

1 **3.12 NOISE**

NOISE – Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Result in 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2 **3.12.1 Environmental Setting**

3 The decibel (dB) is a unit of measurement that indicates the relative intensity of a
 4 sound. Higher intensity sound is perceived as louder. Sound intensity is commonly
 5 measured on a weighted scale (dBA) to correct for the relative frequency response of
 6 the human ear. The “A-weighted” noise level de-emphasizes low and very high
 7 frequencies of sound in a manner similar to the human ear’s de-emphasis of these
 8 frequencies. The zero point on the dBA scale is based on the lowest sound level that
 9 the healthy, unimpaired human ear can detect. Audible increases in noise levels
 10 generally refer to a change of 3 dBA or more, as this level has been found to be barely
 11 perceptible to the human ear in outdoor environments. Sound levels in dB are
 12 calculated on a logarithmic basis. Each 10-dB increase in sound level is perceived as
 13 approximately a doubling of loudness – a 20-dB sound level is perceived as twice as
 14 loud as a 10-dB sound level, a 30-dB sound level is perceived as twice as loud as a
 15 20-dB sound level, and so on.

1 As noise spreads from a source, it loses energy so that as the noise receiver moves
 2 farther from the noise source, the perceived noise level decreases. Geometric
 3 spreading causes the sound level to attenuate or decrease generally resulting in a 6 dB
 4 reduction in the noise level for each doubling of distance between the noise point
 5 source and receptor. Intervening barriers, such as sound walls, buildings, solid panel
 6 fences, and topography would further reduce noise levels.

7 The Project is located within unincorporated Contra Costa County. In Contra Costa
 8 County, traffic along freeways (e.g., State Route 4), and major arterials (e.g., Willow
 9 Pass Road) are the primary sources of vehicular traffic noise. Rail operations also
 10 contribute to the noise environment in the County. The BNSF and UPRR railroad
 11 corridors in the County are primarily freight lines. These lines generate high noise levels
 12 during passbys and their trains are required to sound their whistles when crossing
 13 roadways at-grade. Existing air traffic activity also contributes to the noise in Contra
 14 Costa County. Buchanan Field, near Concord, is the primary source of aircraft noise.
 15 Other sources of aircraft noise are local emergency airports and military helicopter
 16 activity. The remaining noise sources are industrial plants such as oil refineries and
 17 materials processing plants.

18 Existing and future day-night level (DNL) noise contours have been prepared for
 19 freeways, major arterials, and railways in the County. In the Project vicinity, the nearest
 20 major noise source is the BNSF and UPRR rail lines, for which the County measured a
 21 60 dB DNL within approximately 0.5 mile of the Project site (Contra Costa County,
 22 2005). The County has developed policies for new projects including Policy 11-3, which
 23 states “If the primary noise source is train passbys, then the standard for outdoor noise
 24 levels in residential areas is a DNL of 70 dB. The nearest sensitive receptor to the
 25 Project site is a residential development approximately 1 mile to the southeast, on the
 26 far side of the BNSF/UPRR rail lines.

27 **3.12.2 Regulatory Setting**

28 **Federal and State**

29 Federal and State laws and regulations pertaining to this issue area and relevant to the
 30 Project are identified in Table 3.12-1.

Table 3.12-1 Laws, Regulations, and Policies (Noise)

U.S.	<ul style="list-style-type: none"> • The Noise Control Act (42 USC 4910) required the USEPA to establish noise emission criteria, as well as noise testing methods (40 CFR Chapter 1, Subpart Q). These criteria generally apply to interstate rail carriers and to some types of construction and transportation equipment. The USEPA published a guideline (USEPA 1974) containing recommendations for acceptable noise level limits affecting residential land use of 55 dBA L_{dn} for outdoors and 45 dBA L_{dn} for indoors. • The Department of Housing and Urban Development Environmental Standards (24 CFR
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Table 3.12-1 Laws, Regulations, and Policies (Noise)

	<p>Part 51) set forth the following exterior noise standards for new home construction (for interior noise levels, a goal of 45 dBA is set forth and attenuation requirements are geared to achieve that goal):</p> <ul style="list-style-type: none"> ○ 65 L_{dn} or less – Acceptable ○ 65 L_{dn} and < 75 L_{dn} – Normally unacceptable, appropriate sound attenuation measures must be provided ○ > 75 L_{dn} – Unacceptable <ul style="list-style-type: none"> ● Federal Highway Administration Noise Abatement Procedures (23 CFR Part 772) are procedures for noise studies and noise abatement measures to help protect the public health and welfare, to supply noise abatement criteria, and to establish requirements for information to be given to local officials for use in the planning and design of highways. It establishes five categories of noise sensitive receptors and prescribes the use of the Hourly L_{eq} as the criterion metric for evaluating traffic noise impacts. ● Federal Energy Regulatory Commission Guidelines On Noise Emissions From Compressor Stations, Substations, And Transmission Lines (18 CFR 157.206(d)(5)) require that “the noise attributable to any new compressor stations, compression added to an existing station, or any modification, upgrade or update of an existing station, must not exceed a L_{dn} of 55 dBA at any pre-existing noise sensitive area (such as schools, hospitals, or residences).” ● NTIS 55019-74-004, 1974 (“Information on Levels of Environmental Noise Requisite to Protect Health and Welfare with an Adequate Margin of Safety”). In response to a Federal mandate, the USEPA provided guidance in this document, commonly referenced as the, “Levels Document,” that establishes an L_{dn} of 55 dBA as the requisite level, with an adequate margin of safety, for areas of outdoor uses including residences and recreation areas. The USEPA recommendations contain a factor of safety and do not consider technical or economic feasibility (i.e., the document identifies safe levels of environmental noise exposure without consideration for achieving these levels or other potentially relevant considerations), and therefore should not be construed as standards or regulations.
CA	<p>State regulations for limiting population exposure to physically and/or psychologically significant noise levels include established guidelines and ordinances for roadway and aviation noise under California Department of Transportation as well as the now defunct California Office of Noise Control. The California Office of Noise Control land use compatibility guidelines provided the following:</p> <ul style="list-style-type: none"> ● An exterior noise level of 60 to 65 dBA Community Noise Equivalent Level (CNEL) is considered "normally acceptable" for residences. ● A noise level of 70 dBA CNEL is considered to be "conditionally acceptable" (i.e., the upper limit of "normally acceptable" noise levels for sensitive uses such as schools, libraries, hospitals, nursing homes, churches, parks, offices, and commercial/professional businesses). ● A noise level of greater than 75 dBA CNEL is considered "clearly unacceptable" for residences.

1 **Local**

2 The following goals and policies from the Contra Costa County General Plan may be
 3 applicable to the Project (Contra Costa County 2005).

- 4 ● Goal 11-B - To maintain appropriate noise conditions in all areas of the County.
- 5 ● Goal 11-E - To recognize citizen concerns regarding excessive noise levels, and
 6 to utilize measures through which the concerns can be identified and mitigated.
- 7 ● Policy 11-8 - Construction activities shall be concentrated during the hours of the
 8 day that are not noise-sensitive for adjacent land uses and should be

1 commissioned to occur during normal work hours of the day to provide relative
2 quiet during the more sensitive evening and early morning periods.

3 **3.12.3 Impact Analysis**

4 ***a) Exposure of persons to or generation of noise levels in excess of standards*** 5 ***established in the local general plan or noise ordinance, or applicable standards*** 6 ***of other agencies?***

7 **Less than Significant Impact.** The use of equipment that generates noise (e.g.,
8 excavating) would take place typically between the hours of 7:00 a.m. and 5:00 p.m. on
9 weekdays in accordance with the Project plans and specifications. This work schedule
10 would not conflict with the requirements of the County's noise policies that removal
11 activities be concentrated during daytime hours on weekdays.

12 The nearest receptor for Project-related noise is a residence located approximately 1
13 mile to the southeast of the Project site in Bay Point, beyond the BNSF/UPRR tracks.
14 Sound levels produced by removal equipment would vary with engine speed and the
15 load placed on the equipment – higher speeds and loads produce greater sound levels.
16 Maximum noise levels created by the type of equipment required for this Project (e.g.,
17 chain saw, compressor, crane, excavator, generator, pumps, trucks) would be in the
18 range of 55 to 85 dB at 50 feet. Due to geometric spreading of noise, at 1,000 feet away
19 from the Project site (0.18 mile, or only one-quarter of the distance to the nearest
20 residence) the maximum sound levels would be 38 to 58 dBA. The presence of
21 intervening industrial buildings (ChemTrade and Honeywell) and the railroad tracks
22 between the work area and the residence would further diminish Project-related noise
23 levels at the residence, which is also close to State Route 4, another major noise
24 source. In addition, the 1-hour Leq created by Project removal activities at the nearest
25 residential receptor would be less than the maximum levels of 38 to 58 dB because the
26 equipment would not operate continuously at maximum power.

27 ***b) Exposure of persons to or generation of excessive ground-borne vibration or*** 28 ***ground-borne noise levels?***

29 **No Impact.** Impacts from ground-borne vibration occur when intense construction
30 activities such as pile driving or the movement of large earthmoving equipment occurs
31 in close proximity to sensitive receptors, either people or structures. No activities that
32 would generate substantial ground-borne vibration or noise are included as part of the
33 Project and no sensitive receptors are located in close proximity to Project activities.

34 ***c) A substantial permanent increase in ambient noise levels in the project vicinity*** 35 ***above levels existing without the project?***

1 **No Impact.** The Project would last approximately 2 weeks and would not create a
2 permanent source of noise.

3 ***d) A substantial temporary or periodic increase in ambient noise levels in the***
4 ***project vicinity above levels existing without the project?***

5 **Less than Significant Impact.** Temporary Project noise impacts are discussed in **(a)**,
6 above.

7 ***e) For a project located within an airport land use plan or, where such a plan has***
8 ***not been adopted, within 2 miles of a public airport or public use airport, would***
9 ***the project expose people residing or working in the project area to excessive***
10 ***noise levels?***

11 **No Impact.** The Project site is not within an airport land use planning area or within
12 2 miles of a public airport or public use airport.

13 ***f) For a project within the vicinity of a private airstrip, would the project expose***
14 ***people residing or working in the project area to excessive noise levels?***

15 **No Impact.** The Project site is not within 2 miles of a private airstrip.

16 **3.12.4 Mitigation Summary**

17 The Project would not result in significant noise impacts; therefore, no mitigation is
18 required.