

1 **3.12 NOISE**

<b>NOISE - Would the Project:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 2 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 3.12.1.1 General Characteristics of Noise

4 Noise is generally defined as unwanted or objectionable sound. Human ears respond to  
 5 a very wide range of sound pressures producing numbers of awkward size when sound  
 6 pressures are related on an arithmetic (1, 2, 3...) scale. It has therefore become  
 7 customary to express sound pressure level in decibels (dB), which are logarithmic (1,  
 8 10, 100...) ratios comparing sound pressures to a reference pressure. The reference  
 9 pressure commonly used in noise measurement is 20 microPascals (µPa or rms), which  
 10 is considered to be the quietest sound a normal young adult human ear can hear in the  
 11 frequency range that the ear is most sensitive to. This sound level is assigned the value  
 12 0 dB. Higher intensity sound is perceived as louder. Sound intensity is commonly  
 13 measured on a weighted scale [dBA or db(A)] to correct for the relative frequency  
 14 response of the human ear. The “A-weighted” noise level de-emphasizes low and very  
 15 high frequencies of sound in a manner similar to the human ear’s de-emphasis of these  
 16 frequencies.

1 According to the Contra Costa County General Plan Noise Element (County of Contra  
 2 Costa 2014), except under special conditions, a change in sound level of 1 dB cannot  
 3 be perceived. Outside of the laboratory, a 3 dB change is considered a just-noticeable  
 4 difference and a change in level of at least 5 dB is required before any noticeable  
 5 change in community response would be expected. Some typical sound pressure levels  
 6 for common sounds are provided in Table 3.12-1 below.

**Table 3.12-1. Common Sound Levels/Sources and Subjective Human Responses**

Sound Level (dBA)	Typical Outdoor Noise Source	Typical Indoor Noise Sources	Typical Human Response/Effects
140	Carrier Jet takeoff (50 feet)	--	--Threshold for Pain--
130	Siren (100 feet) Live Rock Band	--	---Hearing Damage---
120	Jet takeoff (200 feet) Auto horn (3 feet)	--	--
110	Chain Saw Snow Mobile	--	---Deafening---
100	Lawn Mower (3 feet) Motorcycle (50 feet)	--	--
90	Heavy Duty Truck (50 feet)	Food Blender (3 feet)	---Very Loud---
80	Busy Urban Street, Daytime	Garbage Disposal (3 feet)	
70	Automobile (50 feet)	Vacuum Cleaner (9 feet)	---Loud---
60	Small plane at ¼ mi	Conversation (3 feet)	
50	Quiet Residential Daytime	Dishwasher Rinse (10 feet)	---Moderate---
40	Quiet Residential Nighttime	Quiet Home Indoors	---Quiet---
30	Slight Rustling of Leaves	Soft Whisper (15 feet)	---Very Quiet---
20	--	Broadcasting Studio	
10	--	Breathing	--Barely Audible--
0	--	--	--Threshold of Hearing--

7 When considering how noise could affect nearby sensitive receptors (residential  
 8 dwellings, transient lodging, hospitals and other long-term care facilities, public or  
 9 private educational facilities, libraries, churches, and places of public assembly), it is  
 10 important to understand how sound level diminishes as distance from the source  
 11 increases. For a “point” source (such as construction within a fixed area) of sound in  
 12 free space, the rate at which the sound attenuates is inversely proportional to the  
 13 square of the distance from the source. This means the sound level would drop 6 dB  
 14 each time the distance from the source is doubled.

15 Decibels, measuring sound energy, combine logarithmically. A doubling of sound  
 16 energy (for instance, from two identical automobiles passing simultaneously) creates a  
 17 3 dB increase (i.e., the resultant sound level is the sound level from a single passing  
 18 automobile plus 3 dB). When the difference between two sound levels is greater than  
 19 about 10 dB, the lesser sound is negligible in terms of affecting the total level.

1 3.12.1.2 Site-Specific Noise Environment

2 The duration of noise and the time period at which it occurs are important factors in  
 3 determining impacts on noise-sensitive land uses. The nearest noise-sensitive land use  
 4 to the offshore Project area is the Antioch-Oakley Regional Shoreline Recreation Area  
 5 located approximately 290 feet from the southern landing of the pipeline corridor. The  
 6 subterranean valve pit is located within the Lauritzen Yacht Harbor, a privately owned  
 7 marina that provides berths for recreational boaters, a gas dock and, launching facilities.  
 8 Although the Sacramento County General Plan Land Use Map (County of Sacramento  
 9 2011) indicates that the northern portion of the Project area is zoned for recreational  
 10 use, no sensitive noise receptors are located near enough to the northern pipeline  
 11 corridor terminus in Sacramento County to be affected by Project activities.

12 Noise associated with these areas is primarily associated with Senator John A. Nejedly  
 13 Bridge (Antioch Bridge - SR 160) and (within the southern landing area of the Project  
 14 site) commercial and recreational activities associated with the Lauritzen Yacht Harbor.

15 **3.12.2 Regulatory Setting**

16 3.12.2.1 Federal and State

17 Federal and State laws and regulations pertaining to this issue area and relevant to the  
 18 Project are identified in Table 3.12-2.

**Table 3.12-2. Laws, Regulations, and Policies (Noise)**

<b>U.S.</b>	<p>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 <math>L_{dn}</math> for outdoors and 45 dBA <math>L_{dn}</math> for indoors.</p> <ul style="list-style-type: none"> <li>• The Department of Housing and Urban Development Environmental Standards (24 CFR 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):             <ul style="list-style-type: none"> <li>○ 65 <math>L_{dn}</math> or less - Acceptable</li> <li>○ 65 <math>L_{dn}</math> and &lt; 75 <math>L_{dn}</math> - Normally unacceptable, appropriate sound attenuation measures must be provided</li> <li>○ &gt; 75 <math>L_{dn}</math> - Unacceptable</li> </ul> </li> <li>• 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 <math>L_{eq}</math> as the criterion metric for evaluating traffic noise impacts.</li> <li>• Federal Energy Regulatory Commission (FERC) 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</li> </ul>
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**Table 3.12-2. Laws, Regulations, and Policies (Noise)**

	<p>station, or any modification, upgrade or update of an existing station, must not exceed a <math>L_{dn}</math> of 55 dBA at any pre-existing noise sensitive area (such as schools, hospitals, or residences).”</p> <p>NTIS 550\9-74-004, 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 <math>L_{dn}</math> 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.</p>
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"> <li>• An exterior noise level of 60 to 65 dBA Community Noise Equivalent Level (CNEL) is considered "normally acceptable" for residences.</li> <li>• 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).</li> <li>• A noise level of greater than 75 dBA CNEL is considered "clearly unacceptable" for residences.</li> </ul>

1 3.12.2.2 Local

2 **Sacramento County**

3 The Sacramento County General Plan (County of Sacramento 2011) includes  
 4 discussion regarding non-transportation noise sources Policy No. 8 that states that  
 5 noise associated with construction activities shall adhere to the County Code  
 6 requirements. Section 6.68.090(e) exempts the following activities from the noise code:

- 7 • Policy 8-e: Noise sources associated with construction, repair, remodeling,  
 8 demolition, paving or grading of any real property, provided said activities do not  
 9 take place between the hours of eight p.m. and six a.m. on weekdays and Friday  
 10 commencing at 8:00 p.m. through and including 7:00 a.m. on Saturday;  
 11 Saturdays commencing at 8:00 p.m. through and including 7:00 a.m. on the next  
 12 following Sunday and on each Sunday after the hour of 8:00 p.m. Provided,  
 13 however, when an unforeseen or unavoidable condition occurs during a  
 14 construction project and the nature of the project necessitates that work in  
 15 process be continued until a specific phase is completed, the contractor or owner  
 16 shall be allowed to continue work after 8:00 p.m. and to operate machinery and  
 17 equipment necessary until completion of the specific work in progress can be  
 18 brought to conclusion under conditions which will not jeopardize inspection  
 19 acceptance or create undue financial hardships for the contractor or owner.

1 **Contra Costa County**

2 The Contra Costa County General Plan (County of Contra Costa 2010) includes  
 3 discussion regarding construction noise minimization measures. The following goals  
 4 and policies are applicable to the proposed Project.

- 5 • Goal 11-B: To maintain appropriate noise conditions in all areas of the County.
- 6 • Goal 11-E: To recognize citizen concerns regarding excessive noise levels, and  
 7 to utilize measures through which the concerns can be identified and mitigated.
- 8 • Policy 11-8: Construction activities shall be concentrated during the hours of the  
 9 day that are not noise-sensitive for adjacent land uses and should be  
 10 commissioned to occur during normal work hours of the day to provide relative  
 11 quiet during the more sensitive evening and early morning periods.

12 **City of Oakley**

13 The City’s 2020 General Plan (City of Oakley 2010) Noise Element identifies goals and  
 14 policies applicable to the proposed Project below.

- 15 • Goal 9.1: Protect residents from the harmful and annoying effects of exposure to  
 16 excessive noise.
- 17 • Policy 9.1.3: Noise created by new proposed non-transportation noise sources  
 18 shall be mitigated so as not to exceed the noise level standards as measured  
 19 immediately within the property line of lands designated for noise-sensitive uses.

20 The City’s 2020 General Plan, Noise Element includes noise performance standards,  
 21 reported as equivalent continuous sound levels (Leq), for new projects affected by or  
 22 including non-transportation noise sources (Table 3.12-3). The Leq is the total sound  
 23 energy as averaged over a sample period.

**Table 3.12-3. City of Oakley Noise Standards**

Noise Level Descriptor	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Hourly Leq dBA	55	45

Notes: dBA: A-frequency weighted decibels

Leq is the average sound level over a specified period of time (one hour)

Source: City of Oakley 2020 General Plan (2010)

24 In addition to the General Plan goals and policies, the City’s municipal code prohibits  
 25 operation or performance of construction or repair work (which creates noise) within or  
 26 adjacent to a residential land use district except during the following hours: 1) Monday  
 27 through Friday: 7:30 a.m. to 7:00 p.m. and 2) Saturday, Sunday, and holidays: 9:00 a.m.  
 28 to 7:00 p.m.

1 **3.12.3 Impact Analysis**

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

5 **Less than Significant with Mitigation.** The Project includes the temporary use of  
 6 standard construction equipment onshore as well as offshore on the decks of Project  
 7 vessels. Noise associated with construction equipment generally ranges from  
 8 approximately 80 dBA to approximately 85 dBA (U.S. Department of Transportation  
 9 [USDOT] and Federal Highway Administration [FHWA] 2006). Several noise sensitive  
 10 receptors (Lauritzen Yacht Harbor and Recreational Park) are located adjacent to the  
 11 southern landing and valve pit and would be affected by noise associated with the  
 12 temporary use of construction equipment. The Project would therefore be required to  
 13 limit work hours within the City to Monday through Friday: 7:30 a.m. to 7:00 p.m. and  
 14 Saturday, Sunday, and holidays: 9:00 a.m. to 7:00 p.m. (**MM N-1: Construction**  
 15 **Timing**).

16 **MM N-1: Construction Timing.** Onshore decommissioning work shall be conducted  
 17 during daylight hours only. Monday through Friday: 7:30 a.m. to 7:00 p.m. and  
 18 Saturday, Sunday, and holidays: 9:00 a.m. to 7:00 p.m.

19 Offshore, noise would be primarily limited to Project vessel engines and equipment. As  
 20 with onshore areas, sensitive receptors within the offshore Project area would be limited  
 21 to the recreational area adjacent to Lauritzen Yacht Harbor. Offshore work schedules  
 22 would include some work on weekends and evening hours (the schedule is based on  
 23 working no more than 6 days per week, one 10-hour shift per day). As such, offshore  
 24 noise would include some minor impacts from nighttime noise. According to USEPA  
 25 guidelines in 1971, average total construction noise is generally about 95 dBA at  
 26 approximately 50 feet distance from the source (USEPA 1971). Since an approximately  
 27 6 dB drop occurs with a doubling of the distance from the source, locations within 1,600  
 28 feet of the construction site would be affected by noise levels over 65 dBA. The total  
 29 horizontal length of the submarine pipeline crossing segment is approximately 3,519  
 30 feet in length as measured from the northern submarine pipeline cut point to the  
 31 southern submarine pipeline cut point. A majority of Project activities would occur within  
 32 areas outside the construction noise range of 1,600 feet from the nearest receptors. As  
 33 the Project progresses, distances would become further from these sensitive areas.  
 34 Due to the temporary and transitory nature of pipeline removal activities, and with the  
 35 implementation of **MM N-1**, impacts to sensitive receptors due to noise from Project  
 36 vessels and equipment would be less than significant.

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

1 **No Impact.** Impacts from ground-borne vibration generally occur when intense  
2 construction activities, such as pile driving or the movement of large earthmoving  
3 equipment, are in close proximity to sensitive receptors, either people or structures. No  
4 activities that would generate substantial ground-borne vibration or noise are included  
5 as part of the Project. No impact would result.

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

8 **No Impact.** The Project would last from approximately August 1 through October 31,  
9 2015 and would not create a permanent source of noise. No long-term impacts to  
10 ambient noise levels would result.

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

13 **Less than Significant with Mitigation.** Due to the temporary nature of Project  
14 activities, with the implementation of **MM N-1**, an increase in noise levels due to Project  
15 vessels and equipment, would be less than significant (see full discussion in Section  
16 3.12.3 (a), above).

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

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

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

25 **No Impact.** The Project site is not within 2 miles of a private air strip.

#### 26 **3.12.4 Mitigation Summary**

27 Implementation of the following MM would reduce the potential for Project-related  
28 impacts to noise to less than significant.

- 29 • MM N-1: Construction Timing.