

## 5.9. Noise

This section addresses potential noise impacts that may result from construction, operation, closure and post-closure maintenance of the Desert Valley Company Monofill Expansion Project, Cell 4. The following discussion addresses the existing conditions at the Project site, identifies applicable regulations, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts anticipated from implementation of the Project, as applicable.

Information used in preparing this section and in the evaluation of potential noise impacts was derived from the Desert Valley Monofill Expansion Project Noise Study (October 2020) prepared by Birdseye Planning Group, (Birdseye Planning Group, 2020b: provided in Appendix M).

### Scoping Issues Addressed

During the scoping period for the Project, a public scoping meeting was conducted, and written comments were received from public agencies. The following issues related to noise were raised by the California Department of Resources Recycling and Recovery and the California Department of Fish and Wildlife are addressed in this section:

- All operational activity hours should be identified and analyzed in the DEIR.
- An evaluation of impacts to adjacent open space lands from construction, long-term operations and maintenance.

### Issues Scoped Out

The Imperial County Planning and Development Services Department determined in the Initial Study, located in Appendix A-1, that the following environmental issue area resulted in “No Impact” and was scoped out of requiring further review in this DEIR. Please refer to Appendix A-1 of this DEIR for a copy of the Initial Study and additional information regarding this issue.

- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? The Project site is not located within the vicinity of a private airstrip and the nearest privately-owned/public use airport, Salton Sea Airport, is located 13 miles northwest the Project Site. Additionally, the Project is not located within the Imperial County Airport Land Use Compatibility Plan (County of Imperial 1996). For these reasons, the Project would not expose people residing or working in the area to excessive noise levels; therefore, no impact would occur.

### **5.9.1. Environmental Setting**

The proposed Project would be located in County of Imperial, which is situated in the southeasternmost portion of the State of California. The County encompasses an approximately 4,597-square-mile area and is bordered by Riverside County to the north, the State of Arizona on the east, Mexico to the south, and San Diego County to the west.

The existing monofill is located east of the Project site. State Route 86 (Highway 86) is located to the north and east of the existing monofill. Kane Springs Jeep Trail crosses Section 29 northeast of the Project site and an Imperial Irrigation District electrical transmission line and its maintenance road cross Sections 27, 28 and 34, running diagonally from northwest to southeast less than a mile from the Project site. Aside from the Kane Jeep Trail, no other man-made features are evident in the immediate area. The Elmore Desert Ranch Community is approximately two (2) miles northeast of the Project site.

All parcels in the vicinity of the Project site are zoned General Agricultural (A-2), Medium Industrial (M-2), Military and Bureau of Land management (BLM). The General Plan land use designation for all parcels in the immediate vicinity of the Project site is Government/Special Purpose, Recreation/Open Space and Special Purpose Facility. The predominant land use surrounding the project area is limited to desert open space and vehicle-oriented recreation.

#### **Overview of Sound Measurement**

Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 Hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz).

Sound pressure level is measured on a logarithmic scale with the 0 dB level based on the lowest detectable sound pressure level that people can perceive (an audible sound that is not zero sound pressure level). Based on the logarithmic scale, a doubling of sound energy is equivalent to an increase of 3 dBA, and a sound that is 10 dBA less than the ambient sound level has no effect on ambient noise. Because of the nature of the human ear, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a 3 dBA change in community noise levels is noticeable, while 1-2 dB changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40-50 dBA, while arterial streets are in the 50-60+ dBA range. Normal conversational levels are in the 60-65 dBA range, and ambient noise levels greater than 65 dBA can interrupt conversations. Noise levels typically attenuate (or drop off) at a rate of 6 dBA per doubling of distance from point sources (i.e., industrial machinery). Noise from lightly traveled roads typically attenuates at a rate of about 4.5 dBA per doubling of distance. Noise from heavily traveled roads typically attenuates at about 3 dBA per doubling of distance. Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the

receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The manner in which older homes in California were constructed (approximately 30 years old or older) generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units and office buildings construction to California Energy Code standards is generally 30 dBA or more.

In addition to the actual instantaneous measurement of sound levels, the duration of sound is important since sounds that occur over a long period of time are more likely to be an annoyance (average noise level). Typically, equivalent continuous sound level (Leq) is summed over a one-hour period. Lmax is the highest root mean squared (RMS) sound pressure level within the measuring period, and Lmin is the lowest RMS sound pressure level within the measuring period. The time period in which noise occurs is also important since noise that occurs at night tends to be more disturbing than that which occurs during the day. Community noise is usually measured using Day-Night Average Level (Ldn), which is the 24-hour average noise level with a 10-dBA penalty for noise occurring during nighttime (10 PM to 7 AM) hours, or Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a 5 dBA penalty for noise occurring from 7 PM to 10 PM and a 10 dBA penalty for noise occurring from 10 PM to 7 AM. Daytime Leq levels are louder than Ldn or CNEL levels; thus, if the Leq meets noise standards, the Ldn and CNEL are also met.

### **Existing Noise Sources**

The predominant sources of noise in the Project area are from operation of the existing DVCM facility. This includes noise generated by the trucks, transporting the filter-cake and mud-sump materials from the four geothermal power plants, to the facility, by the diesel-powered bulldozer or tractor grading and compacting the material, by the truck spraying the soil sealant, and by employees commuting to the facility. Other sources of noise in the vicinity are motor vehicles (e.g., automobiles and trucks) on State Route (SR)-86. An earthen levee between SR-86 and the existing DVCM facility serves as a noise barrier to the nearest sensitive receptors, the Elmore Desert Ranch, which is located approximately two (2) miles northeast of the Project site.

The Project area is located within the Pacific Flyway, a north-south flyway for migratory birds. Further, the Sonny Bono Salton Sea National Wildlife Refuge is located at the south end of the Salton Sea approximately 10 miles northeast of the Project area. This is an 826-acre area comprised of manageable wetland units providing habitat for resident and migratory bird species including waterfowl, shorebirds and wading birds.

## 5.9.2. Regulatory Setting

### Federal

The Federal Noise Control Act (1972) addressed the issue of noise as a threat to human health and welfare. To implement the Federal Noise Control Act, the U.S. EPA undertook a number of studies related to community noise in the 1970s. The EPA found that 24-hour averaged noise levels less than 70 dBA would avoid measurable hearing loss, levels of less than 55 dBA outdoors and 45 dBA indoors would prevent activity interference and annoyance (EPA 1972).

The U.S. Department of Housing and Urban Development (HUD) published a Noise Guidebook for use in implementing the Department's noise policy. In general, HUD's goal is exterior noise levels that are less than or equal to 55 dBA Ldn. The goal for interior noise levels is 45 dBA Ldn. HUD suggests that attenuation be employed to achieve this level, where feasible, with a special focus on sensitive areas of homes, such as bedrooms (HUD 2009).

### State

Title 24 of the CCR establishes standards governing interior noise levels that apply to all new single-family and multi-family residential units in California. These standards require that acoustical studies be performed before construction at building locations where the existing Ldn exceeds 60 dBA. Such acoustical studies are required to establish mitigation measures that will limit maximum Ldn levels to 45 dBA in any habitable room. Although there are no generally applicable interior noise standards pertinent to all uses, many communities in California have adopted an Ldn of 45 as an upper limit on interior noise in all residential units.

In addition, the State of California General Plan Guidelines, provides guidance for noise compatibility. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

### Local

#### *County of Imperial Noise Ordinance*

The monofill is subject to noise ordinance established by the Imperial County Board of Supervisors. Section 90702 of Title 9, of the Land Use Ordinance for the County of Imperial, limits general industry to a noise limit of 75 decibels (based on a one-hour average).

#### *Construction Noise Standards*

Construction noise, from a single piece of equipment or a combination of equipment, shall not exceed 75 dB Leq when averaged over an 8-hour period, and measured at the nearest sensitive

receptor. This standard assumes a construction period, relative to an individual receptor of days or weeks.

Construction equipment operation shall be limited to the hours of 7 AM to 7 PM, Monday through Friday, and 9 AM to 5 PM Saturday. No construction operations are permitted on Sundays or holidays.

***County of Imperial General Plan***

The County of Imperial General Plan’s Noise Element outlines the goals and objectives for identifying and managing existing and future noise sources in County of Imperial. The General Plan also contains plans and policies to protect the public from noise intrusion. **Table 5.9-1** identifies applicable General Plan policies, goals, and objectives applicable to the Project’s consistency with the General Plan. While this DEIR analyzes the Project’s consistency with the County of Imperial General Plan pursuant to CEQA Guidelines, Section 15125(d), the County of Imperial Planning Commission will determine the Project’s consistency with the General Plan.

**TABLE 5.9-1: CONSISTENCY WITH APPLICABLE GENERAL PLAN NOISE GOALS AND POLICIES**

General Plan Policies	Consistency	Analysis
<b>Noise Element (NE) <sup>(a)</sup></b>		
NE Goal 1: Provide an acceptable noise environment for existing and future residents in Imperial County. <ul style="list-style-type: none"> <li>• NE Objective 1.1: Adopt noise standards which protect sensitive noise receptors from adverse impact.</li> <li>• NE Objective 1.3: Control noise levels at the source where feasible.</li> <li>• NE Objective 1.5: Identify sensitive receptors with noise environments which are less than acceptable, and evaluate measures to improve the noise environment.</li> <li>• NE Objective 1.6: Collect data for existing noise sources in the County in order to improve the data base and enhance the ability to evaluate proposed projects and land uses.</li> </ul>	Yes	The proposed Project would not exceed adopted noise standards.
NE Goal 2: Review proposed projects for noise impacts and require design which will provide acceptable indoor and outdoor noise environments.	Yes	The Noise Study prepared for the Desert Valley Monofill Expansion Project (October 2020; Appendix M) provides an analysis of project noise levels. No significant noise impacts were identified.

**TABLE 5.9-1: CONSISTENCY WITH APPLICABLE GENERAL PLAN NOISE GOALS AND POLICIES**

General Plan Policies	Consistency	Analysis
NE Goal 3: Provide for environmental noise analysis inclusion in long range planning activities which affect the County.	Yes	The Noise Study prepared for the Desert Valley Monofill Expansion Project (October 2020; Appendix M) provides an analysis of project noise levels. No significant noise impacts were identified.
<b>Conservation and Open Space Element (COSE) <sup>(b)</sup></b>		
COSE Objective 2.6: Attempt to identify, reduce, and eliminate all forms of pollution; including air, noise, soil, and water.	Yes	The Noise Study prepared for the Desert Valley Monofill Expansion Project (October 2020; Appendix M) provides an analysis of project noise levels. No significant noise impacts were identified.

Source:

- (a) County of Imperial General Plan Noise Element, 2016
- (b) County of Imperial Conservation and Open Space Element, 2016.

**Vibration Standards**

Vibration is a unique form of noise as the energy is transmitted through buildings, structures and the ground whereas audible noise energy is transmitted through the air. Thus, vibration is generally felt rather than heard. The ground motion caused by vibration is measured as particle velocity in inches per second and is referenced as vibration decibels (VdB). The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels.

The Noise Ordinance of the County’s Codified Ordinances and General Plan Noise Element do not provide vibration standards. The Federal Transit Administration’s (FTA) uses a threshold of 65 VdB for buildings where low ambient vibration is essential for interior operations. These buildings include hospitals and recording studios. A threshold of 72 VdB is used for residences and buildings where people normally sleep (i.e., residences and hotels). A threshold of 75 VdB is used for institutional land uses where activities occur primarily during the daytime (i.e., churches and schools). With respect to ground-borne vibration impacts on structures, the FTA states that ground-borne vibration levels in excess of 100 VdB would damage fragile buildings and levels in excess of 95 VdB would damage extremely fragile historic buildings.

**5.9.3. Analysis of Project Effects and Significance Determination**

*Guidelines for Determination of Significance*

A project would be considered to have a significant impact if it would:

1. Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
2. Result in generation of excessive groundborne vibration or groundborne noise levels?

### ***Impact Analysis***

#### **Impact 5.9-1: Generation of a substantial temporary or permanent increase in ambient noise levels**

##### **Temporary Construction Noise**

Construction noise estimates are based upon noise levels reported by the Federal Highway Administration for construction equipment and the distance between sensitive properties and SR-86. Reference noise levels are used herein to estimate noise levels at nearby sensitive receptors based on a standard noise attenuation rate of 3 dBA for line sources such as haul roads and 6 dB per doubling of distance (line-of-sight method of sound attenuation) for stationary sources and construction equipment. As referenced, the Project would not increase traffic volumes from baseline conditions nor would operation of the facility change with the Project. The only noise associated with the proposed Project that is not part of the ambient condition would be construction of the new facilities.

The primary noise source during construction activities would be associated with site preparation, grading, excavation and movement of soil material to/from the borrow area. This would include use of excavators, graders, loaders, compressors, generators, and various trucks for mobilizing crews, transporting construction material and debris, line work, and site watering. Average noise levels associated with the use of heavy equipment at construction sites can range from about 81 to 95 dBA at 25 feet from the source, depending upon the types of equipment in operation at any given time and phase of construction.

The nearest noise-sensitive to the Project site are single-family residences located on the Elmore Desert Ranch approximately two (2) miles northeast of the site. The noise level used to estimate the maximum noise level that could occur is based on use of an excavator, grader and dump truck. The combined noise from an excavator, grader and dump truck operating in proximity to one another would generate approximately 81 decibels at 100 feet. Actual noise levels will fluctuate throughout the day and may periodically exceed 81 dBA at 100 feet from the sources depending on the type and location of equipment used simultaneously in the same area. However, construction noise levels would attenuate to the 70 dBA criterion at approximately 400 feet from the source. Noise received at the property line of a residence is limited to 50 dBA Leq in the daytime and 45 dBA Leq at night.

Construction noise may be audible at the nearest residences neighboring the site; however, because the nearest residential uses are located two (2) miles from the Project site and because noise and vibration levels reduce by approximately 6 dBA with the doubling of distance between the noise

source and the receptors, noise levels at the nearest residences would be approximately 40 dBA and would not exceed the 50 dBA threshold. Therefore, construction noise impacts would be less than significant.

As referenced, the Noise Element of the County of Imperial General Plan defines a construction noise impact as noise generated from a single piece of construction equipment or a combination of equipment that exceeds 75 dBA Leq when averaged over an 8-hour period (Leq(8)) and measured at the nearest sensitive receptor (e.g., homes, schools, hospitals, parks, and office buildings, and for certain non-human species, including riparian bird species). Due to the proposed Project area being located within the Pacific Flyway and within 10 miles of the Sonny Bono Salton Sea National Wildlife Refuge, the DEIR evaluated potential noise impacts on birds.

The Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711) is an international treaty that makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Sections 3503, 3503.5, and 3800 of the California Department of Fish and Wildlife Code prohibit the take, possession, or destruction of birds, their nests, or eggs. Disturbances that cause nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) or loss of habitat upon which the birds depend could be considered “take” and constitute a violation of the MBTA.

Construction-related noise levels are estimated to be 81 dBA at 100 feet and 70 dBA at 400 feet from the noise source. No known nest sites or nesting habitat (i.e., shrubs/trees) occur on or in proximity to the Project site. Additionally, construction would occur more than 10 miles from the Salton Sea National Wildlife Refuge. Because noise levels are reduced by approximately 3 dBA with the doubling of the distance, construction noise would be imperceptible at the wildlife refuge and would have no impacts on nesting birds. No mitigation would be required to address nesting birds prior to construction.

### **Long-Term Operational Noise**

Long-term operation of the proposed Project was evaluated for potential exterior traffic related impacts caused by operation of the heavy equipment, truck trips and employee/vendor traffic along SR-86.

Employee and construction-related support vehicle traffic and ongoing haul trips are the primary noise source that would be generated by the proposed Project. The current solid waste facility permit allows up to 38 daily waste transporting truck trips, which is considered baseline conditions. No increase in daily truck trips would occur with the proposed expansion. Up to 8 (16 two-way) employee trips occur daily and various vendor trips occur throughout a typical week. For the purpose of evaluating traffic noise, it was assumed that all employees/contractors, vendor and truck haul trips are included in existing traffic counts for SR-86. Based on these assumptions, project-related traffic



on SR-86 contributes to an ambient noise level of 62.3 dBA at 100 feet from the center line of SR-86 in the Project vicinity. This is within the compatible limits for residential receivers. Baseline/existing conditions are, and would remain, within the compatibility range required by Imperial County Code for traffic sources. The Project would have no effect on noise levels at noise sensitive receivers.

Operation of the facility would require the ongoing use of heavy equipment. Assuming a similar mix of equipment is used on-site during operation, noise levels would attenuate to 70 dBA or less at 400 feet from the Project. This would be inaudible at the nearest receiver. Thus, no significant permanent increase in noise levels would occur as a result of the project and a less than significant impact would occur.

**Impact 5.9-2: Generation of excessive groundborne vibration or groundborne noise levels?**

Construction and operational activities such as demolition and excavation have the potential to generate ground vibrations. Vibration levels will attenuate to approximately 69 VdB at 200 feet from the source assuming a grader and excavator are the heaviest pieces of equipment used during grading or site clearing. As discussed, 100 VdB is the threshold where minor damage can occur in fragile buildings. Vibration levels are projected to be under this threshold; thus, structural damage is not expected to occur as a result of construction activities associated with the proposed Project. Vibration levels would be below the groundborne velocity threshold level of 72 VdB for residences and/or buildings where people sleep at the property line of the nearest sensitive receptor, two (2) miles from the Project site. Vibration would not be perceptible at the nearest receiver. Vibration-related impacts would be less than significant.

No demolition or excavation activities would occur during the closure or post-closure maintenance phases. Therefore, no vibration impacts are anticipated.

**5.9.4. Mitigation Measures**

Impacts would be less than significant, and no mitigation would be required.

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