Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Potentially Significant Unless Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XI.	**NOISE – Would the project result in:**				
	a) 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?	☐	☒	☐	☐
	b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
	c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
	d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
	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?	☐	☐	☐	☒
	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?	☐	☐	☐	☒

SETTING

Noise is defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) which is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain. Pressure waves traveling through air exert a force registered by the human ear as sound. Human response to noise is subjective and can vary greatly from person to person. Factors that can influence individual response include intensity, frequency, and time pattern of the noise; the amount of background noise present prior to the intruding noise; and the nature of work or human activity that is exposed to the noise. The adverse effects of noise include interference with concentration, communication, and sleep. At the highest levels, noise can induce hearing damage.

Environmental noise is usually measured in A-weighted decibels (dBA).[1] Environmental noise typically fluctuates over time, and different types of noise descriptors are used to account for this variability. Typical noise descriptors include maximum noise level (L_{max}), the energy-equivalent

[1] A decibel (dB) is a unit of sound energy intensity. Sound waves, traveling outward from a source, exert a sound pressure level (commonly called "sound level") measured in dB. An A-weighted decibel (dBA) is a decibel corrected for the variation in frequency response to the typical human ear at commonly encountered noise levels.

noise level (L_{eq}), and the day-night average noise level (DNL).[2] The noise level experienced at a receptor depends on the distance between the source and the receptor, presence or absence of noise barriers and other shielding features, and the amount of noise attenuation (lessening) provided by the intervening terrain.

EXISTING NOISE LEVELS

Transportation sources, such as automobiles, trucks, trains, and aircraft, are the principal sources of ambient noise. Industrial and commercial equipment and operations also contribute to the ambient noise environment in their vicinities. The approximately 35-mile underground pipeline is located in Contra Costa County between the cities of Richmond and Pittsburg. The pipeline follows the San Francisco Bay shoreline and traverses the jurisdictions of the cities of Richmond, Pinole, Hercules, Martinez and Pittsburg. Between Richmond and Hercules the pipeline is located within or in close proximity to the UPRR right of way. Train pass-by events constitute the major noise sources along this section of the pipeline. According to the Contra Costa General Plan, noise levels generated by rail activities are approximately 70 to 77 dB at 100 feet from the railway centerline. At the pump station in Hercules, the noise environment is mainly influenced by traffic on nearby I-80 and San Pablo Avenue, both of which are characterized as major noise sources in the Contra Costa County General Plan. A noise measurement study conducted in the City of Hercules in December 1996 showed a L_{dn} of 65 dBA and L_{eq} of 61 dBA at a metering station located 90 feet from the centerline of San Pablo Avenue near Linus Pauling Drive, adjacent to the pump station. Traffic on San Pablo Avenue was the main source of noise.

SENSITIVE RECEPTORS

The 35-mile long pipeline alignment would cross though primarily non-residential land uses along its length. Some construction noise could be expected from the replacement of the 4,000-foot section in Martinez and from day-to day maintenance activities along the pipeline. Construction of the replacement pipeline in the City of Martinez would occur within land uses designated for industrial uses and as open space. There are no residential land uses adjacent to the construction area. However, one permanent source of noise is associated with the pump station in Hercules. The City of Hercules has initiated a process to adopt a Specific Plan that would encompass a discrete area north of and adjacent to the pump station, and that would expand across San Pablo Avenue to San Pablo Bay. Currently designated for Planned Commercial Industrial uses, the City proposes to amend the General Plan so that the land is designated *Specific Plan*, with residential and institutional uses. The City also proposes to amend the Zoning Regulations so that the areas immediately adjacent to the pump station would be within residential zones. Further north, portions of the site would also have residential and

[2] The maximum noise level (L_{max}) refers to the highest instantaneous noise level observed in a given period. L_{eq}, the energy-equivalent noise level (or "average" noise level), is the equivalent steady-state continuous noise level which, in a stated period of time, contains the same acoustic energy as the time-varying sound level that actually occurs during the same period. DNL, the day-night average noise level, is a weighted 24-hour noise level. With the DNL descriptor, average noise levels (in terms of L_{eq}) between 10:00 p.m. and 7:00 a.m. are adjusted upward by 10 dBA to take into account the greater annoyance of nighttime noise as compared to daytime noise. All L_{max}, L_{eq} and DNL values reported herein reflect A-weighted decibels unless stated otherwise.

institutional uses. These would be the sensitive receptors that could be most affected by the resumption of operations at the Hercules pump station.

REGULATORY SETTING

As a general matter, federal and state agencies regulate mobile noise sources, and local agencies regulate stationary noise sources and activities. Federal and state agencies regulate noise from mobile sources by establishing and enforcing noise standards on vehicle manufacturers. Local agencies regulate noise through three principal means: enforcement of local noise ordinances; implementation of noise-related policies contained in the local general plan, such as noise / land use compatibility guidelines; and enforcement of noise-related conditions on permit approvals.

The sale of the Pipeline, by itself will not result in any changes to the ambient noise environment. However, following completion of the sales transaction, the new owner (SPBPC) is expected to return the pipeline to active service. Construction hour limitations and construction equipment noise standards, as specified by the local General Plan Noise Element and Noise Ordinance would be applicable to construction activities along the missing 4,000-foot section of the pipeline in Martinez, which would be replaced. Transportation of oil would involve operation of a stationary noise source at the pump station, which would be located in the city of Hercules. Resumption of oil movements at the Hercules pump station will reactivate the existing noise source in the area, but the project would not require any local permits to which noise-related conditions could be attached. Other than that, conducting routine maintenance operations along the 35-mile pipeline would involve some minor and temporary noise sources and would not raise any long-term issues related to local noise ordinance standards or general plan policies. The relevant standards and policies for the applicable jurisdictions are provided below.

The noise element of the Contra Costa County General Plan does not have established noise standards for new projects. The county uses the State of California Land Use Noise Compatibility Matrix as shown in Table XI-1 for land use planning. The normally acceptable maximum noise level varies from a CNEL of 60 dBA for residential areas to 75 dBA for industrial land uses. After a detailed noise analysis has been conducted and required insulation features are included in the project design, the maximum conditionally acceptable noise level could be as high as 70 dBA for residential areas and 80dBA for industrial areas. Construction activities are required to be concentrated during daytime hours of the working day to provide relative quiet during the more sensitive evening and early morning periods.

The City of Richmond's General Plan has also adopted the State of California Land Use Noise Compatibility Matrix as a standard for reviewing projects. The matrix is as shown in Table XI-1. The city's noise ordinance restricts construction activities to daytime hours between 7 a.m. to 7 p.m. on weekdays and 8.30 a.m. to 6 p.m. on weekends and legal holidays. The ordinance also establishes maximum acceptable exterior noise levels, which range from 60 dBA for residential areas to 75 dBA for heavy industrial land uses, as measured at the property line, within the city of Richmond.

TABLE XI-1
STATE OF CALIFORNIA LAND USE NOISE COMPATIBILITY MATRIX

Land Use Category	Community Noise Exposure Ldn or CNEL, dB
Residential – Low Density Single Family, Duplex, Mobile Homes	50 to 60 = Normally acceptable 55 to 70 = Conditionally acceptable 70 to 75 = Normally unacceptable 75 to 85 = Clearly unacceptable
Residential – Multifamily	50 to 65 = Normally acceptable 60 to 70 = Conditionally acceptable 70 to 75 = Normally unacceptable 75 to 85 = Clearly unacceptable
Transient Lodging – Motels, Hotels	50 to 65 = Normally acceptable 60 to 70 = Conditionally acceptable 70 to 80 = Normally unacceptable 80 to 85 = Clearly unacceptable
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 to 70 = Normally acceptable 60 to 70 = Conditionally acceptable 70 to 80 = Normally unacceptable 80 to 85 = Clearly unacceptable
Auditoriums, Concert Halls, Amphitheaters	50 to 70 = Conditionally acceptable 65 to 85 = Clearly unacceptable
Sports Arena, Outdoor Spectator Sports	50 to 70 = Conditionally acceptable 70 to 85 = Clearly unacceptable
Playgrounds, Neighborhood Parks	50 to 70 = Normally acceptable 67.5 to 75 = Normally unacceptable 72.5 to 85 = Clearly unacceptable
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 to 75 = Normally acceptable 70 to 80 = Normally unacceptable 80 to 85 = Clearly unacceptable
Office Buildings, Business, Commercial and Professional	50 to 70 = Normally acceptable 67.5 to 77.5 = Conditionally acceptable 75 to 85 = Normally acceptable
Industrial, Manufacturing, Utilities, Agriculture	50 to 75 = Normally acceptable 70 to 80 = Conditionally acceptable 75 to 85 = Normally acceptable

The General Plan for the City of Pinole also uses the State of California Land Use Noise Compatibility Matrix (shown in Table XI-1) as a standard for reviewing projects. The goal for maximum outdoor and indoor noise levels in residential areas are an Ldn of 60 dBA and 45 dBA respectively.

The General Plan for the City of Hercules uses an Ldn of 60 dBA as the maximum acceptable outdoor noise level in residential areas. Table XI-2 shows Land Use compatibility matrix for community noise environments in the city of Hercules. Table XI-3 shows the maximum acceptable noise exposure to stationary noise sources as measured at the property line of the receiving land use.

TABLE XI-2
LAND USE COMPATIBILITY MATRIX FOR COMMUNITY NOISE ENVIRONMENTS IN THE CITY OF HERCULES

Land Use Category	Exterior Noise Exposure Ldn or CNEL, dB
Residential, Hotels, and Motels	50 to 60 dBA = Normally Acceptable 60 to 75 dBA = Conditionally Acceptable 75 to 85 dBA = Unacceptable
Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds	50 to 65 dBA = Normally Acceptable 65 to 80 dBA = Conditionally Acceptable 80 to 85 dBA = Unacceptable
Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls, Churches	50 to 60 dBA = Normally Acceptable 60 to 75 dBA = Conditionally Acceptable 75 to 85 dBA = Unacceptable
Office Buildings, Business Commercial and Professional	50 to 70 dBA = Normally Acceptable 70 to 80 dBA = Conditionally Acceptable 80 to 85 dBA = Unacceptable
Auditoriums, Concert Halls, Amphitheaters	50 to 70 dBA = Conditionally Acceptable 70 to 85 dBA = Unacceptable
Industrial, Manufacturing, Utilities, and Agriculture	50 to 70 dBA = Normally Acceptable 70 to 85 dBA = Conditionally Acceptable

The City of Martinez does not have a noise element in the General Plan. There are no specific construction-related noise standards in the Noise Ordinance. Therefore, the State of California Land Use Noise Compatibility Matrix as shown in Table XI-1 would be used as a standard for reviewing this project.

The City of Pittsburg uses the State of California Land Use Noise Compatibility Matrix (shown in Table XI-1) as a standard for reviewing projects. Stationary noise sources in Pittsburg are

TABLE XI-3
MAXIMUM ACCEPTABLE NOISE EXPOSURE TO STATIONARY NOISE SOURCES (MEASURED AT THE PROPERTY LINE OF THE RECEIVING LAND USE)

	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly Leq, dBA	50	45
Maximum Level, dBA	70	65
Maximum Level, dBA – Impulsive Noise	65	60

regulated through conditions of approval for local permits. With respect to noise / land use compatibility, the City recognizes 65 and 70 DNL as the maximum level of noise that is normally acceptable for residential and parks, respectively (City of Pittsburg, 1990). The City seeks to minimize noise impacts by protecting residential and park uses from new noise sources that would increase noise by 3 DNL or generate 60 DNL or more at the property line, excluding ambient noise levels.

NOISE IMPACT DISCUSSION

a) The project would involve temporary noise sources associated with construction and long-term noise sources associated with operation of the pump station at Hercules. Such noise sources are typically regulated on the local level through enforcement of noise ordinances, implementation of general plan policies, and imposition of conditions of approval for permits.

Construction of the 4,000-foot replacement pipeline in the City of Martinez would occur within land uses designated for industrial uses and as open space. There are no residential land uses adjacent to the construction area. During the construction period, noise levels generated by operation of construction equipment would vary depending on the particular type, number, and duration of use of various pieces of construction equipment. The types of equipment that would be used would include jackhammers, pneumatic tools, front-end loaders, hydraulic backhoes and excavators, air compressors and off-road trucks. Such equipment typically generates between 75 and 90 dBA at 50 feet (U.S. Department of Transportation, 1995) and would be a significant impact on the ambient noise environment. However, at any one location along the construction route, the duration of noise impacts would be relatively brief, given that construction would proceed in a linear fashion along the route.

As discussed earlier, the City of Martinez, in which pipeline replacement would occur, does not have specific construction-related noise standards. However, under the requirements of Mitigation Measure XI.1 below, SPBPC would require its contractors to limit noisy construction activity to the hours of 7:00 a.m. to 7:00 p.m., Monday through Saturday. Given compliance with this and other mitigation measures described below, the impact

would be mitigated to a less than significant level and project construction would not expose persons to or generate noise levels in excess of standards established in local general plans or noise ordinances, or applicable standards of other agencies.

Over the long-term, the project would activate an existing noise source due to the resumption of operations at the existing pump station in the City of Hercules. The equipment associated with noise at the pump station includes two fuel oil heaters and two pumps. Once operations are recommenced, noise from the pump station would permanently increase the ambient noise level in the vicinity of the pump station, compared to the present baseline. The noise levels will be similar to those when PG&E operated the station. However, the pump station is located and has been approved for operation within an area designated for industrial use. Recently, the City of Hercules has initiated a process to adopt a Specific Plan that would encompass a discrete area north of and adjacent to the pump station currently designated for Planned Commercial Industrial uses. The City proposes to amend the General Plan and the Zoning Regulations so that the land is designated *Specific Plan*, with residential and institutional uses. This would introduce sensitive receptors in the immediate vicinity of the pump station that could potentially be affected by noise generated from equipment at the pump station.

However, the pump station is an existing structure approved for operation in its current location. The proposed operation of the pump station and the pipeline would not change the existing, undeveloped land in the City of Hercules in the vicinity of the project. Future development in the vicinity has not yet been approved and would be required to consider the existence of the pipeline and pump station, and any future operation. Operation of the pump station would not be in violation of the noise standards set forth in the General Plan for industrial land uses. Therefore the project would not expose persons to or generate noise levels in excess of standards established in the local general plan and consequently the impact would be less than significant.

Impact XI.1: Short-term construction-related activities and long-term operation of the pump station would expose persons to or generate noise levels in excess of applicable, established local regulations.

Mitigation Measure XI.1: During construction of the 4,000-foot replacement section in Martinez, the new owner (SPBPC) will implement the following measures:

- **Require construction contractors to limit noisy construction activity to the hours of 7:00 a.m. to 7:00 p.m., Monday through Saturday, or as specified by the City of Martinez.**
- **Obtain an encroachment permit from the City of Martinez specifying how construction would be sequenced to minimize potential construction impacts.**

- **Conduct regular equipment and maintenance and install mufflers (as appropriate) on all construction equipment to control noise.**
- **Shield and orient compressors and other small stationary equipment such that equipment exhaust would face away from noise sensitive buildings and land uses.**
- **Use existing natural and manmade features (e.g., landscaping, fences) to shield construction noise whenever possible.**

The CPUC's mitigation monitor shall ensure compliance with the above measures during construction.

Significance after mitigation: Less than significant.

b) The project would involve temporary sources of ground borne vibration and ground borne noise during construction from operation of heavy equipment and long-term sources during its operational phase from operation of pumps at the Hercules pump station. During construction of the 4,000-foot replacement section of the pipeline, operation of heavy equipment would generate localized ground borne vibration and ground borne noise that could be perceptible at any sensitive uses in the immediate vicinity of the construction route. However, because the pipeline replacement would take place in an area designated for industrial uses where there are no nearby receptors, and because the duration of impact at any one location would be very brief and would occur during less sensitive daytime hours, the impact from construction-related ground borne vibration and ground borne noise would not be significant.

Over the long-term, operation of the Hercules pump station could generate ground borne vibration and ground borne noise in the immediate vicinity. Because of the setbacks included in the original design of the pump station, ground borne vibration and ground borne noise from the operations at the station would not be perceptible by nearby sensitive receptors. Therefore, the impact would be less than significant and no mitigation is required.

c) As described under Impact a) the project would activate an existing source of noise at the Hercules pump station; because the pipeline is buried, and because fuel oil pipelines do not create audible sound during operations, noise at other locations along the existing pipeline route and the replacement section in Martinez would not increase as a result of recommencing operation of the pipeline. Although recommencing operations at the pump station would result in an increase in ambient noise levels at the site over existing conditions, this increase would be consistent with the ambient noise standards established by the City of Hercules for industrial land uses. Therefore, the impact would be less than significant and no mitigation is required.

d) The project would result in temporary and intermittent noise increases due to construction. The effect of this noise would depend upon how much noise would be generated by the equipment, the distance between construction activities and the nearest noise-sensitive uses, and the existing noise levels at those sensitive uses. Project construction would involve use of equipment that would typically generate noise levels in the 75 to 90 dBA range within 50 feet. The section of the pipeline that would be replaced would be predominantly located in areas designated for industrial uses and as open space.

However, with implementation of **Mitigation Measure XI.1** above, construction equipment would be well muffled and the residual impact of project construction would occur only during the less sensitive daylight hours, and thus would not disrupt sleep. This mitigation would reduce the potential to create a substantial temporary or periodic increase in ambient noise levels to a less than significant level.

Impact XI.2: Construction-related activities would lead to a substantial temporary or periodic increase in the ambient noise levels in the project vicinity above levels existing without the project.

Mitigation Measure: Implementation of Mitigation Measure XI.1.

Significance after mitigation: Less than significant.

e) The project is not located within two miles of a public airport and is not within an airport land use plan area.

f) The project is not located in the vicinity of a private airstrip.