R-8	170	74
R-9	175	74
R-10	170	74
R-11	795	57
R-12	1,910	48
R-13	2,910	43

Note: Distances are from the active areas within the project boundary to the receptor boundary.

The noise level at each receptor is rounded to the nearest decibel and assumes no shielding due to intervening terrain

Source: LSA 2018

Table 2.9-9: Processing Plant Operations Activities

Receiver	Distance To Receptor (ft)	Noise Level at Receptor (dBA)
R-1	890	61
R-2	1,060	55
R-3	1,400	52
R-4	1,510	52
R-5	1,440	52
R-6	2,380	47
R-7	3,620	42
R-8	1,000	56
R-9	1,490	52
R-10	880	57
R-11	1,730	50
R-12	3,140	44
R-13	4,450	41

Note: Distances are from the active areas within the project boundary to the receptor boundary.

Source: LSA 2018.

Table 2.9-10: Guidelines for Determining the Significance of Ground-borne Vibration and Noise Impacts

Land Use Category	Ground-borne Vibration Impact Levels (in/sec rms)		Ground-Borne Impact Levels (dB re 20 micro Pascals)	
	Frequent Events ¹	Occasional or Infrequent Events ²	Frequent Events ¹	Occasional or Infrequent Events ²
Category 1: Buildings where low ambient vibration is essential for interior operations (research and manufacturing facilities with special vibration constraints).	0.0018 ³	0.0018 ³	Not applicable ⁴	Not applicable ⁴
Category 2: Residences and buildings where people normally sleep (hotels, hospitals, residences, & other sleeping facilities).	0.0040	0.010	35 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime use (schools, churches, libraries, other institutions, & quiet offices).	0.0056	0.014	40 dBA	48 dBA

¹ "Frequent Events" is defined as more than 70 vibration events per day. Most rapid transit projects fall into this category.

² "Occasional or Infrequent Events" are defined as fewer than 70 vibration events per day. This combined category includes most commuter rail systems.

³ This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration sensitive manufacturing or research will require detailed evaluation to define acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.

⁴ There are some buildings, such as concert halls, TV and recording studios, and theaters that can be very sensitive to vibration and noise but do not fit into any of the three categories. Table 2.9-5 gives criteria for acceptable levels of ground-borne vibration and noise for these various types of special uses.

Source: FTA, 2006

Table 2.9-11: Guidelines for Determining the Significance of Ground-borne Vibration and Noise Impacts for Special Buildings

Type of Building or Room	Ground-borne Vibration Impact Levels (in/sec rms)		Ground-Borne Impact Levels (dB re 20 micro Pascals)	
	Frequent Events ¹	Occasional or Infrequent Events ²	Frequent Events ¹	Occasional or Infrequent Events ²
Concert halls, TV studios, and recording studios	0.0018	0.0018	25 dBA	25 dBA
Auditoriums	0.0040	0.010	30 dBA	38 dBA
Theaters	0.0040	0.010	35 dBA	43 dBA

in/sec rms = inches per second root mean square

¹ "Frequent Events" is defined as more than 70 vibration events per day. Most rapid transit projects fall into this category.

² "Occasional or Infrequent Events" are defined as fewer than 70 vibration events per day. This combined category includes most commuter rail systems.

Note: If the building will rarely be occupied when the trains are operating, there is no need to consider impact. For historic buildings and ruins, the allowable upper limit for continuous vibration to structures is identified to be 0.056 inches/second rms. Transient conditions (single-event) would be limited to approximately twice the continuous acceptable value

Source: FTA, 2006

Table 2.9-12: Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV at 25 ft (in/sec)	Approximate VdB at 25 ft
Large Bulldozer	0.089	87
Loaded Trucks	0.076	86
Small Bulldozer	0.003	58

ft = feet

in/sec = inches per second

PPV = peak particle velocity

Source: LSA 2018

Table 2.9-13: Site Preparation Construction Activities

Receiver	Distance to Property Line (ft)	Noise Level at Receptor (dBA)
R-1	615	58
R-2	380	63
R-3	170	72
R-4	170	72
R-5	185	71
R-6	720	56
R-7	2,795	41
R-8	170	69
R-9	175	72
R-10	170	72
R-11	795	55
R-12	1,910	45
R-13	2,910	41

Source: LSA 2018

Table 2.9-14: Existing Traffic Plus Cumulative Noise Levels

Roadway Segment	ADT ¹	Centerline to 70 CNEL ² (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL (dBA) ³ 50 feet from Centerline of Outermost Lane	Increase from existing conditions CNEL dBA
Lake Jennings Park Road – Blossom to El Monte Road	15,190	<50	99	212	68.1	0.6
Lake Jennings Park Road- El Monte to Ashwood	12,010	<50	86	182	66.6	0.6
El Monte Road	2,510	<50	<50	64	60.9	0.0

¹ Average Daily Traffic² Community Noise Equivalent Level³ A-weighted decibels

Source: LSA 2018

Table 2.9-15: Existing Plus Cumulative Plus Project Noise Levels

Roadway Segment	ADT ¹	Centerline to 70 CNEL ² (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL (dBA) ³ 50 feet from Centerline of Outermost Lane	Increase from existing conditions CNEL dBA
Lake Jennings Park Road – Blossom to El Monte Road	15,610	<50	101	216	68.3	0.2
Lake Jennings Park Road- El Monte to Ashwood	12,430	<50	88	186	66.8	0.2
El Monte Road	3,300	<50	<50	92	63.3	2.4

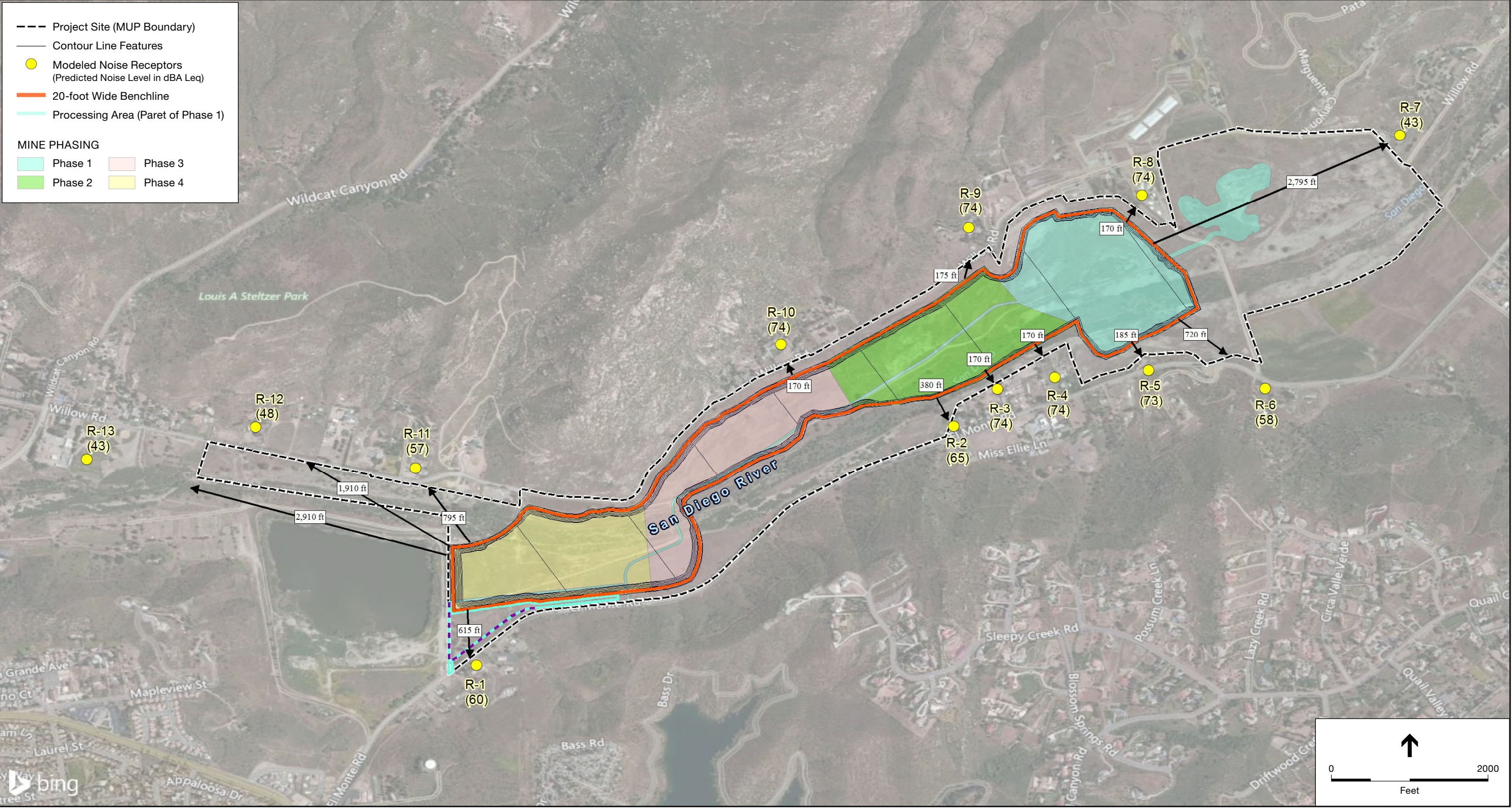
¹ Average Daily Traffic² Community Noise Equivalent Level³ A-weighted decibels

Source: LSA 2018



SOURCE: LSA

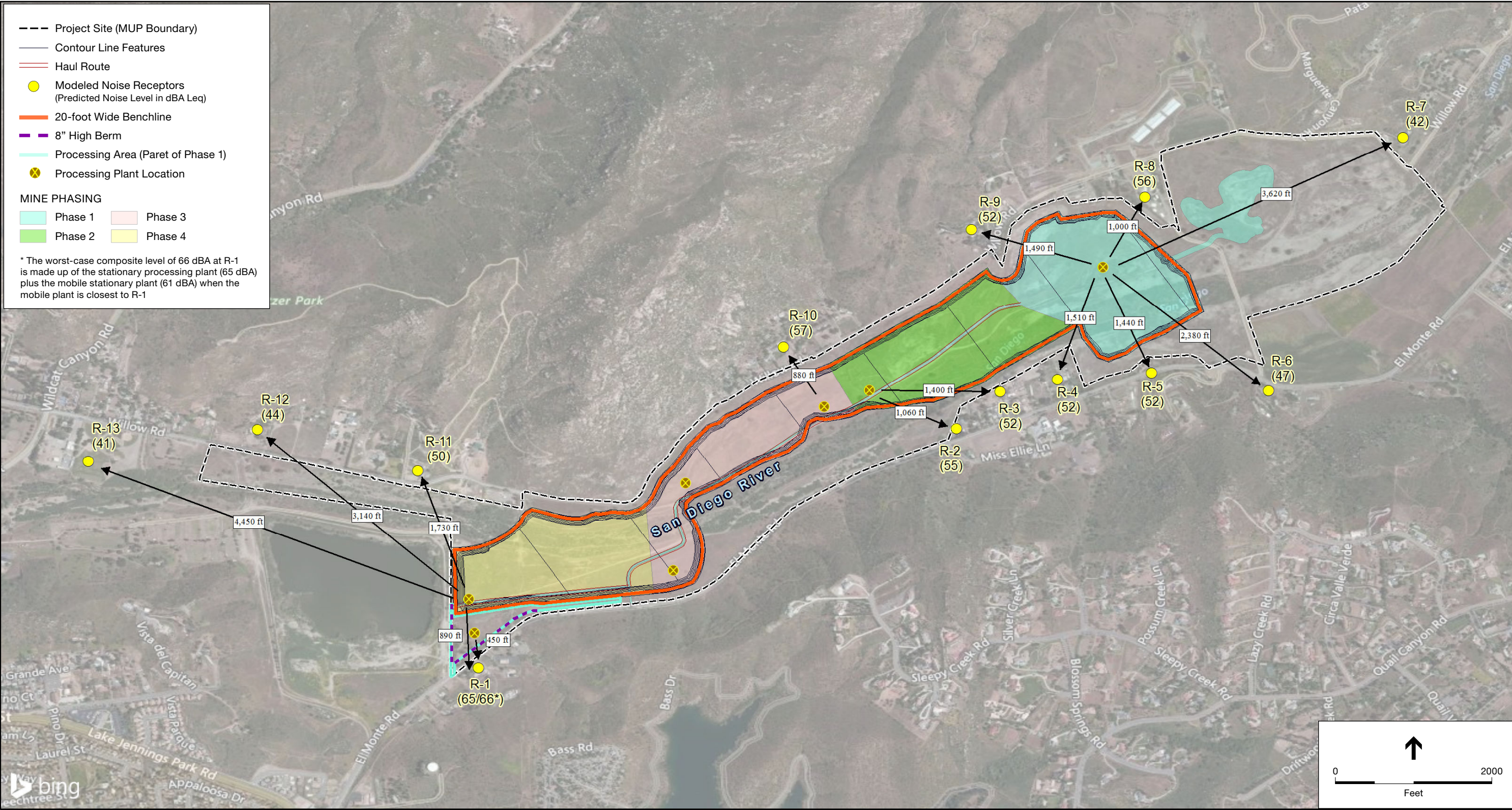
El Monte Sand Mining Project . 140957
Figure 2.9-1
Noise Monitoring Locations



SOURCE: LSA

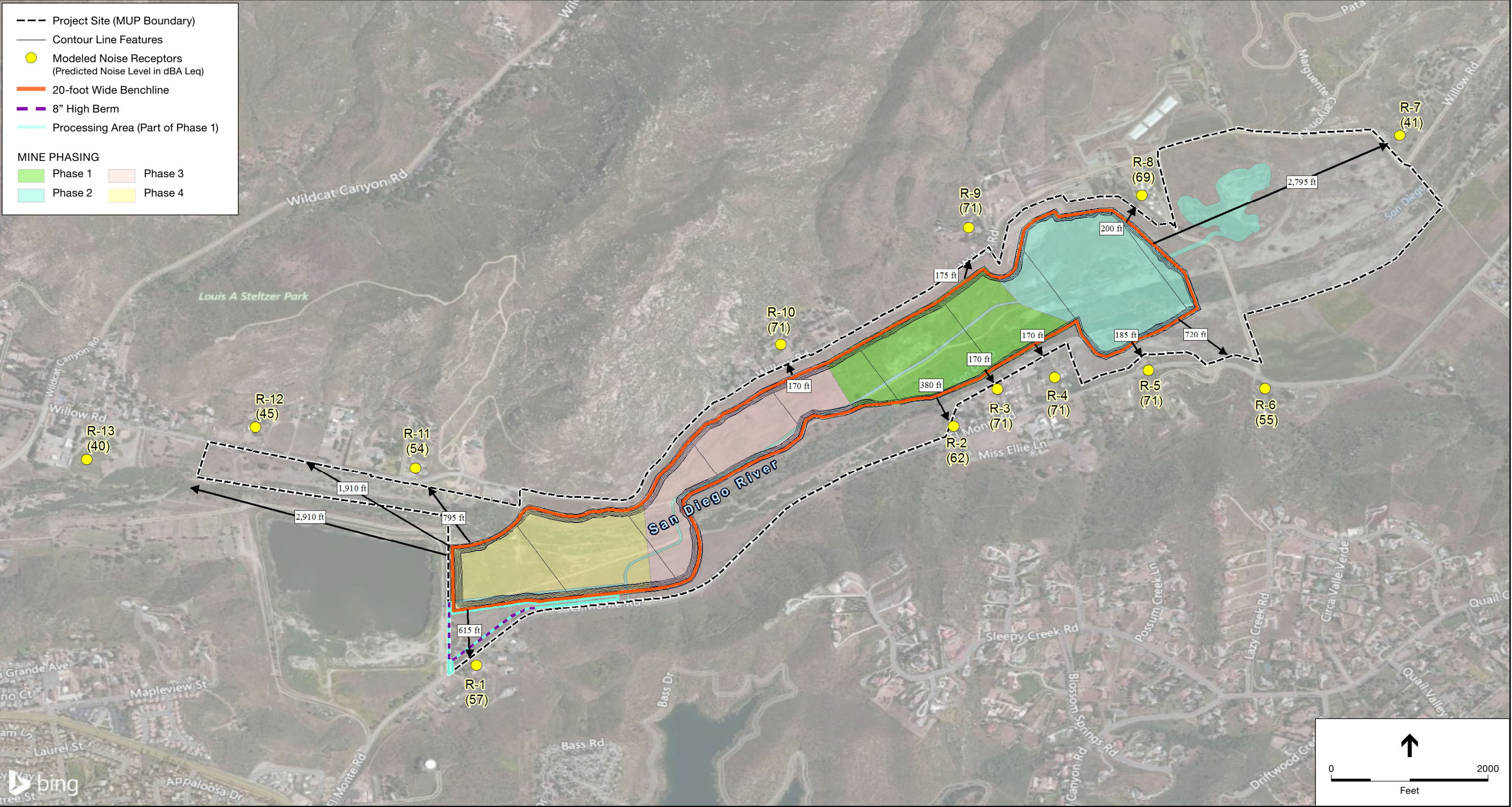
El Monte Sand Mining Project . 140957

Figure 2.9-2
Extraction and Reclamation Operations
and Off-Site Receptors



SOURCE: LSA

El Monte Sand Mining Project . 140957
Figure 2.9-3
Project Processing Plant Locations
and Off-Site Receptors



SOURCE: LSA

El Monte Sand Mining Project . 140957
Figure 2.9-4
Construction-Related Site Preparation
and Off-Site Receptors