4.13 Noise

This section provides information regarding the fundamentals of terrestrial noise and vibration, and describes the existing noise environment, identifies applicable significance thresholds, assesses the terrestrial noise and vibration impacts on sensitive receptors, and recommends measures to avoid or mitigate any effects found to be potentially significant in the Project area. A sensitive receptor includes residences, health care facilities, hotels, bed and breakfast facilities, schools, churches, libraries, museums, public assembly and entertainment, office, and outdoor sports and recreation (San Luis Obispo, 2022). Much of the analysis presented herein is based on the Noise Assessment Report prepared for PG&E by ERM (PG&E, 2020) and the Noise Assessment Report for the Santa Maria Valley Railyards (PG&E, 2021c).

Underwater noise impacts related to marine organisms such as marine mammals, sea turtles, and fish are analyzed in Section 4.4, *Biological Resources – Marine*.

Scoping Comments Received. During the scoping comment period for the EIR, written and verbal comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. Appendix B includes all comments received during the scoping comment period. The following list provides a summary of scoping comments applicable to this issue area and were considered in preparing this section:

- Address the impacts of noise to sensitive receptors.
- Ensure that noise activities are minimized to avoid disturbance to neighborhoods, potentially causing discomfort or annoyance, under the Pismo Beach General Noise Regulations, if the Pismo Beach Railyard (PBR) site is required to support decommissioning.
- Restrict decommissioning activities that create excessive noise from 9:00 a.m. to 5:00 p.m., Monday through Friday.
- Address any noise impacts to local neighborhoods southeast of Price Canyon Road and to the City of Pismo Beach.

4.13.1 Environmental Setting

The Project area includes the Diablo Canyon Power Plant (DCPP) site, PBR, and the Santa Maria Valley Railyard Facility, located at 2820 W. Betteravia Road in unincorporated Santa Barbara County (SMVR-SB). The noise study area considers sensitive receptors and uses near the DCPP and along the proposed demolition waste material haul routes from the DCPP to the PBR and/or SMVR-SB sites.

The NRC-regulated, 750-acre, DCPP site lies within unincorporated San Luis Obispo County, with approximately two-thirds of the DCPP site within the coastal zone, as defined by the California Coastal Act of 1976, and the remaining approximate one-third outside the coastal zone. No noise sensitive receptors or uses are located within several miles of the DCPP facility. The PBR site is located within the incorporated city limits of Pismo Beach, mostly outside of the coastal zone; however, the southwestern corner of the PBR site is within the coastal zone. The haul route from the DCPP to PBR site is initially located in the unincorporated land controlled by PG&E (along

Diablo Canyon Road/Diablo Ocean Drive), with the entire haul route within San Luis Obispo County. The haul route to SMVR-SB traverses the City of Santa Maria and Santa Barbara County.

Fundamentals of Noise and Vibration

Noise

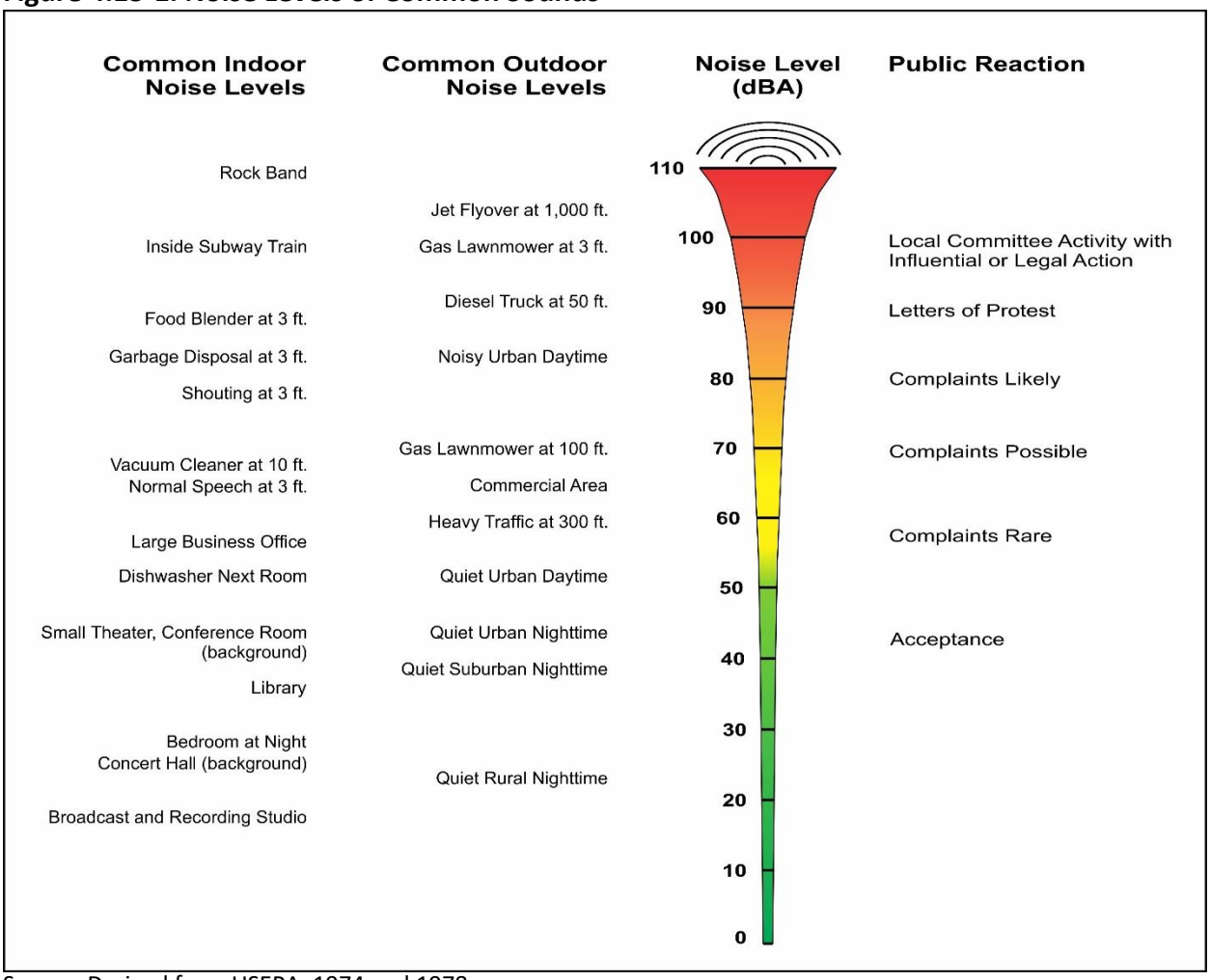
Noise is mainly defined as unwanted sound. In terms of the decommissioning of the DCPP, noise may occur in terrestrial and underwater environments (see Section 4.4, *Biological Resources – Marine,* for underwater noise impact analysis). In the terrestrial setting, noise is generally air-borne. Sound is typically described by its pitch (height or depth of a tone or sound) and loudness (amplitude or intensity of sound waves combined with the ear's reception characteristics). The amplitude of pressure waves generated by a sound source determines the loudness of that source. Essentially airborne sound is the fluctuation of air pressure above and below atmospheric pressure. Sound pressure amplitude is measured in micropascals (µPa), where 1 µPa equals approximately one hundred-billionth (0.00000000001) of normal atmospheric pressure. Sound pressure amplitudes for different noise environments can range from less than 100 to 100,000,000 µPa. Because of this large range, sound pressure level (sound level) is often expressed in decibels (dB). Noise is typically measured on the A-weighted decibel scale, denoted as dBA, which provides an expression of the relative loudness of sounds in air as perceived by the human ear. This is a logarithmic scale where a doubling of sound energy corresponds to a 3-dB increase in acoustic energy, a 10-dB increase is 10 times more intense, a 20-dB increase is 100 times more intense, etc.[42] Figure 4.13-1 illustrates typical noise levels for common sounds and their associated subjective responses.

Airborne Noise

When airborne sound propagates over a certain distance, the sound changes in both level and frequency content. The way noise is reduced with distance depends on the following important factors as identified in Table 4.13-1.

[42] Because decibels are logarithmic units, sound pressure levels cannot be added or subtracted through ordinary arithmetic. When two identical sources each produce sound of the same loudness, their combined sound level "doubles" or at a given distance would be 3 dB higher than one source under the same conditions. For example, if one excavator produces a sound pressure level of 80 dBA, two excavators would combine to produce 83 dBA not 160 dBA.

Figure 4.13-1. Noise Levels of Common Sounds



Source: Derived from USEPA, 1974 and 1978.

Table 4.13-1. Airborne Sound Propagation Factors

Factor	Description
Geometric Spreading from Point Sources	Sound from a single source (i.e., a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates (or drops off) at a rate of 6 dBA for each doubling of distance (intensity drops to one-quarter of the previous level with each doubling of distance).
Geometric Spreading from Line Sources	Some sound generators, such as highway noise, are not single stationary point sources of sound. The movement of vehicles on a highway makes the source of the sound appear to emanate from a "line" source rather than a point. The change in sound level from a line source is 3 dBA per doubling of distance (intensity drops to half of the previous level with each doubling of distance).
Ground Absorption	Usually, the noise path between the source and the observer is very close to the ground. The excess noise attenuation from ground absorption occurs due to acoustic energy losses on sound wave reflection. Additionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is done for simplification only; for distances of less than 200 feet, prediction results based on this scheme are sufficiently accurate. For acoustically "hard" sites (i.e., sites with a reflective

Table 4.13-1. Airborne Sound Propagation Factors

Factor	Description
	surface, such as a parking lot or a smooth body of water, between the source and the receptor), no excess ground attenuation is assumed because the sound wave is reflected without energy losses. For acoustically absorptive or "soft" sites (i.e., sites with an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dBA per doubling of distance is normally assumed. When added to the geometric spreading, the excess ground attenuation results in an overall drop-off rate of 4.5dBA per doubling of distance for a line source and 7.5 dBA per doubling of distance for a point source. Although some ground attenuation is expected, it is difficult to characterize accurately and is often ignored in a noise analysis to ensure a conservative analysis.
Atmospheric Effects	Research by the California Department of Transportation (Caltrans) and others shows that atmospheric conditions can have a major effect on noise levels. Wind has been shown to be the single most important meteorological factor within approximately 500 feet, whereas vertical air temperature gradients are more important over longer distances. Other factors, such as air temperature, humidity, and turbulence, also have major effects. Receptors located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lower noise levels. Increased sound levels can also occur because of temperature inversion conditions (i.e., increasing temperature with elevation) which cause reflection of sound from the inversion layer back to the ground. As with ground absorption, atmospheric effects are often ignored in the interest of a conservative analysis.
Shielding by Natural or Human-made Features	A large object or barrier in the path between a noise source and a receptor can substantially attenuate noise levels at the receptor. The amount of attenuation provided by this shielding depends on the size of the object, proximity to the noise source and receptor, surface weight, solidity, and the frequency content of the noise source. Natural terrain features (such as hills and dense woods) and human-made features (such as buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receptor with the specific purpose of reducing noise. A barrier that breaks the line of sight between a source and a receptor would typically result in at least 5 dBA of noise reduction. A higher barrier may provide as much as 20 dBA of noise reduction. Lightly built barriers provide less attenuation.
Human Response to Noise	The dB scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a physical quantity, the loudness or human response is determined by characteristics of the human ear. Human hearing is limited in the range of audible frequencies, as well as in the way it perceives the sound pressure level in that range. In general, people are most sensitive to the frequency range of 1,000 to 8,000 hertz (Hz) and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels in individual frequency bands are weighted based on the sensitivity of human hearing in those frequencies. The A-weighted sound level (expressed in units of dBA) can be computed using this information.

Source: CSLC, 2019 – Table 4.11-2.

A-weighted sound levels are typically measured and shown as the equivalent sound pressure level (Leq). Leq is defined as the average noise level for a stated period of time and is commonly used to measure steady-state sound that is usually dominant. Statistical methods are used to capture the dynamics of a changing acoustical environment. Statistical measurements are typically denoted by L_n, where "n" represents the percentile of time that the stated sound level is

exceeded. Therefore, L_{90} represents the noise level that is exceeded during 90 percent of the measurement period, which typically represents a continuous noise source. Similarly, L_{10} represents the noise level exceeded for 10 percent of the measurement period. Another metric used in determining the impact of environmental noise is the differences in response people have to daytime and nighttime noise levels. During the evening and at night, exterior background noises generally are lower than daytime levels. However, most household noise also decreases at night, and exterior noise becomes more noticeable. Furthermore, most people sleep at night and are typically more sensitive to intrusive noises during when sleeping.

To account for human sensitivity to evening and nighttime noise levels, the day-night sound level (L_{dn}) (also referred to as DNL) and the community noise equivalent level (CNEL) were developed. The L_{dn} is a noise metric that accounts for the greater annoyance of noise during the nighttime hours (10 p.m. to 7 a.m.). CNEL is a noise index that accounts for the greater annoyance of noise during both the evening hours (7 p.m. to 10 p.m.) and nighttime hours. The general human response to changes in noise levels that are similar in frequency content (such as comparing increases in continuous Leq traffic noise levels) are summarized as follows:

- A 3 dB change in sound level is considered to be a barely noticeable difference.
- A 5 dB change in sound level typically is noticeable.
- A 10 dB increase is considered to be a doubling in loudness. (PG&E, 2021b)

Vibration

Vibration is energy transmitted in waves through the ground, often referred to as groundborne vibration. Groundborne vibration consists of oscillatory waves that propagate from the source through the ground to adjacent structures. The frequency of a vibrating object describes how rapidly it is oscillating. The number of cycles per second of oscillation is the vibration frequency, which is described in terms of Hertz (Hz). The normal frequency range of most groundborne vibration that can be felt generally starts from a low frequency of less than 1Hz to a high of about 200Hz. Energy is lost during the transfer of energy from one particle to another, and therefore the vibratory energy is reduced with increasing distance from the source of the vibration. There are several different methods which are typically used to quantify vibration amplitude. One is the Peak Particle Velocity (PPV) and another is the root-mean-square (RMS) velocity, both measured in inches per second. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV is often used in monitoring construction and other peak events since it is related to the stresses that are experienced by buildings.

The two main concerns related to vibrations associated with construction, or in this case decommissioning, are the potential to interfere with the enjoyment of life and the potential to damage a structure. The nature of potential structural damage could be cosmetic or could even threaten the integrity of the building.

Terrestrial Noise

DCPP Site

The DCPP site is in a remote, rural, coastal area where ambient noise ranges from 55 and 65 dBA Leq. The primary noise sources include the ocean waves and DCPP operations (e.g., diesel generators, vehicular noise, machinery). Existing operations at DCPP create a relatively steady level of noise typical of industrial sites. While some activities at the DCPP site exceed 80 dBA near the noise source, noise levels are normally between 50 and 65 dBA depending on the proximity of the noise source and the natural noise generated by the ocean waves. Further away from routine DCPP operations and along Diablo Canyon Road/Diablo Ocean Drive as one drives to Port San Luis, noise levels range from approximately 40 to 50 dBA. (PG&E, 2021b)

The DCPP site is generally surrounded by open space, PG&E owned or leased land, conservation space, federally owned parcels, and the Pacific Ocean (see Figure 2-7, Land Ownership). There are no residences or other occupied properties located within approximately 6.5 miles of the site. The Montaña de Oro State Park campground is the nearest location of temporary shelter, approximately 5 miles from the DCPP site. Recreational uses, including parks, campgrounds, playgrounds, and beaches, are located nearby, with the closest of these being Coon Creek Beach, approximately 3.7 miles from the site. In addition, the southern terminus of the Point Buchon Trail is approximately 1.1 miles from the northern edge of the DCPP site.

Truck Haul Routes to PBR and SMVR-SB

Two potential rail sites would be utilized to transport the waste via truck from the DCPP site, including the PBR and Betteravia Industrial Park (SMVR-SB). As such, truck haul routes are considered in this noise analysis. Noise monitoring conducted for the Proposed Project includes 35 short term (30-minutes per location) noise measurements during the daytime and nighttime, and one long-term (7-day) noise measurement conducted at the PBR site.

PBR

Short-term (30-minute) measurements were completed along the haul route from the DCPP site to PBR between 8:00 a.m. and 5:00 p.m. (daytime) and 10:00 p.m. and 2:00 a.m. (nighttime) from July 6, 2020 to July 9, 2020 (see Figure 4.13-2).

Tables 4.13-2 and 4.13-3 shows the results of the short-term daytime and nighttime ambient noise levels, respectively, along the haul route from the DCPP site to PBR.

Existing noise during daytime hours was dominated by vehicular traffic at most locations. Other sources of noise included natural sounds (insects, birds, rustling vegetation, and people conversing) as well as some residential and commercial maintenance activities. During nighttime hours, noise sources included vehicular traffic, ocean waves, and natural sounds. The results of the noise monitoring survey are documented in Table 4.13-2 and Table 4.13-3.

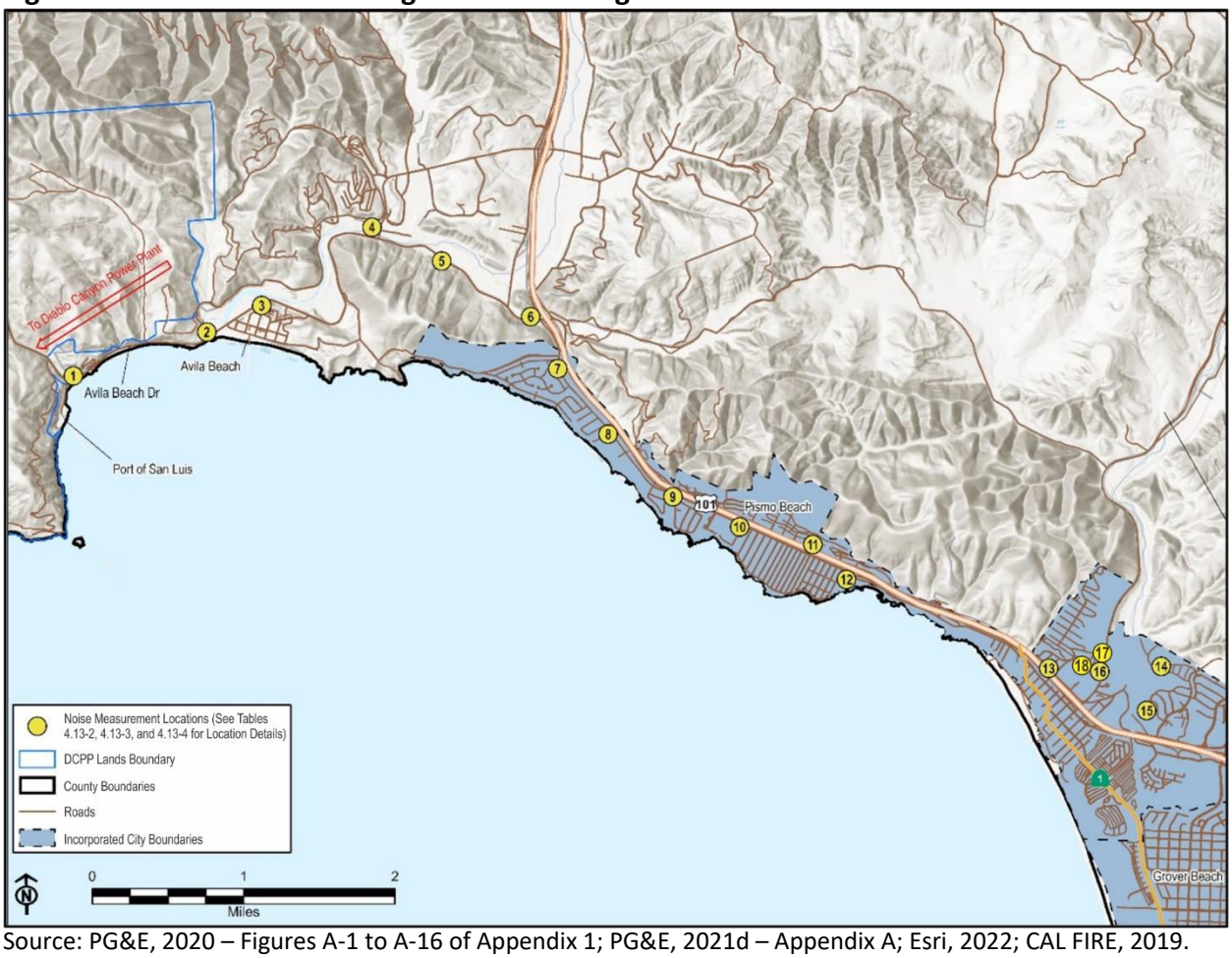
One long-term (7-day) measurement was completed at Dell Court (see Figure 4.13-2 – Location 16), a residential neighborhood near the PBR site within the City of Pismo Beach limits, from July 6 to 13, 2020. Meteorological conditions during the 7-day period included temperatures ranging from 49°F to 88°F, and winds from varying directions ranging in speed from calm to 10 miles per

hour, with some higher gusts. Other than a few periods of light mist, no precipitation occurred during the measurement period (PG&E, 2021b).

The results of the long-term ambient sound measurements are presented in Figure 4.13-3 and in Table 4.13-4. Figure 4.13-3 provides a graphical representation of the 1-minute measured Leq sound levels. The data plotted in Figure 4.13-3 reveals the wide diurnal range of existing sound levels that occurred during the measurement period. Ambient Leq sound levels ranged from about 30 dBA late at night, to 55 dBA and more during the day. While the diurnal range in sound levels was found to be large, measured sound levels from day to day are shown to be very similar (PG&E, 2021b).

Two additional locations are included in this analysis, Location 17 (Price Canyon Road Residence) and Location 18 (Judkins Middle School), shown in Figure 4.13-2. Noise measurements were not conducted at Location 17 due to inaccessibility, but ambient conditions were estimated to be the same as Location 16, provided in Table 4.13-4. Noise measurements were also not conducted at Location 18 due to inaccessibility, but ambient conditions were conservatively estimated to be 3 dBA higher than at Location 16 due to closer proximity of this receptor to traffic noise sources on Price Canyon Road.

Figure 4.13-2. Noise Monitoring Locations Along the Haul Route Between DCPP and PBR



Source: PG&E, 2020 – Figures A-1 to A-16 of Appendix 1; PG&E, 2021d – Appendix A; Esri, 2022; CAL FIRE, 2019.

Table 4.13-2. Summary of Measured Daytime Ambient Noise Levels Along DCPP to PBR Haul Route (short term measurements)

Location	Date	Time	L_{eq} (dBA)	L_{10}(dBA)	L_{50}(dBA)	L_{90}(dBA)
1. Diablo Canyon Road/ Avila Beach Drive	July 7, 2020	11:22-11:52	61.8	65.4	57.8	49.2
2. San Luis Bay Inn (Avila Beach Drive)	July 7, 2020	11:57-12:27	62.2	65.7	59.3	51.6
3. Avila Beach Drive/ Beach Colony	July 7, 2020	12:43-13:13	66.4	69.7	61.4	52.2
4. Avila Beach Drive/ San Luis Bay Drive	July 7, 2020	13:21-13:51	52.2	54.6	50.1	47.3
5. Sycamore Mineral Springs Resort (Avila Beach Drive)	July 7, 2020	14:00-14:30	58.5	61.3	54.9	46.0
6. Avila Beach Drive/ Cabrillo Highway	July 7, 2020	14:38-15:08	59.4	59.7	58.0	57.1
7. Shell Beach Road/ El Dorado Way	July 7, 2020	15:14-15:44	60.5	63.1	59.2	57.8
8. North Silver Shoals Drive	July 7, 2020	15:50-16:20	58.6	59.1	58.0	57.5
9. Seacliff Drive	July 8, 2020	09:20-09:50	60.0	63.5	57.1	51.9
10. Shell Beach Elementary School	July 8, 2020	09:59-10:29	64.3	67.7	61.8	55.2
11. Corralitos	July 8, 2020	10:35-11:05	65.6	67.4	65.0	62.2
12. Dinosaur Caves Park (Shell Beach Road)	July 8, 2020	11:23-11:53	52.0	54.8	50.2	47.0
13. Bello Street/ San Luis Avenue	July 8, 2020	11:58-12:28	64.6	67.4	63.2	59.2
14. Vincente Court	July 8, 2020	12:38-13:08	53.5	56.7	49.4	44.6
15. Reef Court	July 8, 2020	13:13-13:43	58.8	62.0	56.4	51.1

Source: PG&E, 2020 – Table 6.3.9.3.1-2.

Table 4.13-3. Summary of Measured Nighttime Ambient Noise Levels Along DCPP to PBR Haul Route (short term measurements)

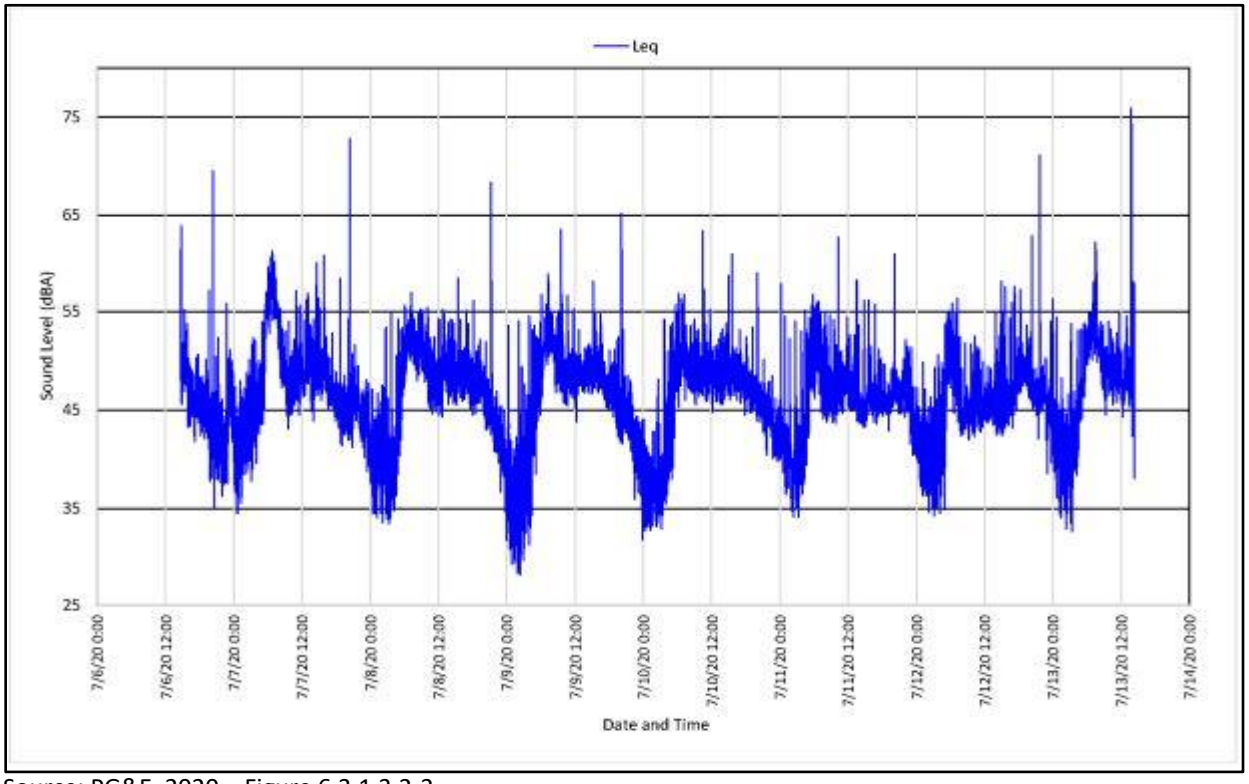
Location	Date	Time	L_{eq} (dBA)	L_{10}(dBA)	L_{50}(dBA)	L_{90}(dBA)
1. Diablo Canyon Road / Avila Beach Drive	July 8-9, 2020	23:41-00:11	63.0	62.1	43.8	38.1
2. San Luis Bay Inn (Avila Beach Drive)	July 8, 2020	2308-23:38	56.0	55.1	54.7	54.5
3. Avila Beach Drive / Beach Colony	July 8-9, 2020	23:35-00:05	64.4	63.8	52.9	52.6
4. Avila Beach Drive / San Luis Bay Drive	July 8, 2020	22:00-22:30	53.0	52.4	51.0	50.5
5. Sycamore Mineral Springs Resort (Avila Beach Drive)	July 8,2020	00:18-00:48	56.2	51.6	51.1	51.0

Table 4.13-3. Summary of Measured Nighttime Ambient Noise Levels Along DCPP to PBR Haul Route (short term measurements)

Location	Date	Time	L_{eq} (dBA)	L_{10}(dBA)	L_{50}(dBA)	L_{90}(dBA)
6. Vila Beach Drive / Cabrillo Highway	July 7-8, 2020	23:45-00:15	58.3	58.4	57.8	57.3
7. Shell Beach Road / Ed Dorado Way	July 7, 2020	23:10-23:40	55.4	56.5	54.8	54.2
8. North Silver Shoals Drive	July 7, 2020	22:35-23:05	56.8	58.8	55.6	53.8
9. Seacliff Drive	July 7, 2020	22:00-22:30	59.8	62.4	56.5	53.4
10. Shell Beach Elementary School	July 7, 2020	00:58-01:28	51.9	52.8	51.0	50.6
11. Corralitos	July 7, 2020	00:22-00:52	57.8	61.2	53.5	51.5
12. Dinosaur Caves Park (Shell Beach Road)	July 6-7, 2020	23:47-00:17	53.2	54.8	52.3	51.3
13. Bello Street / San Luis Avenue	July 6, 2020	23:12-23:42	56.9	59.9	53.8	52.6
14. Vincente Court	July 6, 2020	22:34-22:54	51.2	54.0	39.4	33.6
15. Reef Court	July 6, 2020	22:00-22:30	54.4	55.8	55.2	39.3

Source: PG&E, 2020 – Table 6.3.10.3.1-3.

Figure 4.13-3. Pismo Beach Railyard (Location 16 Dell Court) 1-Minute Ambient Sound Levels (July 6-13, 2020)



Source: PG&E, 2020 – Figure 6.3.1.3.2-2.

Table 4.13-4. Average Measured Daily Sound Levels – Pismo Beach Railyard (Location 16, Dell Court, long term measurements)

Day	Averaging Period	Leq (dBA)	L_{10} (dBA)	L_{50} (dBA)	L_{90} (dBA)
July 7, 2020	Daytime	52.3	49.6	51.6	54.5
	Nighttime	50.5	52.8	49.8	47.4
	24-Hour	50.7	50.7	49.4	47.2
July 8, 2020	Daytime	50.5	47.7	49.6	52.9
	Nighttime	46.1	49.3	44.3	41.7
	24-Hour	48.8	51.2	47.5	45.4
July 9, 2020	Daytime	50.5	47.4	49.4	52.8
	Nighttime	45.7	49.2	43.7	41.0
	24-Hour	48.5	51.0	47.1	45.0
July 10, 2020	Daytime	50.1	46.8	49.0	52.6
	Nighttime	45.9	49.4	43.8	41.1
	24-Hour	48.2	50.8	47.0	44.8
July 11, 2020	Daytime	48.5	44.8	46.8	51.5
	Nighttime	47.4	50.9	45.3	42.2
	24-Hour	47.6	50.6	45.9	43.7
July 12, 2020	Daytime	47.3	43.5	45.8	50.3
	Nighttime	46.8	50.1	45.1	41.3
	24-Hour	47.9	51.4	45.8	43.3
Overall Long Term Period	Daytime	50.8[1,2]	47.3	49.4	53.3

Source: PG&E, 2020 – Table 6.3.11.3.2-1.
[1] Ambient noise measurements were not conducted at Location 17 (Price Canyon Road Residence) due to inaccessibility. Ambient conditions estimated to be the same as Location 16.
[2] Ambient noise measurements were not conducted at Location 18 (Judkins Middle School) due to inaccessibility. Ambient conditions conservatively estimated to be 3 dBA higher than at Location 16 due to closer proximity of this receptor to traffic noise sources on Price Canyon Road.

SMVR-SB

Noise monitoring was performed on April 16, 2021 and April 21, 2021 to document ambient noise conditions at 20 locations representative of the general noise environment along the truck haul route from DCPP to the SMVR-SB site (see Figure 4.13-4). No sensitive receptors were identified along the route to the SMVR-SB site. The noise monitoring results are provided in Table 4.13-5.

Table 4.13-5. Noise Measurement Locations and Results for the SMVR-SB Site

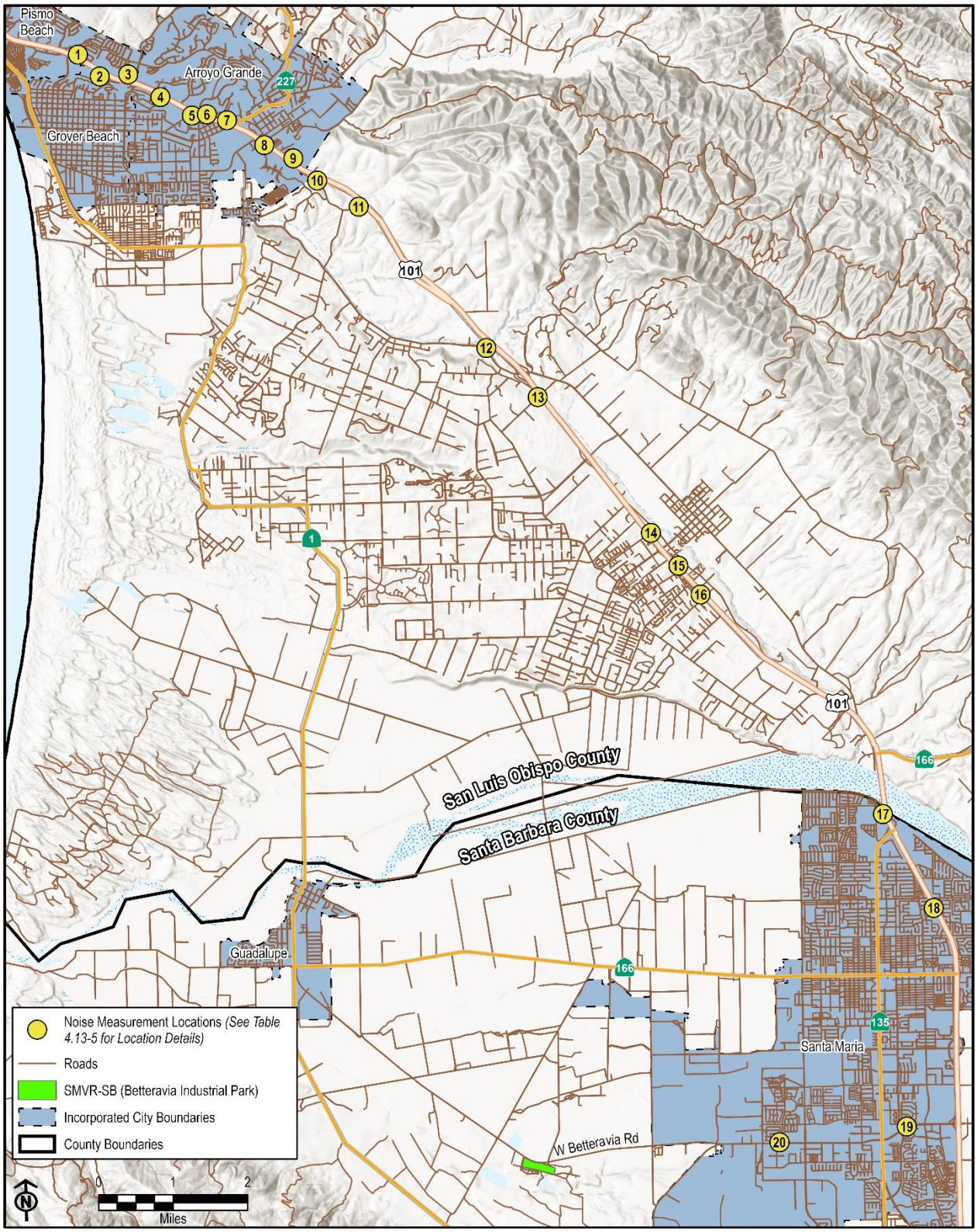
Location Number	Location	Time of Day	Leq (dBA)	L_{10} (dBA)	L_{50} (dBA)	L_{90} (dBA)
1	Irish Way	Daytime	67.5	68.9	67.4	65.7
		Nighttime	63.9	66.7	63.1	58.7
2	Owens Court	Daytime	54.9	56.2	54.6	53.5
		Nighttime	51.0	53.1	50.0	46.9
3	Branch Street Apartments	Daytime	59.9	62.2	59.3	57.6
		Nighttime	57.9	60.4	55.0	52.1
4	Hillcrest Drive	Daytime	65.4	68.6	63.7	61.1
		Nighttime	62.6	65.4	60.0	55.9

Table 4.13-5. Noise Measurement Locations and Results for the SMVR-SB Site

Location Number	Location	Time of Day	Leq (dBA)	L_{10} (dBA)	L_{50} (dBA)	L_{90} (dBA)
5	Arroyo Grande Cemetery	Daytime	67.9	71.5	65.3	61.4
		Nighttime	64.1	66.6	61.4	57.2
6	Arroyo Grande Library	Daytime	66.8	68.5	66.6	64.5
		Nighttime	60.9	63.7	60.2	56.0
7	Vernon Street	Daytime	68.3	70.5	67.4	65.5
		Nighttime	60.3	64.2	58.3	52.3
8	Arroyo Avenue	Daytime	74.3	76.6	74.0	69.4
		Nighttime	64.1	69.2	53.8	44.3
9	Church of Jesus Christ of Latter-Day Saints	Daytime	61.4	61.4	59.9	57.7
		Nighttime	57.7	60.8	56.4	53.1
10	E El Campo Road	Daytime	55.6	63.9	60.3	58.3
		Nighttime	59.7	63.4	57.0	53.4
11	Brady Lane	Daytime	55.6	58.1	54.7	52.8
		Nighttime	52.7	55.7	51.8	48.2
12	Quailwood Lane	Daytime	64.8	68.3	63.0	59.2
		Nighttime	56.8	60.8	52.0	43.9
13	Summit Station Road	Daytime	66.8	69.2	65.6	61.3
		Nighttime	58.4	63.2	50.0	41.6
14	Pioneer Street	Daytime	62.0	64.4	61.6	56.9
		Nighttime	55.7	59.8	52.5	47.2
15	Bar K Lane	Daytime	70.1	72.6	69.4	65.6
		Nighttime	62.7	67.1	58.6	51.5
16	Banyan Place	Daytime	67.7	71.0	66.2	61.9
		Nighttime	61.5	65.8	57.2	49.0
17	Bennetta Drive	Daytime	58.4	61.0	57.1	55.2
		Nighttime	47.3	51.4	44.9	39.7
18	N Bradley Road	Daytime	71.9	74.4	71.5	67.4
		Nighttime	64.1	67.2	54.3	44.2
19	E Betteravia Road	Daytime	73.1	76.9	68.6	59.3
		Nighttime	63.5	68.0	57.1	43.6
20	Westgate Road	Daytime	69.6	73.3	67.7	61.8
		Nighttime	60.7	64.3	47.6	40.9

Source: PG&E, 2021c – Appendix Q, Addendum 3, Tables 5.2.1.3.1-2 and 5.2.1.4.1-3.

Figure 4.13-4. Noise Measurement Locations Along the Haul Route Between DCPP and SMVR-SB



Source: PG&E, 2021c – Figures A-1 to A-23 of Appendix 1; PG&E, 2021d – Appendix A; Esri, 2022; CAL FIRE, 2019.

4.13.2 Regulatory Setting

The primary federal and state laws, regulations, and policies that are applicable to the Proposed Project for terrestrial noise are summarized in Appendix C. Local regulations, policies, and standards relevant to the Proposed Project are listed below.

San Luis Obispo County General Plan: Noise Element

The San Luis Obispo County Noise Element (San Luis Obispo, 1992) provides the framework for addressing potential noise impacts during the planning process. The Element is generally designed to address planning for newly proposed noise sensitive developments. Goals and policies are provided to protect county residents from exposure to excessive noise, and to prevent incompatible land uses near existing or planned noise generating sources.

The Noise Element defines noise sensitive uses as the following:

- residential development (except temporary dwellings)
- schools and universities
- hospitals
- nursing and personal care
- churches
- public assembly
- libraries and museums
- hotels
- offices

The Noise Element provides the acceptability of transportation and stationary source noise levels for new development of different land uses. New development should be in "acceptable" noise environments (exterior noise levels of less than 60 dBA L_{dn}) for residential housing and other noise sensitive land uses. Development in higher noise level environments can be permitted provided effective noise mitigation (enhanced walls, windows) are designed into the new development. Potential noise mitigation measures for developments in these "normally unacceptable" areas are provided in the Noise Element. Development of new noise sensitive uses is determined to not usually be feasible when exterior noise levels exceed 70 dBA L_{dn}.

Also provided in the Noise Element are noise ordinance limits. The San Luis Obispo County Land Use and Coastal Land Use ordinances limits, conditions, and exemptions are consistent with the Noise Element. No limits on construction noise levels or allowable hours of construction/demolition are contained in the Noise Element.

San Luis Obispo County Land Use Noise Ordinance

The San Luis Obispo County Land Use noise ordinance (Chapter 22.10.120 of the County Code) contains numerical exterior and interior noise limits, although as discussed below, activities associated with the Project are exempt from the ordinance limits. The limits are applicable for affected noise sensitive areas, including residences, health care facilities, hotels, bed and breakfast facilities, schools, churches, libraries, museums, public assembly and entertainment, office, and outdoor sports and recreation (San Luis Obispo, 2022). The limits are provided for daytime and nighttime hours and are summarized in Table 4.13-6.

Table 4.13-6. San Luis Obispo County Noise Ordinance Limits

	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
	Maximum Allowable Exterior Sound Levels, dB	
Hourly Equivalent Sound Level (Leq)	50	45
Maximum Level	70	65
	Maximum Allowable Interior Noise Levels, dB	
Hourly Equivalent Sound Level (Leq)	40	35
Maximum Level	60	55

Source: San Luis Obispo, 2022.

In addition, noise level limits are provided for specific sources of noise, including air conditioning and refrigeration, waste and garbage collection, and electrical substations.

This ordinance is not applicable to the Proposed Project as the following noise sources are exempt from the ordinance:

- Construction (though not defined in the ordinance, demolition is typically considered a construction activity), provided construction occurs during the hours of 7 a.m. and 9 p.m. on any day except Saturday and Sunday, or between 8 a.m. and 5 p.m. on Saturday or Sunday.
- Noise sources associated with work performed by private and public utilities in the maintenance or modification of its facilities.
- Traffic on public roadways and railroad line operations.

San Luis Obispo County Coastal Zone Land Use Noise Ordinance

The San Luis Obispo Coastal Zone County Land Use noise ordinance (Chapters 23.06.040 through 23.060.048 of the County Code) (San Luis Obispo, 2022) is essentially identical to the above-discussed Land Use noise ordinance. The Coastal Zone noise ordinance contains the same numerical exterior and interior noise limits and exemptions as the above Land Use noise ordinance, and therefore not applicable to the Proposed Project.

San Luis Obispo County Vibration Ordinance

The San Luis Obispo County vibration ordinance (Chapter 23.06.060 of the County Code) (San Luis Obispo, 2022) prohibits perceptible vibration from industrial sources at or beyond the boundary of the Industrial Category. However, vibration from construction and demolition are exempt from the ordinance provided activities occur between the hours of 7 a.m. and 9 p.m.

Pismo Beach Noise Element

The City of Pismo Beach has a Noise Element (Pismo Beach, 1992) that is designed to address planning for newly proposed noise sensitive developments. Goals and policies are provided to protect residents from exposure to excessive noise, and to prevent incompatible land uses (e.g., residential) near existing or planned noise generating sources.

The Noise Element provides the same acceptability noise criteria for the new development of different land uses as the San Luis Obispo County Noise Element discussed above.

Pismo Beach Noise Ordinance

The Pismo Beach Noise Ordinance (Pismo Beach, 1992) contains numerical noise level limits. The limits are applicable to any source of sound in the City and are provided based on land use zoning categories as summarized in Table 4.13-7.

Table 4.13-7. City of Pismo Beach Noise Ordinance Exterior Noise Limits

Zoning Category	Time Period	Noise Level (dBA)
R1, R2, OSR, OS2, Low Density Residential	10 p.m. to 7 a.m. 7 a.m. to 10 p.m.	50 55
R3, R4, RR, High Density Residential	10 p.m. to 7 a.m. 7 a.m. to 10 p.m.	50 55
C-1, C-2, C-M, C-R, Commercial	10 p.m. to 7 a.m. 7 a.m. to 10 p.m.	60 65

Source: Pismo Beach, 1992 – Section 9.24.060, Table No. 1.

The above sound levels are not to be exceeded more than 30 minutes in any hour (L_{50}). In addition, the noise levels may not exceed the following:

- + 5 dBA for a cumulative period of 15 minutes in any hour
- + 10 dBA for a cumulative period of 5 minutes in any hour
- + 15 dBA for a cumulative period of 1 minute in any hour
- +20 dBA for any period of time.

Additionally, if the measured ambient sound level differs from the above permissible limits, the allowable noise exposure is adjusted in 5 dBA increments as appropriate to reflect the ambient sound. Lastly, if the sound has an audible tone, the sound level limits are reduced by 5 dBA.

The ordinance also addresses construction noise, limiting the allowable hours to between 7:00 a.m. and 7:00 p.m. on weekdays and Saturdays. Construction is prohibited on Sundays and holidays if it causes a noise disturbance. In addition to hour restrictions, construction noise levels associated with stationary equipment for scheduled and relatively long-term construction should be maintained, when technically and economically feasible, to the levels provided in Table 4.13-8.

Table 4.13-8. Maximum Noise Levels for Repetitively Scheduled and Relatively Long-Term Operation (10 days or more) of Stationary Equipment at Residential Properties During Construction

	Single Family Residential	Multi-Family Residential	Mixed Residential/ Commercial
Daily, except Sundays and legal holidays 7 a.m. to 7 p.m.	60 dBA	65 dBA	70 dBA
Daily 7 p.m. to 7 a.m. and all day Sunday and legal holidays	50 dBA	55 dBA	60 dBA

Source: Pismo Beach, 1992 – Section 9.24050, Part B.5.b.i.

Santa Barbara County Comprehensive Plan: Noise Element

The Santa Barbara County Comprehensive Plan Noise Element (Santa Barbara, 2009) provides information about the County's noise environment so that noise may be systematically included

in the evaluation of land use alternatives and so that a quantitative noise ordinance may be adopted. The Noise Element also provides recommendations concerning noise impact problems within Santa Barbara County, where transportation facilities are noted as being the most significant noise source.

The Noise Element defines noise sensitive uses as the following (Santa Barbara, 2009):

- Residential, including single and multifamily dwellings, mobile home parks, dormitories, and similar uses
- Transient lodging, including hotels, motels, and similar uses
- Hospitals, nursing homes, convalescent hospitals, and other facilities for long-term medical care
- Public or private educational facilities, libraries, churches, and places of public assembly.

As described in Section 1.3.3.2, *Surface Transportation Board*, railroads are under the jurisdiction of the federal government such that local agencies are preempted from exercising jurisdiction over railyards (e.g., SMVR-SB).

Santa Barbara County Municipal Code Noise Restrictions

The Santa Barbara County Municipal Code (Santa Barbara, 2022) prohibits loud or unreasonable noise or amplified music broadcast outside a residence or building which is clearly discernable at a distance of 100 feet from the property line or which is at any level of sound in excess of 60 decibels at the edge of the property line.

Santa Maria General Plan Noise Element

While none of the Project sites are within the City of Santa Maria, haul trucks would travel through the City of Santa Maria to the SMVR-SB site. Therefore, the Noise Element and the Noise Ordinance for the City of Santa Maria are included here.

The purpose of the Santa Maria General Plan Noise Element (Santa Maria, 2009) is to set forth goals and policies that regulate the City's existing and future noise environment to protect residents and workers from exposure to excessive noise. The Noise Element's primary goal is to work towards attaining and maintaining an environment that is free of objectionable and excessive noise that may be harmful to City residents. As a planning document, the Noise Element is a comprehensive program which provides the framework in which potential noise impacts and appropriate mitigation measures are addressed during project review and long-range planning.

Santa Maria Noise Ordinance

The City of Santa Maria's Municipal Code contains a noise ordinance in Title 5 (Health and Sanitation) Chapter 5-5, Noise Regulations (Santa Maria, 2022). Section 5-5.04 determines a violation when the offending noise source exceeds the ambient noise level or the ambient base noise level, whichever is higher, as follows:

1) By any amount thirty (30) minutes for any given hour measured cumulatively
2) By five (5) dBA over fifteen (15) minutes for any given hour
3) By ten (10) dBA over five (5) minutes for any given hour
4) By twenty (20) dBA at any time.

The ambient base noise level is established in Section 5-5.05 based on land use zoning categories as summarized in Table 4.13-9.

Table 4.13-9. City of Santa Maria Ambient Base Noise Level

Zoning Category	Time Period	Noise Level (dBA)
Residential	Nighttime: 10 p.m. to 7 a.m. Daytime: 7 a.m. to 10 p.m.	45 55
Commercial	Nighttime: 10 p.m. to 7 a.m. Daytime: 7 a.m. to 10 p.m.	60 65
Industrial	Nighttime: 10 p.m. to 7 a.m. Daytime: 7 a.m. to 10 p.m.	70 75

Source: Santa Maria, 2022.

In Section 5-5.06, Unmeasurable Nuisance Noise, the discussion centers on nuisance noise. This section states, "Emitting or causing the emission of such noises is a violation of this chapter. Such sources include but are not limited to noise of construction caused by hand tools, power tools or equipment, when the noise occurs at a time other than (1) between the hours of 7:00 a.m. and 6:00 p.m., Monday through Friday, or (2) between the hours of 8:00 a.m. and 5:00 p.m., Saturday through Sunday, or as allowed by permit issued by the Noise Control Officer (Santa Maria, 2022).

Vibration

For vibration occurring in Santa Barbara County and the City of Santa Maria, and for vibration impacts on structures, the Caltrans *Transportation and Construction Vibration Guidance Manual* (Caltrans, 2020) is the guiding document. This guidance manual indicates that perceptible vibration for transient events occurs at a peak particle vibration velocity (PPV) of 0.035 inches per second (in/sec). The manual indicates that continuous/frequent intermittent vibration sources begin to annoy when their PPV exceeds 0.1 inch per second. Caltrans also provided additional criteria for human annoyance due to vibration, outlined in Table 4.13-10.

Table 4.13-10. Human Response to Transient Vibration

Human Response	PPV (inches/second)
Severe	2.0
Strongly Perceptible	0.9
Distinctly Perceptible	0.24
Barely Perceptible	0.035

Source: Caltrans, 2020 – Table 6.

The vibration guidance for human annoyance and for construction, operation, and maintenance of transportation projects, set by Caltrans, is a non-enforceable guidance. However, it does provide a basis for evaluating potential vibration impacts associated with the decommissioning of the DCPP.

The manual includes building structure vibration criteria for residential structures of 0.5 in/sec to prevent structural damage, as shown in Table 4.13-11.

Table 4.13-11. Dowding Building Structure Vibration Criteria

Structure and Condition	Limiting PPV (inches/second)
Historic and some old buildings	0.5
Residential structures	0.5
New residential structures	1.0
Industrial buildings	2.0
Bridges	2.0

Source: Caltrans, 2020 – Table 14.

4.13.3 Significance Criteria

A noise impact is considered significant if noise levels from the Proposed Project exceed established noise and vibration criteria or significance criteria based on Appendix G of the State CEQA Guidelines, as follows:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Result in a substantial permanent, temporary, or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

4.13.4 Environmental Impact Analysis and Mitigation

This analysis considers potential noise impacts during implementation of the Proposed Project onshore, including the potential for Project-generated terrestrial noise levels in the project vicinity, and groundborne vibration levels that would cause annoyance to persons or cause architectural damage to buildings. Underwater noise effects are addressed in Section 4.4, *Biological Resources – Marine*.

Each of the following noise sensitive uses associated with the Proposed Project are assessed against the applicable significance threshold criteria:

- Near DCPP
- Along the truck haul route from DCPP to the PBR and SMVR-SB
- At the PBR and SMVR-SB during refurbishment of a portion of rail and facilities operations for Project waste transport.

Impact NOI-1: Expose sensitive receptors to noise levels in excess of established standards (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

Decommissioning of the DCPP site would entail removal of the bulk of the DCPP facility, requiring the use of construction equipment and transportation of demolition material by truck or barge.

Construction equipment and transport vehicles are the noise sources with potential for noise impacts at this site. Noise data for the construction equipment anticipated to be used was obtained from the Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM) (FHWA, 2006); this data indicates that noise levels generated by proposed equipment would range from 73 dBA to 90 dBA at 50 feet (reference point).

As discussed in Section 4.13.1 under "Terrestrial Noise – DCPP Site," existing ambient noise levels at the DCPP site range from 50 dB to 80 dB. Therefore, existing ambient noise levels may periodically increase due to decommissioning activities. However, the closest sensitive noise receptor to this excess noise would be more than 3 miles away from the DCPP site and separated by rugged intervening terrain. Due to the distance from the DCPP site, construction noise at this sensitive receptor (Coon Creek Beach) is conservatively predicted to be approximately 40 dBA and this receptor would not be adversely impacted by construction noise. Therefore, no sensitive receptors in the vicinity of the DCPP site would be exposed to noise levels in excess of established standards during decommissioning activities resulting in a less than significant impact (Class III).

Railyard Modifications and Truck Haul Routes

Waste generated by the Proposed Project would be transported off site to appropriate disposal facilities. The noise analysis conservatively assumes waste would be transported via trucks from DCPP to the PBR and/or the SMVR-SB site, both of which would require site modifications to support shipping by rail.

Pismo Beach Railyard

Site Modification

Modifications at the PBR site would be limited to replacing approximately 1,100 feet of existing track, wood railroad ties, and adding gravel. Equipment assumed for construction of these modifications include a truck, forklift, spike driver, and various hand tools. The analysis of construction noise levels was performed for two receptor locations near the PBR, Location 17 (Price Canyon Road Residence), and Location 18 (Judkins Middle School), assuming no intervening structures between the construction activity and the sensitive receptors. However, because PBR is located at a low elevation there are numerous elevation changes which act as noise berms between the construction activity noise and the two receptors. These noise berms are predicted to reduce construction noise levels at Locations 17 and 18 by 7.5 dBA and 18 dBA, respectively, and have been accounted for in the calculated noise levels presented in Table 4.13-12.

Table 4.13-12 shows that construction noise levels are expected to increase the existing measured daytime sound level at the nearest noise sensitive receptor on Dell Court by approximately 8.0 dBA Leq. Construction noise levels at the remaining sensitive receptor locations are shown to increase the existing ambient noise level by approximately 4 dBA or less, while at the inhabited buildings of Judkins Middle School, the predicted noise increase is 0.2 dBA. No noise impacts are therefore anticipated at the school. Additionally, as part of the Proposed Project, PG&E would prohibit engine braking of trucks, equip all mobile construction equipment with self-adjusting backup beepers, use low noise stationary equipment,

and equip all diesel-powered equipment with mufflers to reduce construction noise (AC NOI-2, *Reduce Construction Noise*).

Table 4.13-12. Calculated PBR Construction Noise Levels Compared to Ambient Conditions

Receptor Number	Calculated Construction Noise Level (dBA Leq)	Measured Daytime Ambient (dBA Leq)	Total Noise Levels (dBA Leq)	Increase Over Ambient (dBA Leq)
14. Vincente Court	55.3	53.5	57.5	4.0
15. Reef Court/Coral Court [3]	54.3	58.8	60.1	1.3
16. Pismo Beach Railyard (Dell Court)	58.1	50.8	58.8	8.0
17. Judkins Middle School	38.0	50.8 [1]	51.0	0.2
18. Price Canyon Road Residence	52.8	53.8 [2]	56.3	2.5

Source: Refer to calculations in EIR Appendix H.
[1] Ambient noise measurements were not conducted at this location due to inaccessibility. Ambient conditions estimated to be the same as Location 16.
[2] Ambient noise measurements were not conducted at this location due to inaccessibility. Ambient conditions conservatively estimated to be 3 dBA higher than at Location 16 due to closer proximity of this receptor to traffic noise sources on Price Canyon Road.
[3] The resident on Coral Court is closer to the construction noise source than the resident on Reef Court; assume same ambient noise level as Reef Court.

The Pismo Beach noise ordinance does not provide numerical limits on construction related noise but does limit the allowable hours to between 7 a.m. and 7 p.m. on weekdays and Saturdays. Construction is prohibited on Sundays and holidays if it causes a noise disturbance. The San Luis Obispo County noise ordinance limits construction activities between 7 a.m. and 9 p.m. on any day except Saturday and Sunday, or between 8 a.m. and 5 p.m. on Saturday or Sunday. As discussed in Section 2.3.4, *Modifications and Operations at Rail Facilities*, construction activities at the railyards would occur from 7:00 a.m. to 5:00 p.m., Monday through Friday. Therefore, construction would occur within the allowable hours and the potential construction noise impact from PBR site modifications is less than significant (Class III).

DCPP to PBR Truck Haul Route

Decommissioning of the Diablo Canyon facility would generate waste demolition material that would be trucked and/or barged off site. The PBR site is considered a contingency site for the transport of non-radiological and non-hazardous waste out-of-site via rail for disposal. Table 2-9 identifies the maximum amount of waste and truck trips that could use the PBR site if it were utilized. Per Section 2.3.4.2, *Pismo Beach Railyard Modifications*, the PBR site would be operated 7:00 a.m. to 5:00 p.m. Monday through Friday, but truck trips would not occur during peak traffic periods or during the morning and afternoon drop-off and pick-up periods for students at Judkins Middle School and truck idling would be limited to the extent feasible. A maximum of five truck trips per day are anticipated over the five scheduled hours of operation.[43]

[43] Per Project Description Table 2-9, the total number of truck trips during Phase 1 is 6,072 (5,401+671). Calculation: 6,072/8 years (Phase 1: 2024-2031) x 1 yr/52 weeks x 1 week/5 days = 2.9 trips/day. PG&E assumed maximum of 5 trips/day to PBR). If assume 5 years instead of 8 years, there would be 4.67 trips/day to PBR under this contingency scenario; therefore, PG&E allowed for some periods of inactivity. Phase 2, which only has 42 truck trips over an 8-year period (2032-2039), would be covered by the assumed 5 trips/day maximum to PBR.

Access to the PBR site would occur via the existing Bello Street driveway. Trucks would travel from the DCPP site via Diablo Canyon Road/Diablo Ocean Drive to Avila Beach Drive, then east on Avila Beach Drive to US-101. Trucks would then proceed south on US-101 to Pismo Beach, exit Hinds Avenue/Price Canyon Road, turn northeast on Price Canyon Road, and then east on Bello Street to the PBR site.

As discussed in Section 4.13.1, *Environmental Setting*, ambient noise level measurements were conducted at 15 short-term locations and one long-term location along and near the truck route (see Tables 4.13-2 and 4.13-3). To analyze the increase of sound levels attributed to increased truck traffic, noise modeling was performed at the 16 identified sensitive receptors where short-term and long-term ambient noise measurements were made (Locations 1-16), as well as Judkins Middle School (Location 17, at the nearest inhabited building) and the residence to the west of the PBR site on Price Canyon Road (Location 18). The modeled truck route noise levels assume 100 total truck round trips leaving DCPP heading towards the City of Pismo Beach and then to various locations, which is the maximum capacity per day during the Project (PG&E, 2021a) (would occur between the DCPP site and the City of Pismo Beach), and then up to five trucks per day between the US-101 offramp and the PBR site. Modeled truck route noise levels are compared to the measured daytime ambient noise levels in Table 4.13-13 for travel to the PBR site (refer to Figure 4.13-2 for locations). Also provided in the table are future noise levels (existing ambient plus truck traffic) and the increase over existing conditions.

Table 4.13-13. Modeled PBR Truck Route Noise Levels Compared to Measured Ambient Conditions

Receptor Number and Name	Modeled Truck Route Noise Level (Maximum Capacity of Trucks Per Day) (dBA) [1]	Measured Daytime Ambient (dBA Leq)	Future Noise Level (Ambient Plus Trucks) (dBA Leq)	Increase Over Ambient (dBA)
1. Diablo Canyon Rd/ Avila Beach Dr	37.9	61.8	61.8	0.0
2. San Luis Bay Inn (Avila Beach Dr)	44.5	62.2	62.3	0.1
3. Avila Beach Dr/ Beach Colony Ln	53.9	66.4	66.6	0.2
4. Avila Beach Dr/ San Luis Bay Dr	46.3	52.2	53.2	1.0
5. Sycamore Mineral Springs Resort (Avila Beach Dr)	53.2	58.5	59.6	1.1
6. Avila Beach Dr/ Cabrillo Highway	53.4	59.4	60.4	1.0
7. Shell Beach Rd/ Ed Dorado Way	45.4	60.5	60.6	0.1
8. North Silver Shoals Dr	46.2	58.6	58.8	0.2
9. Seacliff Dr	46.6	60.0	60.2	0.2
10. Shell Beach Elementary School	46.7	64.3	64.4	0.1
11. Corralitos	47.5	65.6	65.7	0.1
12. Dinosaur Caves Park (Shell Beach Rd)	45.5	52.0	52.9	0.9
13. Bello Street/San Luis Ave	35.9	64.6	64.6	0.0
14. Vincente Court [1]	25.3	53.5	53.5	0.0
15. Reef Court [1]	19.0	58.8	58.8	0.0

Table 4.13-13. Modeled PBR Truck Route Noise Levels Compared to Measured Ambient Conditions

Receptor Number and Name	Modeled Truck Route Noise Level (Maximum Capacity of Trucks Per Day) (dBA) [1]	Measured Daytime Ambient (dBA Leq)	Future Noise Level (Ambient Plus Trucks) (dBA Leq)	Increase Over Ambient (dBA)
16. PBR [1]	37.3	50.8	51.0	0.2
17. Judkins Middle School [1]	29.9	50.8 [2]	50.8	0.0
18. Price Canyon Road Residence [1]	42.2	53.8 [3]	54.1	0.3

Source: PG&E, 2021a – Table 3.12-7.
[1] Modeled truck route noise levels between DCPP and Pismo Beach (Locations 1-12) are based on 100 truck round trips per day (PG&E, 2021a); Modeled noise levels for Locations 13-18 have been adjusted from the March 26, 2021 Application to represent a maximum of five trucks per day.
[2] Ambient noise measurements were not conducted at this location due to inaccessibility. Ambient conditions estimated to be the same as Location 16.
[3] Ambient noise measurements were not conducted at this location due to inaccessibility. Ambient conditions conservatively estimated to be 3 dBA higher than at Location 16 due to closer proximity of this receptor to traffic noise sources on Price Canyon Road.

As shown in Table 4.13-13, Proposed Project truck traffic noise levels are well below existing measured ambient conditions at all locations, including at Judkins Middle School. The increase in noise (existing conditions plus truck traffic) is 1.1 dBA or less, which is not a perceptible change (less than 3 dB). Additionally, as part of the Proposed Project, PG&E would implement self-adjusting backup beepers that use the lowest backup noise level and disallow engine compression breaking to reduce noise related to braking and backup beepers (AC NOI-1, *Reduce Truck Traffic Noise*). As the maximum noise level increase along the truck route between the DCPP site and PBR would not be perceptible, noise would not exceed established standards and the impact is less than significant (Class III).

PBR Operational Noise

Operations at the PBR site to support the Proposed Project would include loading materials from trucks to railcars. As noted in Sections 2.3.4.1 and 2.3.4.2, the equipment for this work may include:

- two diesel-powered scissor lifts
- two diesel-powered reach lifts
- two diesel-powered forklifts
- railcar mover (need has yet to be determined)

The closest sensitive receptor to this operational activity is a residence located at on Price Canyon Road, approximately 625 feet to the west. The next nearest receptor is at Dell Court, 850 feet away. The noise analysis was performed assuming no intervening structures between the construction activity and the sensitive receptors, but as described previously, elevation changes act as noise berms between the operational activity noise and two receptors: the residence on Price Canyon Road and Judkins Middle School. These noise berms are predicted to reduce operational noise levels by 7.5 dBA and 19 dBA, respectively.

Table 4.13-14 presents the predicted noise levels assuming four of the above pieces of equipment are operating simultaneously, accounting for berm losses (see Appendix H). The

noise levels have been adjusted to present the sound level occurring 50 percent or 30 minutes in a given hour for comparison to the Pismo Beach Noise Ordinance (see Table 4.13-7).

As shown in Table 4.13-14, the predicted noise levels are all below the Pismo Beach Noise Ordinance with the exception of Dell Court at 58.1 dBA L50. This represents a significant impact as it exceeds the City's noise limit. MM NOI-1 (*Noise Barrier at Pismo Beach Railyard*) is recommended, which includes installation of a temporary noise barrier at the PBR site to reduce the operational noise level to below the City's residential noise limit during use of the PBR site during decommissioning. The impact due to PBR operational noise would be less than significant with mitigation incorporated (Class II).

Table 4.13-14. Calculated PBR Operational Noise Levels Compared to Pismo Beach Noise Ordinance

Receptor Number and Name	Calculated Operational Noise Level (L50 dBA) [4]	Measured Daytime Ambient (L50 dBA)	Total Noise Levels (L50 dBA)	Pismo Beach Noise Ordinance (L50 dBA)
14. Vincente Court	53.0	49.4	54.5	55
15. Reef Court/Coral Court [3]	52.5	56.4	57.9	60 [5]
16. Pismo Beach Railyard (Dell Court)	57.4	49.4	**58.1**	**55**
17. Judkins Middle School	35.7	49.4 [1]	49.6	55
18. Price Canyon Road Residence	52.3	52.4 [2]	55.4	55

Source: Refer to calculations in EIR Appendix H.
[1] Ambient noise measurements were not conducted at this location due to inaccessibility. Ambient conditions estimated to be the same as Location 16.
[2] Ambient noise measurements were not conducted at this location due to inaccessibility. Ambient conditions conservatively estimated to be 3 dBA higher than at Location 16 due to closer proximity of this receptor to traffic noise sources on Price Canyon Road.
[3] The resident on Coral Court is closer to the construction noise source than the resident on Reef Court; assume same ambient noise level as Reef Court.
[4] L50 noise level is approximately 2 decibels lower than the Leq noise level.
[5] Per the City of Pismo Beach Noise Ordinance, if the measured ambient noise level is above the permissible limit the allowable noise expose is adjusted in 5 dBA increments as appropriate to reflect the ambient sound.

SMVR-SB

Site Modification

The modifications at the SMVR-SB site would include refurbishment of existing rail spurs, placement of steel road plates or installation of Class 2 road base, and temporary installation of a chain link perimeter fence. The equipment assumed for construction include a truck, forklift, spike driver, generator, and various hand tools. The SMVR-SB site is in Santa Barbara County. The closest sensitive receptor, the Santa Barbara County North Jail, is also located within the unincorporated area of the County at 2301 Black Road, approximately 1.3 miles away. The predicted construction-related noise levels are calculated to be approximately 41 dBA (assumes no intervening structures or topography).

The Santa Barbara County Municipal Code Noise Restrictions prohibit loud or unreasonable noise and limits noise level at a property line to 60 dBA. The predicted construction noise level of 41 dBA complies with this requirement. Construction noise propagating further into Santa Maria would be less than 41 dBA. The Santa Maria noise ordinance does not provide

numerical limits on construction related noise but does limit the allowable hours of construction to between 7 a.m. and 6 p.m. on weekdays and Saturdays. As discussed in Section 2.3.4, *Modifications and Operations at Rail Facilities*, the Proposed Project construction activities at the railyards would occur 7:00 a.m. to 5:00 p.m., Monday through Friday. Therefore, construction noise impacts at the SMVR-SB site would be consistent with all established standards and the impact would be less than significant (Class III).

SMVR-SB Truck Haul Route

Demolition material is planned to be shipped via trucks from DCPP to the SMVR-SB site. The hours of operation for the SMVR-SB site would be 24 hours, Monday through Friday, with no shipments occurring between 6:00 a.m. and 8:00 a.m. or between 4:00 p.m. and 5:30 p.m. No more than two shipments to the SMVR-SB site would occur on a given day. Modeled truck route noise levels are compared to the measured daytime ambient noise levels in Table 4.13-15 for travel to the SMVR-SB site (refer to Figure 4.13-4 for locations). Also provided in the table are future noise levels (existing ambient plus truck traffic) and the increases over existing conditions.

Table 4.13-15. Modeled SMVR Truck Route Noise Levels Compared to Measured Ambient Conditions

Receptor Number and Name	Modeled Truck Route Noise Level (Maximum Capacity of Trucks Per Day) (dBA) [1]	Measured Daytime Ambient (dBA Leq)	Future Noise Level (Ambient Plus Trucks) (dBA Leq)	Increase Over Ambient (dBA)
1. Irish Way	40.9	67.5	67.5	0.0
2. Owens Court	36.5	54.9	54.9	0.0
3. Branch St Apartments	31.8	59.9	59.9	0.0
4. Hillcrest Dr	46.7	65.4	65.5	0.1
5. Arroyo Grande Cemetary	42.6	67.9	67.8	0.0
6. Arroyo Grande Library	42.4	66.8	66.8	0.0
7. Vernon St	39.5	68.3	68.3	0.0
8. Arroyo Ave	54.7	74.3	74.3	0.0
9. Church of Jesus Christ of Latter Day Saints	38.1	59.9	60.0	0.1
10. E. El Campo Rd	37.8	61.4	61.4	0.0
11. Brandy Ln	36.9	55.6	55.7	0.1
12. Qualwood Ln	35.8	64.8	64.8	0.0
13. Summit Station Rd	36.9	66.8	66.8	0.0
14. Pioneer St	43.8	62.0	62.1	0.1
15. Bar K Ln	46.3	70.1	70.1	0.0
16. Banyan Pl	50.5	67.7	67.8	0.1
17. Bennetta Dr	40.1	58.4	58.5	0.1
18. N. Bradley Rd	53.7	71.9	72.0	0.1

Table 4.13-15. Modeled SMVR Truck Route Noise Levels Compared to Measured Ambient Conditions

Receptor Number and Name	Modeled Truck Route Noise Level (Maximum Capacity of Trucks Per Day) (dBA) [1]	Measured Daytime Ambient (dBA Leq)	Future Noise Level (Ambient Plus Trucks) (dBA Leq)	Increase Over Ambient (dBA)
19. E. Betteravia Rd	63.2	73.1	73.5	0.4
20. Westgate Rd	58.8	69.6	70.0	0.4

Source: PG&E, 2021b – Table 3.12-9.
[1] Calculated truck noise levels presented in the June 30, 2021 Application, Table 3.12-9, were based on the instantaneous sound level of one truck passing near the noise receptor (Table 3.12-9, Note 1). Calculated truck noise levels have been revised to present a 1-hour Leq assuming a 15-second drive-by exposure (at the instantaneous sound level) from one truck. This assumes the maximum of two truck trips per day to the SMVR-SB site would not occur within the same hour.

As presented in Table 4.13-15, Proposed Project truck traffic would result in an increase of 0.4 dBA or less in the ambient noise levels, which is not perceptible (less than 3 dB). As the maximum noise level increase along the truck route to the SMVR-SB site would not be perceptible, noise would not exceed established standards for County of Santa Barbara and the City of Santa Maria; the impact is less than significant (Class III).

SMVR Operational Noise

The SMVR operational activity would include loading materials from trucks to railcars. As noted in Section 2.3.4.1, *Santa Maria Valley Railyard Modifications*, the equipment for this work may include:

- one temporary 400-ton electric gantry crane with generators
- two truck-mounted cranes
- two diesel-powered scissor lifts
- two diesel-powered reach lifts
- two diesel-powered forklifts
- railcar mover (need has yet to be determined)

The SMVR-SB site would be operated 24 hours per day, Monday through Friday.

As previously noted, the closest sensitive receptors are located approximately 1.3 miles from the SMVR-SB site within unincorporated Santa Barbara County (Santa Barbara County North Jail). The noise level of operations 1.3 miles from the SMVR-SB site is predicted to be 43.5 dBA, assuming no intervening structures between the construction activity and the sensitive receptors and eight of the above equipment operating simultaneously (see Appendix H). Operational noise levels would comply with both the Santa Barbara County Municipal Code Noise Restrictions and the daytime and nighttime criteria of the City of Santa Maria noise ordinance. The impact due to railyard operations noise at the SMVR-SB site is less than significant (Class III).

Trains - Pismo Beach and SMVR-SB Railyards

Demolition material transported to the railyards would be transferred onto rail cars for ultimate disposal. As a worst-case estimate it was assumed that one train per week at most would depart the facility (PG&E, 2021b).

The analysis for train noise follows the methodology provided by the US Department of Transportation, Federal Transit Authority (FTA). The methodology is described for commuter trains, but the main components of train noise are the number of diesel locomotives and rail cars, and the railyard trains would have both. The FTA methodology provides a reference sound level for diesel locomotives and rail cars. The calculation procedure involves inputting the number of diesel locomotives, the number of rail cars, the train speed, train throttle setting and number of trains per hour. The input data included two diesel locomotives, 70 rail cars, a nominal train speed of 30 miles per hour (mph), and a train throttle setting of 4 (settings range from 1 to 6) (PG&E, 2021c – Table 5.3.7-1). The input parameter used for number of trains per hour in the PG&E study was 0.1 train as an overly conservative value for one train per week (PG&E, 2021c – Table 5.3.7-1). To predict the hourly Leq noise level of a train event occurring during an hour, the input parameter for the number of trains per hour is one train.

Table 4.13-16 presents the calculated train hourly Leq noise levels at a 50-foot reference distance from the PBR site and at the nearby sensitive noise receptors. No sensitive noise receptors were identified in proximity to the SMVR-SB site.

Table 4.13-16. Calculated Train Noise Levels Near PBR

Location	Distance From Train Tracks	Train Noise Level (dBA Leq)	Existing Daytime Noise Levels (dBA Leq)
Reference Distance (50 Feet)	---	64.9	---
14. Vincente Court	1,100	38.1	53.5
15. Reef Court	500	44.9	58.8
16. Pismo Beach Handling Facility (Dell Court)	700	42.0	50.8
17. Judkins Middle School	1,400	36.0	50.8[1]
18. Price Canyon Road Residence	700	42.0	53.8[2]

Source: PG&E, 2021b – Table 3.12-10 – revised for one train per hour.
[1] Ambient noise measurements were not conducted at this location due to inaccessibility. Ambient condition estimated to be the same as Location 16.
[2] Ambient noise measurements were not conducted at this location due to inaccessibility. Ambient condition conservatively estimated to be 3 dBA higher than at Location 16 due to closer proximity of this receptor to traffic noise sources on Price Canyon Road.

As shown in Table 4.13-16, the average train noise levels are well below the existing daytime noise levels at all locations, even though the above calculations are conservatively estimated for trains travelling at 30 mph. Trains leaving the railyards would travel at much lower speeds as they depart, with concurrent lower noise levels. It is acknowledged that instantaneous train noise levels as trains pass each location would be greater than those shown here, but they are not expected to be different from noise levels generated by existing train traffic. The impact of train noise would be less than significant (Class III).

Phase 2

Phase 2 work includes the transport of remaining waste materials, import of topsoil, removal of facilities not needed to support the retained DCPP facilities, sealing the openings of the Intake Structure, completing the Discharge Structure restoration, and installation of storm water controls. This Phase 2 work would generally occur at the DCPP site and along the haul truck routes. No transport by rail would occur in Phase 2, unless the PBR site is used as a contingency site instead of transporting non-radiological and non-hazardous waste by barge (see Table 2-9).

DCPP Project Site

Demolition of the remaining DCPP structures and final site restoration requires construction equipment similar to that used in Phase 1 activities, including earthmoving equipment such as graders, dozers, loaders, and other equipment.

Noise expected to occur due to DCPP Phase 2 decommissioning activities depends on the amount of equipment required to complete the final site restoration and removal of the remaining structures. Structures remaining after Phase 1 decommissioning requiring demolition in Phase 2 include utilities, roads, and parking areas. The number of remaining structures in Phase 2 is a small proportion of what existed at the original facility; therefore, construction activities occurring during Phase 2 would be smaller in scope and scale than those that occur in Phase 1, with similar but less equipment required than estimated for Phase 1. As such, construction noise at the DCPP site is expected to be lower during Phase 2 than noise estimated for Phase 1. Phase 2 noise levels would also be in compliance with established standards (Class III).

Railyard Modifications, Truck Haul Routes, and Trains

Railyard modifications would be completed in Phase 1 and no additional modifications would be required to support Phase 2. Off-site transport of demolition waste resulting from Phase 2 activities would be reduced by about 70 percent compared to Phase 1; however, there would be an additional 1,760 truck trips to import of topsoil. These additional truck trips would not exceed the assumed daily maximum of 100 truck round trips, as they would be expected to occur over many years. Additionally, if the PBR site is used as a contingency site instead of transporting non-radiological and non-hazardous waste by barge, up to 42 truck trips would occur between the DCPP site and PBR during Phase 2 (see Table 2-9). These additional truck trips would not change the maximum number of trucks per day that could go to the PBR site as analyzed for Phase 1. Furthermore, the additional railcars and associated trains that may be required to transport waste materials from PBR out-of-state would not change the basis for the train noise analysis completed for Phase 1. As the impact in Phase 1 is less than significant, the Phase 2 impact due to Phase 2 truck hauling would also be less than significant (Class III).

Railyard Operations

Under the Proposed Project (not using PBR as a contingency site), all waste transport to the railyards would be completed in Phase 1. However, if the PBR site is used as a contingency site, up to 42 truck trips would occur between the DCPP site and PBR during Phase 2 resulting in extended operations at PBR. The same equipment at PBR would be utilized such that impacts

would be potentially significant; however, with implementation of MM NOI-1 (*Noise Barrier at Pismo Beach Railyard*) the impact would be reduced to less than significant (Class II).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. The new indoor Firing Range replaces the existing outdoor Firing Range, thereby greatly reducing the noise produced at the DCPP site. The remaining DCPP operations would produce less noise than current operations due to the reduced activity levels and staffing. Noise levels at the nearest sensitive receptor would be as low or lower than for decommissioning activities and therefore impacts would be less than significant (Class III).

Future Actions. Marina improvement and operations are considered as possible future actions. Construction improvements and operations for small vessel launching and recreation would occur more than 3 miles from any sensitive receptor (Coon Creek Beach) and noise and vibration levels would be as low or lower than for current operations or for the decommissioning activities. Therefore, impacts would be less than significant (Class III).

Mitigation Measures for Impact NOI-1.

NOI-1 **Noise Barrier at Pismo Beach Railyard.** Prior to implementation of modifications at Pismo Beach Railyard (PBR) if utilized for shipment of non-hazardous and non-radiological waste from Diablo Canyon Power Plant, the Applicant or its designee shall install a temporary noise barrier in proximity and south of the loading operations at the PBR site. The noise barrier shall be constructed of solid material with a minimum surface density of 2 pounds per square foot, such as ¾-inch plywood. The final noise barrier design including height, location, orientation, and locations of the noise sources and receptors, shall be approved by a qualified acoustical consultant. The noise barrier shall provide at least 7.5 dB of noise reduction or otherwise provide a reduction level such that operations meet the City of Pismo Beach Noise Ordinance residential daytime exterior noise limit of 55 dBA at the closest residences to the PBR site.

Design plans for the noise barrier at PBR shall be submitted to the County Department of Planning and Building and City of Pismo Beach for review and approval at least 90 days prior to use of the PBR site. Signs shall be posted at or near the PBR site in publicly accessible areas, with contact information provided for reporting any noise complaints (phone number and/or email). In the event noise complaints are received, noise monitoring shall be performed at the closest residence and at the property generating the complaint to confirm the City of Pismo Beach's daytime exterior noise limit is being met. The Applicant or its designee shall provide documentation to the County and to the City to show conformance. If noise levels exceed the City's threshold, the Applicant or its designee shall stop work and implement additional noise barrier protection, such as portable noise shields or installation of a thicker noise barrier. Sound levels shall be measured to confirm conformance.

Impact NOI-2: Create a substantial permanent or temporary increase in ambient noise levels (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

Decommissioning would entail removal of the majority of the DCPP facility, requiring the use of construction equipment and transportation of demolition material. As discussed for Impact NOI-1, existing ambient noise levels at the DCPP site range from 50 dB to 80 dB and noise levels generated by proposed equipment would generate noise levels ranging from 73 dB to 90 dB at 50 feet (reference point). It was determined that decommissioning activities may periodically exceed ambient noise levels within the DCPP site, but there are no nearby sensitive noise receptors that would be adversely affected. The closest receptor is 3 miles away with conservatively predicted construction noise at this location of approximately 40 dBA (Coon Creek Beach). This noise level would be at or below ambient noise levels for a beach (e.g., similar noise levels as quiet suburban nighttime or library per Figure 4.13-1). As such, temporary changes in ambient noise levels from Phase 1 DCPP construction would be less than significant (Class III).

Railyard Modifications and Truck Haul Routes

Railyard Modifications

As discussed for Impact NOI-1, construction noise levels at PBR are expected to increase the existing measured daytime sound level at the nearest noise sensitive receptor on Dell Court by approximately 8.0 dBA. Noise level increases at the remaining sensitive receptor locations would be 4.0 dBA or less. As discussed in Section 4.13.1, *Environmental Setting*, a change of 3 dB is barely noticeable and a change of 5 dB is noticeable. As such, this temporary noise impact would be noticeable at the Dell Court residence and would be mitigated to less than 5 dBA (see Appendix H) through implementation of MM NOI-1 (*Noise Barrier at Pismo Beach Railyard*), which requires installation of a temporary noise barrier at the PBR site (Class II).

The SMVR-SB predicted construction noise level at the nearest sensitive receptor is 41 dBA, much less than the measured ambient noise levels in the vicinity resulting in a less-than-significant impact (Class III).

Truck Haul Routes (all railyards)

As provided in Table 4.13-13 and Table 4.13-15, average truck traffic noise levels generated by the Proposed Project are shown to be well below existing measured ambient conditions at all locations. Increases in noise (existing conditions plus truck traffic) are shown to be 1.1 dBA or less. The noise increase due to truck hauling would not be perceptible (less than 3 dBA) and therefore results in a less-than-significant impact (Class III).

Railyard Operations

PBR. Table 4.13-17 presents the calculated noise levels at PBR, accounting for topographical barriers, and compares them to the ambient noise levels. As discussed in Section 4.13.1, *Environmental Setting*, a change of 3 dB is barely noticeable and a change of 5 dB is noticeable.

As shown in Table 4.13-17, operational noise levels at PBR would not be noticeable for most nearby residences, except for Dell Court. Implementation of MM NOI-1 (*Noise Barrier at Pismo Beach Railyard*), which requires installation of a temporary noise barrier at the PBR site, would reduce the change in ambient noise level to less than 5 dBA (see Appendix H) such that long-term operational noise impacts would be less than significant (Class II).

Table 4.13-17. Calculated PBR Operational Noise Levels Compared to Ambient Noise Levels

Receptor Number	Calculated Operational Noise Level (dBA Leq)	Measured Daytime Ambient (dBA Leq)	Total Noise Levels (dBA Leq)	Change in Ambient Noise Level (dBA Leq)
14. Vincente Court	55.0	53.5	57.3	3.8
15. Reef Court/Coral Court [3]	54.5	58.8	60.2	1.4
16. Pismo Beach Railyard (Dell Court)	59.4	50.8	**60.0**	**9.2**
17. Judkins Middle School	37.7	50.8 [1]	51.0	0.2
18. Price Canyon Road Residence	54.3	53.8 [2]	57.1	3.8

Source: Refer to calculations in EIR Appendix H.
[1] Ambient noise measurements were not conducted at this location due to inaccessibility. Ambient conditions estimated to be the same as Location 16.
[2] Ambient noise measurements were not conducted at this location due to inaccessibility. Ambient conditions conservatively estimated to be 3 dBA higher than at Location 16 due to closer proximity of this receptor to traffic noise sources on Price Canyon Road.
[3] The resident on Coral Court is closer to the construction noise source than the resident on Reef Court; assume same ambient noise level as Reef Court.

SMVR-SB. The SMVR-SB predicted operational noise level at the nearest sensitive receptor is 43.5 dBA, much less than the measured ambient noise levels in the vicinity resulting in a less-than-significant impact (Class III).

Trains

As provided in Table 4.13-16 the average train noise levels are shown to be well below existing noise levels at all locations based on conservative assumptions, such as trains travelling at 30 mph. Trains leaving the railyards would travel at much lower speeds as they depart, with concurrent lower noise levels. Instantaneous train noise levels would be greater than the values provided in Table 4.13-16 as the train passes a given location but are not expected to be different from noise levels generated by existing train traffic. Therefore, train noise would not result in noticeable temporary or permanent changes in ambient noise levels and the impact would be less than significant (Class III).

Phase 2

DCPP Project Site

As discussed for Impact NOI-1, Phase 2 decommissioning activities at the DCPP site would be smaller in scope and scale than those that occur in Phase 1, with similar but less equipment. As such construction noise at the DCPP site would be lower during Phase 2. Noise levels were conservatively predicted for Phase 1 to be approximately 40 dBA at Coon Creek Beach, which is at or below ambient noise levels for a beach (similar to quiet suburban nighttime or library per Figure

4.13-1). As such, temporary changes in ambient noise levels from Phase 2 DCPP construction would be less than significant (Class III).

Railyard Modifications, Truck Haul Routes, and Trains

Railyard modifications would be completed in Phase 1 and do not occur in Phase 2. Truck hauling of demolition materials would continue in Phase 2 at levels assumed in the modeling of Phase 1 or below. As shown in Tables 4.13-13 and 4.13-4, the increase in noise from truck hauling would be 1.1 dBA or less, which would not be perceptible. Furthermore, the additional railcars and associated trains that may be required to transport waste materials from PBR out-of-state would not change the basis for the train noise analysis completed for Phase 1, which resulted in noise levels substantially below ambient noise levels. Therefore, the change in ambient noise levels from truck hauling and train use would be less than significant (Class III).

Railyard Operations

PBR. Railyard operations would cease during Phase 2, unless the PBR site is used to ship non-hazardous and non-radiological materials by rail as opposed to by barge (contingency option). The same equipment at PBR would be utilized which result in a predicted noise level of 59.4 dBA Leq at the Dell Court residence (see Table 4.13-17). MM NOI-1 (*Noise Barrier at Pismo Beach Railyard*) includes a temporary noise barrier to reduce the operational noise level to 51.9 dBA. With the ambient noise level estimated at 50.8 dBA at this location, the total noise level is predicted to be 54.4 dBA, a 3.6 dBA increase. This would not result in a perceptible increase. All other nearby sensitive receptors to PBR would experience noise level increases of less than 5 dBA Leq without mitigation. Therefore, the change in ambient noise levels due to PBR operations would be less than significant with mitigation (Class II).

SMVR-SB. No waste shipments to the SMVR-SB site would occur during Phase 2; therefore, no operational noise impacts from railyard operations would occur.

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. The new indoor Firing Range replaces the existing outdoor Firing Range, thereby greatly reducing the noise produced at the DCPP site. The remaining DCPP operations would produce less noise than current operations due to the reduced activity levels and staffing. Noise levels at the nearest sensitive receptor would be as low or lower than for current operations or for decommissioning activities and therefore impacts would be less than significant (Class III).

Future Actions. Marina improvement and operations are considered as possible future actions. Construction improvements and operations for small vessel launching and recreation would occur more than 3 miles from any sensitive receptor (Coon Creek Beach) and noise and vibration levels would be as low or lower than for current operations or for the decommissioning activities/ Therefore, impacts would be less than significant (Class III).

Mitigation Measures for Impact NOI-2.

NOI-1 Noise Barrier at Pismo Beach Railyard

Impact NOI-3: Expose persons to or generate excessive ground borne vibration or ground borne noise (Class III: Less than Significant).

Phase 1

DCPP Site

Decommissioning of the DCPP site would entail removal of the bulk of the DCPP facility, requiring the use of construction equipment and the transportation of demolition material by truck or barge. Construction equipment and haul trucks are the vibration sources with potential for vibration impacts. Caltrans guidance on impacts from construction and transportation vibration are provided in Table 4.13-10, which indicates that vibration is distinctly perceptible with a PPV of 0.24 in/sec. Furthermore, structural damage would not occur with a PPV less than 2.0 in/sec (see Table 4.13-11, industrial buildings).

Vibration source levels (PPV at 25 feet) for some of the construction equipment expected to be utilized at DCPP have been defined by Caltrans and FTA, as follows (Caltrans, 2020; FTA, 2018):

- Pile driver – 1.5 in/sec
- Vibratory roller – 0.21 in/sec
- Hoe ram, large bulldozer, caisson drilling – 0.089 in/sec
- Loaded trucks – 0.076 in/sec
- Jackhammer – 0.035 in/sec
- Small bulldozer – 0.001 in/sec

While workers at the DCPP site may react to vibrations levels from pile driving, which are above the distinctly perceptible threshold for human response of 0.24 in/sec PPV, pile driving activities are limited to the Discharge Structure removal activities where buildings in the general area are also being removed. Furthermore, DCPP workers are not considered sensitive receptors, and the closest sensitive receptors are 3 miles away (Coon Creek Beach). With respect to building damage, most construction activities would occur in areas where buildings are being removed, with the exception of the new owner-controlled area where the new Security Building, Firing Range, and Greater Than Class C (GTCC) Waste Storage Facility would be constructed. Existing structures in this area are industrial buildings and all equipment is expected to have vibration levels below 2.0 in/sec PPV. As such, groundborne vibration impacts at the DCPP site would be less than significant (Class III).

Railyard Modifications

Modifications to the PBR and SMVR-SB railyards would generate groundborne vibration. Conservatively assuming the same four pieces of construction equipment (a truck, forklift, spike driver, generator) are operating simultaneously in essentially the same area at the SMVR-SB railyard, the predicted vibration level is 0.244 in/sec PPV at 25 feet (see Appendix H). The closest receptor to any of these railyards is 625 feet away, and the predicted vibration level at this distance is 0.00195 in/sec PPV (see Appendix H). This value is well below the barely perceptible human

response level of 0.035 in/sec PPV (see Table 4.13-10) and well below the structural damage criterion of 0.5 in/sec PPV for residential structures (see Table 4.13-11). Converting this predicted vibration level to groundborne noise yields a noise level of less than 20 dBA (see Appendix H), which is well below existing ambient noise levels. Therefore, the impact due to construction vibration at the railyards is less than significant (Class III).

Truck Haul Routes and Trains

Truck traffic generates localized groundborne vibrations. With a reference vibration level of 0.076 in/sec PPV at 25 feet and since most structures are located a minimum of 50 feet from the passing trucks, the vibration level is predicted to be 0.027 in/sec PPV (see Appendix H). This predicted vibration level would not be distinctly perceptible (less than 0.24 in/sec PPV) and may not even be barely perceptible (begins at 0.035 in/sec PPV) if the structure is closer than 50 feet (see Table 4.13-10). The vibration would also not cause any structural damage (less than 0.5 in/sec PPV – see Table 4.13-11). The predicted groundborne noise produced by the predicted vibration level of 0.027 in/sec is 47 dBA (see Appendix H), which is well below existing ambient noise levels. The impact due to truck hauling vibration is less than significant (Class III).

Trains hauling materials out of state would also create vibrations; however, these would be the same or similar to other trains already utilizing existing railway infrastructure, with railcars most likely joining existing trains. As such, there would be no change from existing conditions (No Impact).

Railyard Operations

Demolition material transported to the railyards (PBR and/or SMVR-SB) would be transferred onto rail cars for ultimate disposal out-of-state. A gantry system and other equipment listed previously would be used to load trucks directly to a waiting rail car. As a worst case estimate one train is expected to depart the facility at most once every 7 days.

Conservatively assuming all the proposed equipment is operating simultaneously at each of the railyards, the predicted vibration level would be 0.262 in/sec PPV at 25 feet (see Appendix H). The closest receptor to any of these railyards is 625 feet, and the predicted vibration level at this distance is 0.0021 in/sec PPV (see Appendix H). This vibration level is well below the barely perceptible level of 0.035 in/sec PPV and well below the structural damage criterion of 0.5 in/sec PPV. Converting this predicted vibration level to groundborne noise yields a noise level of less than 20 dBA (see Appendix H), which is well below existing ambient noise levels. The impact due to vibration from railyard operations is less than significant (Class III).

Phase 2

Work at the DCPP site and at the railyards would either be the same or less than Phase 1. As all vibration impacts are less than significant for Phase 1, they would also be less than significant for Phase 2 (Class III).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing

Range, and Storage Buildings. The new indoor Firing Range replaces the existing outdoor Firing Range, thereby greatly reducing the noise produced at the DCPP site. The remaining DCPP operations would produce less noise than current operations due to the reduced activity levels and staffing. Noise levels at the nearest sensitive receptor would be as low or lower than for current operations or for decommissioning activities and therefore impacts would be less than significant (Class III).

Future Actions. Marina improvement and operations are considered as possible future actions. Construction improvements and operations for small vessel launching and recreation would occur more than 3 miles from any sensitive receptor (Coon Creek Beach) and noise and vibration levels would be as low or lower than for current operations or for the decommissioning activities. Therefore, impacts would be less than significant (Class III).

Mitigation Measures for Impact NOI-3. No mitigation measures are required.

4.13.5 Cumulative Impact Analysis

Geographic Extent Context

With regard to noise, cumulative impacts are associated with site-specific noise of the Proposed Project combining with site-specific noise of cumulative projects within approximately 0.25 mile of each other, as well as the potential for combined increases in traffic noise along common local routes (highways and freeways are not included as they handle extremely large volumes of traffic on a regular basis). Ground vibrations dissipate more rapidly than noise levels, limiting the geographic extent of ground vibration cumulative impacts to the immediate vicinity of the vibration source. Table 3-1 indicates there are 29 cumulative projects within the County of San Luis Obispo, County of Santa Barbara, and City of Santa Maria, including the Orano System ISFSI modifications that would be occurring at the DCPP site.

Cumulative projects that are considered for potential cumulative impacts related to noise would include projects that could generate construction or operational noise at the same time as the Proposed Project and are located at or near the DCPP site, railyards, and truck routes, as follows:

Diablo Canyon Power Plant

- Orano System ISFISI Modifications (#1)
- Communications Facility (#2)
- Avila Beach Drive at Highway 101 Interchange (#3)
- Flying Flags Campground (#4)
- Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit (#6)

Pismo Beach Railyard

- Signal at Bello and Price Canyon Road (#7)
- Public Safety Center (#9)
- Price Street Sidewalk Pavers (#11)
- Realign Frady Lane (#12)
- Storm Drain on Wadsworth from Bello to Judkins Middle School (#13)

In Vicinity of Truck Route (City of Santa Maria)

- Westgate Marketplace (#14)
- SerraMonte Townhomes (#15)
- Workforce Dormitories (#16)

SMVR-SB – Betteravia Industrial Park (County of Santa Barbara)

- Highway 101 – Betteravia Road Interchange (#17)

Cumulative Impact Analysis

Phase 1

The Orano System ISFSI Modifications (#1) would occur at the DCPP site at the same time as the Proposed Project Phase 1 work. While these activities would combine to create a cumulative noise impact, on-site activities are 3 miles away from any sensitive receptors (Coon Creek Beach) and therefore would not create a cumulatively considerable noise impact. The additional 384 truck trips would be required over the course of 10 months (Stantec, 2022). This would amount to only a few truck trips per day, which would readily fall within the 100 truck round trips per day assumed for the Proposed Project noise analysis. As such no cumulatively considerable noise impacts would occur.

The closest project to the DCPP site (#2) is a communications facility where the application is on hold. As such it's unknown when or if this project would occur at the same time as DCPP decommissioning activities. In addition, the project would be small in scale having a limited contributions to noise and traffic in the area, and would be approximately 6 miles away and buffered by topography limiting the ability for noise to combine.

The Avila Beach Drive at Highway 101 Interchange (#3), Flying Flags Campground (#4), and Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit (#6) are all located many miles from the DCPP site but could utilize the same roadways in Avila Beach.

For the Avila Beach Drive at Highway 101 Interchange (#3), noise related to haul trucks is predicted to be approximately 53.4 dBA at this location where the measured ambient noise level was 59.4 dBA (see Table 4.13-13 – Receptor #6, Avila Beach Drive / Cabrillo Highway). This truck haul noise level when combined with the Proposed Project, which was shown to result in minimal increases in ambient noise levels (see Table 4.13-13, where maximum contribution is 1.0 dBA), would not be cumulatively considerable compared with the road construction noise. Furthermore, with construction scheduled to begin mid-2023 and conclude mid-2025, truck traffic related to the DCPP Project may be rerouted to avoid this interchange.

For the Flying Flags Campground (#4), the schedule is unknown, and the project site is located many miles from the DCPP site. Noise related to haul trucks is predicted to be approximately 37.9 dBA near this location where the measured ambient noise level was 61.8 dBA (see Table 4.13-13 – Receptor #1, Diablo Canyon Road/Avila Beach Drive). This truck haul noise level when combined with the Flying Flags Campground (#4) would not be cumulatively considerable.

For the Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit (#6), the schedule is unknown, and the project site is located many miles from the DCPP site. This

cumulative project is located close to Receptor #2 (see Table 4.13-13 – San Luis Bay Inn [Avila Beach Drive]), approximately 230 feet north of Avila Beach Drive. Noise related to haul trucks is predicted to be approximately 5 dBA lower than the noise level at Receptor #2 or 39.5 dBA near this location where the measured ambient noise level is estimated to be 10 dBA lower than Receptor #2 or 52.2 dBA (see Table 4.13-13 – San Luis Bay Inn [Avila Beach Drive]). This truck haul noise level when combined with the Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit (#6) would not be cumulatively considerable.

Several cumulative projects are located in the vicinity of the PBR site, including Signal at Bello and Price Canyon Road (#7), Public Safety Center (#9), Price Street Sidewalk Pavers (#11), Realign Frady Lane (#12), and Storm Drain on Wadsworth from Bello to Judkins Middle School (#13). Installation of a signal at Bello Street and Price Canyon Road (#6) would be a relatively small construction project and may not occur concurrently with the Proposed Project. The new fire station on Bellow Street/Wadsworth (#9) is planned for 2023 and therefore would occur before Phase 1 activities begin, such that no cumulative noise impacts would occur. Operations of a fire station in the area may result in increased ambient noise levels but are generally characterized as instantaneous and infrequent from use of sirens with only a few vehicles being in operation at a single fire station. The installation of pavers in downtown sidewalks along Price Street (#11) would occur in 2026, concurrent with Phase 1 activities. This construction project may result in increased ambient noise levels but would be small-scale and on the other side of the freeway such that no cumulative impact is anticipated.

The realignment of Frady Lane (#12) would occur in 2025, so could be concurrent with use of the PBR site; however, from the standpoint of truck traffic, only the freeway offramp would be in common as access to Frady Lane would be via Hinds Avenue to Cabrillo Highway to Frady Lane. This project is located about 0.2 mile to the south of the PBR site and may occur concurrently with PBR construction modifications. Concurrent construction with the Proposed Project would create a potentially significant impact due to a substantial temporary increase in ambient noise levels at several of the surrounding sensitive receptors. This impact can be mitigated with implementation of MM NOI-2 (*Coordinate PBR and Frady Lane Realignment Construction Schedules*), which requires PG&E to coordinate with the City of Pismo Beach to stagger construction to avoid concurrent construction with the Frady Lane realignment project. PBR construction could potentially be completed in as little as one month (see Section 2.3.4, *Modifications and Operations at Rail Facilities*) and therefore concurrent construction can be avoided to mitigate this impact. As such the cumulative contribution would be minimal (Class II).

Storm drain improvements along Bello Street to Judkins Middle School (#13) would occur in 2025, so could be concurrent with use of the PBR site. This work would occur more than 0.3 mile west of the PBR site and would be buffered by topography and intervening structures. The truck route would only align for a short distance between the US-101 offramp and Bello Street, at which point trucks heading to PBR would turn east (right) on Bello Street and truck for the storm drain improvements would turn northwest (left). Residences in this area may experience slightly more truck noise; however, with only five trucks per day (maximum) visiting the PBR site, the likelihood of them traveling by at the same time is very low and noise levels contributed by the Proposed Project from truck traffic results in only a 0.3 dBA change (see Table 4.13-14 – Receptor #18, Price Canyon Road Residence) such that it would not be cumulatively considerable.

The Westgate Marketplace (#14), SerraMonte Townhome (#15), Workforce Dormitories (#16) and Highway 101 – Betteravia Road Interchange (#17) are in proximity of the SMVR-SB site or in the vicinity of the truck route. The construction schedules for these projects are all unknown at this time. Each of these projects would construct facilities that generate operational traffic or work to improve a Highway 101 interchange, which when combined with the Proposed Project traffic could result in cumulative impacts. However, considering the Proposed Project would have a maximum of two truck trips per day (maximum) visiting the SMVR-SB site, the likelihood of them traveling by at the same time is very low and noise levels contributed by the Proposed Project from truck traffic results in only a 0.2 dBA to 0.4 dBA change (see Table 4.13-15 – Receptors #20-22, W. Stowell Road, La Brea Avenue, E. Betteravia Road) such that it would not be cumulatively considerable.

Phase 2

Phase 2 occurs between 2032 and 2039, such that the cumulative projects listed in Table 3-1 would be constructed and in operation. As such the only cumulative impact would be associated with trucks. Trucks have been shown to result in no more than 1.1 dBA increase in ambient noise levels (see Table 4.13-14), which would not be perceptible and therefore not cumulatively considerable.

Post-Decommissioning Operations

New Facility Operations. Operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings would produce greatly reduced noise levels at the DCPP site. As such, noise levels at the nearest sensitive receptor would be as low or lower than for current operations or for decommissioning activities. Project noise levels would not be cumulatively considerable.

Future Actions. Construction improvements at the Marina and operations for small vessel launching and recreation would occur more than 3 miles from any sensitive receptor (Coon Creek Beach) and noise and vibration levels would be as low or lower than for current operations. As such, Project noise levels would not be cumulatively considerable.

Mitigation Measures for Cumulative Noise Impacts.

NOI-2 **Coordinate PBR and Frady Lane Realignment Construction Schedules.** The Applicant or its designee shall coordinate with the City of Pismo Beach at least 90 days prior to initiating construction at PBR. Construction at PBR shall not occur simultaneously with construction of the Frady Lane realignment project within the City of Pismo Beach. Documentation of coordination efforts, PBR construction schedule, and Frady Lane construction schedule shall be submitted to the County for review and concurrence, prior to initiating construction at PBR.

4.13.6 Summary of Significance Findings

Table 4.13-18 presents a summary of the environmental impacts, significance determinations, and mitigation measures for the Proposed Project.

Table 4.13-18. Summary of Impacts and Mitigation Measures – Noise

Impact Statement	Impact Significance Class				Mitigation Measures
	Phase 1		Phase 2	Post-Decom	
	DCPP	*PBR/SB*	*DCPP*	*Ops/Marina*	
NOI-1: Expose sensitive receptors to noise levels in excess of established standards	III	II/III	III	III/III	**NOI-1:** Noise Barrier at Pismo Beach Railyard
NOI-2: Create a substantial permanent or temporary increase in ambient noise levels	III	II/III	III	III/III	**NOI-1** (see above)
NOI-3: Expose persons to or generate excessive ground borne vibration or ground borne noise	III	III/III	III	III/III	None required
Cumulative Impact	II		Not cumulatively considerable		**NOI-2:** Coordinate PBR and Frady Lane Realign-ment Construction Schedules

Acronyms: PBR = Pismo Beach Railyard, SB = Betteravia Industrial Park (Santa Barbara County), Post-Decom = Post-Decommissioning, Ops = Long-Term Operations, Class I = Significant and Unavoidable, Class II = Less than Significant with Mitigation, Class III = Less than Significant, Class IV = Beneficial, NI = No Impact.