

1.09 DUST CONTROL

Delete Articles 1.09 A and B and replace as follows:

- A. The Contractor shall provide a dust control plan conforming to the Bay Area Air Quality Management District (BAAQMD) requirements for Enhanced Control Measures. The Contractor shall provide dust control at all times, including holidays and weekends, as required to abate dust nuisance on and about the site resulting from construction activities. Dust control shall be by means of water tank trucks, sprinkler systems, or by other approved methods, except that chemicals, oil, or similar palliative shall not be used.
- B. Quantities and equipment for dust control shall be sufficient to effectively prevent dust nuisance on and about the jobsite; and when weather conditions warrant, sprinkling equipment shall be on hand at all times for immediate availability. During periods of dry weather, all active construction areas shall be watered at least twice daily.

Add Article 1.09 H as follows:

- H. Dust sensitive Areas: The following are areas at or in the vicinity of the jobsite that will require additional control measures to eliminate health hazards, disturbance to the public or exposure of sensitive BART Operating System equipment to dust and flying particles generated during construction.
 - 1. Public streets having high volumes of pedestrian and vehicular traffic.
 - 2. Locations in or near BART passenger stations or parking lots.
 - 3. Locations near gap breaker stations or other sensitive electrical equipment.

Additional control measures include enclosures or shrouds placed around the work area, scheduling of work to avoid dust generation during periods of high wind, or use of vacuum equipment for collection of airborne dust.

1.11 NOISE CONTROL

Delete Article 1.11 A and replace as follows:

- A. Requirements: Minimize noise caused by construction operations. Methods for noise reduction may include but not be limited to the following:
 - 1. Provide working machinery and equipment fitted with efficient noise suppression devices. Employ effective intake and exhaust mufflers on all internal combustion engines and compressors.
 - 2. Use energy efficient equipment.
 - 3. Where feasible, use electric-powered equipment instead of diesel equipment, and hydraulic tools instead of pneumatic tools.
 - 4. Avoid unnecessary idling of equipment.

5. Maintain equipment in good working order.
6. Maintain temporary noise control barriers around all noise-generating equipment and provide barriers around particularly noisy areas on the site.
7. Line hopper storage bins and chutes with sound-deadening material.
8. Locate stationary noise generating equipment to minimize noise impacts on nearby receptors.
9. Maintain a storage area with portable noise barriers for use in responding to alerts from the District Community Relations Representative, the City, or the Engineer regarding the need for additional noise suppression at sensitive sites. Furnish and store an adequate quantity of noise barriers as required to meet noise control requirements.
10. Eliminate the use of impact-hammer pile driving equipment by using alternative shoring methods. Impact-hammer pile driving equipment shall not be used unless approved by the Engineer. If impact-hammer pile driving equipment is used, place portable noise control barriers around the work and schedule the noisiest activities to minimize the amount of time when residents are home or schools are in session, and shroud the pile drivers with noise barrier materials. Provide 1 week's advance notice to the District in order for the Community Relations representative to provide advance notice to the public.

Add Article 1.11 G as follows:

- G. Sensitive Noise Receptors: The following are special noise receptor zones that will require additional noise control and scheduling measures to minimize disturbance to the public from noise generated during construction operations:
1. Chabot Road near the West Portal of the Berkeley Hills Portal: This area is close to a school and residences northwest of the BART tracks.
 2. Rockridge and MacArthur BART Stations: Construction in these areas could expose BART patrons, employees, and the general public to disturbing noise levels.
 3. Claremont Avenue and Hudson Street: Noise control barriers are required at the South side of Piers P-59, P-60, and P-61 to provide a maximum reduction of noise impacts on nearby residential area.

In addition to the areas described above, other areas in the vicinity of the Work may be identified during construction.

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- D. All trucks coming to the jobsite or leaving the jobsite with materials or loose debris shall be loaded in a manner that will prevent dropping of materials or debris on streets. Spillage resulting from hauling operations along or across any public traveled way shall be removed immediately.

1.11 NOISE CONTROL

- A. Requirements: Minimize noise caused by construction operations, and provide working machinery and equipment fitted with efficient noise suppression devices. Employ other noise abatement measures as necessary for protection of employees and the public. In addition, restrict working hours and schedule operations in a manner that will minimize, to the greatest extent feasible, disturbance to residents in the vicinity of the Work.

- B. Definitions:

1. Daytime refers to the period from 7:00 a.m. to 7:00 p.m. local time daily except Sundays and legal holidays.
2. Nighttime refers to all other times including all day Sunday and legal holidays.
3. Construction Limits are defined for the purpose of these noise control requirements as the District right-of-way lines, construction easement boundaries, or property lines as shown on the Contract Drawings.
4. Zones, Special Zones, and Special Construction Sites outside of the Construction Limits shall be as designated by the local authority having jurisdiction. Such specially designated zones shall be treated by the Contractor as if they were within the Construction Limits.

- C. Monitoring:

1. Monitor noise levels of work operations to assure compliance with the noise limitations specified herein. Retain record of noise measurements for inspection by the Engineer.
2. Promptly inform the Engineer of any complaints received from the public regarding noise. Describe the action proposed and the schedule for implementation, and subsequently inform the Engineer of the results of the action.
3. Monitor noise levels day and night and for each new activity or piece of equipment. Start by measuring 3 times a day plus once a night for three consecutive days. Monitor noise levels at least once a week thereafter.

- D. Measurement Procedure:

1. Except where otherwise indicated, perform all noise measurements using the A-weight network and "slow" response of an instrument complying with the criteria for a Type 2 General Purpose sound level meter as described in ANSI S1.4.

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2. Measure impulsive or impact noises with an impulse sound level meter complying with the criteria of IEC 179 for impulse sound level meters. As an alternative procedure, a Type 2 General Purpose sound level meter on C-weighting and "fast" response may be used to estimate peak values of impulsive or impact noises. Transient meter indications of 125 dbC "fast" or higher will be considered as indications of impulsive noise levels of 140 d or greater.
3. Measure noise levels at buildings affected acoustically by the Contractor's operations at points between 3 feet and 6 feet from the building face to minimize the effect of reflections.
4. Measure noise levels at points on the outer boundaries of Construction Limits or Special Construction Sites for noise emanating from within.
5. Where more than one criterion of noise limits is applicable, use the more restrictive requirement for determining compliance.

E. Continuous Construction Noise: Prevent noise from stationary sources, parked mobile sources, or any source or combination of sources producing repetitive or long-term noise lasting more than a few hours from exceeding the following limits:

1. Maximum Allowable Continuous Noise Level, dBA:

<u>Affected Residential Area</u>	<u>Daytime</u>	<u>Nighttime</u>
Single family residence	60	50
Along an arterial or in multi-family residential areas, including hospitals	65	55
In semi-residential/commercial areas, including hotels	70	60
 <u>Affected Commercial Area</u>		<u>At All Times</u>
In semi-residential/commercial areas, including schools	65	
In commercial areas with no nighttime residency	70	
 <u>Affected Industrial Area</u>		
All locations	80	

F. Intermittent Construction Noise: Prevent noises from non-stationary mobile equipment operated by a driver or from any source of non-scheduled, intermittent, non-repetitive, short-term noises not lasting more than a few hours from exceeding the following limits:

1. Maximum Allowable Intermittent Noise Level, dBA:

<u>Affected Residential Area</u>	<u>Daytime</u>	<u>Nighttime</u>
Single family residence areas	75	60
Along an arterial or in multi-family residential areas,	75	65

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including hospitals		
In semi-residential/commercial areas, including hotels	80	70
<u>Affected Commercial Area</u>		<u>At All Times</u>
In semi-residential/commercial areas, including schools		80
In commercial areas with no nighttime residency		85
<u>Affected Industrial Area</u>		
All locations		90

END OF SECTION 01 57 00