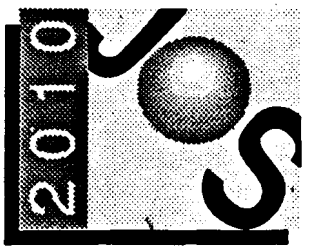
Chapter 9
Noise



Chapter 9. Noise

INTRODUCTION

This chapter describes the regional and local noise settings and identifies noise impacts of the 2010 Plan using information from Los Angeles County and the Cities of Carson, Cerritos, Industry, Los Angeles, Montebello, and South El Monte. Information on construction- and operations-related noise sources at the wastewater treatment plants was provided directly by the Districts. Background information on environmental acoustics and state and federal noise regulations is provided in Appendix D, "Noise".

As described in Chapter 1, "Introduction", this EIR provides project-specific review in compliance with CEQA for full secondary treatment and solids processing at the JWPCP. Other elements of the 2010 Plan are analyzed on a program level when site-specific information is unavailable or locations of sites are not identified.

SETTING

Implementation of the 2010 Plan would involve expansion or modification of several facilities in the JOS service area. Most jurisdictions have noise ordinances, which serve as enforcement mechanisms to control noise, and general plan noise elements, which are used as planning guides to ensure that noise generated by a source is compatible with adjacent land uses. The following is a brief discussion of the regional setting and the regulatory and physical noise settings near each facility that could be affected by the 2010 Plan. Specific information on actual noise levels near the inland WRPs was not available from local jurisdictions in the JOS service area. To determine existing noise levels at sensitive receptors surrounding the JWPCP, traffic noise modeling was performed according to the methodology described below under "Existing Noise Conditions".

Regional Setting

Because the JOS service area is located in the urban portions of southern and eastern Los Angeles County, automobile, bus, and truck traffic are its major noise sources. Air and rail traffic and commercial and industrial activities are also sources of noise in some parts of the JOS service area (City of Los Angeles Water Management Division and U.S. Environmental Protection Agency 1990).

The County of Los Angeles General Plan Noise Element establishes noise-related goals and policies and describes the general noise environment in Los Angeles County. Los Angeles County has also adopted a noise ordinance that recommends maximum expected ambient noise levels for four land use categories (Gomez pers. comm.):

- Noise-sensitive areas: For noise-sensitive areas, the maximum expected ambient noise level is 45 decibels (dB) anytime.

- Residential: For residential land uses, the maximum expected ambient daytime (7 a.m.-10 p.m.) noise level is 50 dB. The maximum expected ambient nighttime (10 p.m.-7 a.m.) noise level is 45 dB.

- Commercial: For commercial land uses, the maximum expected ambient daytime noise level is 60 dB. The maximum expected ambient nighttime noise level is 55 dB.

- Industrial: For industrial land uses, including JOS facilities, the maximum expected ambient noise level is 70 dB anytime.

If the measured ambient noise level at a specific project location exceeds the expected ambient levels, the measured ambient noise level should be used as the baseline noise level.

Noise Standards

Exterior noise standards in Los Angeles County are as follows:

- The baseline noise level for a given land use may not be exceeded for more than 30 minutes in any 1-hour period.

- The baseline noise level plus 5 dB may not be exceeded for more than 15 minutes in any 1-hour period.

- The baseline noise level plus 10 dB may not be exceeded for more than 5 minutes in any 1-hour period.

- The baseline noise level plus 15 dB may not be exceeded for more than 1 minute in any 1-hour period.

- The baseline noise level plus 20 dB may not be exceeded for any period of time.

In addition, Los Angeles County has interior noise standards. For all multifamily residential land uses, the allowable interior noise level is 40 dB at night and 45 dB during the day. The allowable interior noise level may not be exceeded for more than 5 minutes in any 1-hour period, and the allowable interior noise level plus 5 dB cannot be exceeded for more than 1 minute in any 1-hour period. The allowable interior noise level plus 10 dB

or the maximum measured ambient noise level may not be exceeded for any period of time. If the measured ambient noise level exceeds the allowable interior level, each standard described above may be increased by 5 dB.

Construction Noise Requirements

Los Angeles County has specific restrictions for construction-related noise. The noise ordinance includes maximum noise levels for short-term and long-term construction activities. For short-term construction, maximum noise levels from 7 a.m. to 8 p.m., excluding Sundays and holidays are 75 dB for single-family residential land uses, 80 dB for multifamily residential land uses, and 85 dB for semi-residential/commercial land uses. From 8 p.m. to 7 a.m. daily and all day on Sundays and holidays, maximum noise levels are 60 dB for single-family residential land uses, 65 dB for multifamily residential land uses, and 70 dB for semi-residential/commercial land uses.

For long-term construction, maximum noise levels from 7 a.m. to 8 p.m., excluding Sundays and holidays, are 60 dB for single-family residential land uses, 65 dB for multifamily residential land uses, and 70 dB for semi-residential/commercial land uses. From 8 p.m. to 7 a.m. daily and all day on Sundays and holidays, maximum noise levels are 50 dB for single-family residential land uses, 55 dB for multifamily residential land uses, and 60 dB for semi-residential/commercial land uses.

Joint Water Pollution Control Plant

The JWPCP is located in Carson and is adjacent to the Wilmington community in the City of Los Angeles. Because communities in both jurisdictions could be affected by noise generated at the JWPCP, the applicable noise guidelines for both jurisdictions are described below.

City of Carson

Carson's noise ordinance identifies several types of noise-producing activities that are considered unacceptable within city limits. The noise ordinance states that operation of any electric motor or engine, machine, or mechanical device between the hours of 11 p.m. and 7 a.m. is unacceptable unless the device is enclosed in a sound-insulated structure that prevents noise from being plainly audible 50 feet from the structure or within 10 feet of any residence.

The Carson noise ordinance also restricts to the hours between 7 a.m. and 6 p.m. the operation of certain equipment, including a pile driver, steam shovel, pneumatic hammer, derrick, hoist, or "other appliance" that produces loud or unusual noise. Furthermore, the

erection, demolition, alteration, construction, or repair of any building is restricted to the hours from 7 a.m. to 6 p.m., except in emergency situations.

The Carson General Plan Noise Element background report lists expected ambient noise levels for single-family residential, multifamily residential, commercial, and industrial land uses. The noise element states that raising the ambient noise level of any area by 5 dB would result in a "slightly noisy" sound level.

For single-family residential land uses in Carson, the expected ambient daytime (7 a.m.-7 p.m.) noise level is 55 dB. The expected ambient early evening (7 p.m.-10 p.m.) noise level is 50 dB, and the expected ambient nighttime (10 p.m.-7 a.m.) noise level is 45 dB.

For multifamily residential land uses in Carson, the expected ambient daytime noise level is 55 dB. The expected ambient evening and nighttime noise level is 50 dB.

For commercial land uses in Carson, the expected ambient daytime noise level is 60 dB. The expected ambient evening and nighttime noise level is 55 dB. For industrial land uses in Carson, the expected ambient noise level is 70 dB anytime. According to the City of Carson, the JWPCP is considered to be an industrial land use (Mellein pers. comm.).

City of Los Angeles

The City of Los Angeles General Plan Noise Element lists expected ambient noise levels for various land uses. These land use categories are not as clearly defined as those described above for Carson, but they translate approximately to residential, commercial, industrial, and heavy industrial.

The expected ambient noise level in residential areas during the day (7 a.m.-10 p.m.) is 50 dB and during the night (10 p.m.-7 a.m.) is 40 dB. The expected ambient noise level in commercial areas during the day is 60 dB and during the night is 55 dB.

The expected ambient noise level in industrial areas is 65 dB at all times. The expected ambient noise level in heavy industrial areas is 70 dB at all times. According to the City of Los Angeles, the JWPCP is considered to be a heavy industrial land use (Rittenhouse pers. comm.).

The City of Los Angeles has adopted a noise ordinance that prevents an intruding noise from increasing the ambient noise level of an area by more than 5 dB. When applied to specific project locations, if the measured ambient noise level exceeds the expected ambient noise level, the measured ambient noise level should be used as the baseline (City of Los Angeles Water Management Division and U.S. Environmental Protection Agency 1990).

The city also requires that adjustments be applied to noise level measurements to determine whether a violation of the ordinance has occurred. For any noise with an audible fundamental frequency of 200 hertz (Hz), 5 dB should be added to the noise level measurement. For any repeated, impulsive noise, 5 dB should be added to the noise level measurement. For any noise occurring for less than 15 minutes in any consecutive 1-hour period between 7 a.m. and 10 p.m., 5 dB should be subtracted from the noise level measurement.

Existing Noise Conditions

The JWPCP is located directly adjacent to the Harbor Freeway (I-110). Consequently, the noise environment in the area is dominated by traffic noise. The Pacific Coast Highway (SR 1) also passes near the plant. Sensitive receptors near the facility include residences to the north, south, east, and west; several schools to the north, east, and west; Bay Harbor Hospital to the west; and Kaiser Foundation Hospital to the southwest.

Noise Modeling. Existing traffic noise levels at sensitive receptors surrounding the JWPCP were evaluated through use of the Federal Highway Administration (FHWA) Traffic Noise Prediction Model (FHWA-RD-77-108). No noise monitoring was performed at the JWPCP. This model estimates average noise levels at fixed distances from the roadway centerline based on roadway geometrics, estimated traffic volumes for automobiles and medium- and heavy-duty trucks, vehicle speeds, and a designated noise drop-off rate. Shielding effects from topographical features, buildings, and other barriers are not accounted for in the model. This produces a conservative, worst-case estimate of traffic-generated noise levels.

Additional information used in the noise analysis includes existing patterns for the distribution of daily traffic by time of day, available data regarding the amount of medium- and heavy-duty truck traffic, and the number of lanes on each roadway modeled. Where specific data were not available, Jones & Stokes Associates' traffic estimates were used. Existing traffic volumes were based on counts taken by Caltrans and the City of Los Angeles Department of Public Works.

The FHWA model was programmed to evaluate noise levels over a 24-hour traffic cycle. Hourly traffic speeds were computed from hourly traffic volumes, hourly roadway capacity values, and free-flow speed estimates. The resulting hourly average noise levels at the modeled receptor locations were then summed to determine 24-hour day-night average sound level (L_{dn}) values under existing conditions. The L_{dn} represents a weighted average 24-hour noise level with 10 dB added to noise levels occurring during the hours from 10 p.m. to 7 a.m. to reflect the greater disturbance potential of nighttime noises.

Results of Noise Modeling. Noise modeling results indicated that houses along Lomita Boulevard are exposed to an L_{dn} of approximately 63-64 dB, the specific value depending on their proximity to I-110. Wilmington Junior High School is exposed to an L_{dn} of approximately 62 dB.

Although pumps, aerators, trucks and other equipment at the facility generate noise, no adverse effects have been reported from surrounding neighborhoods. No complaints have been received from neighbors or users of other sensitive land uses in the area regarding noise from the JWPCP.

Los Coyotes Water Reclamation Plant

The Los Coyotes WRP is located in Cerritos. The Cerritos noise ordinance lists maximum acceptable noise levels applicable within the city limits. These levels are divided based on land use: 50 dB in residential or agricultural areas, 60 dB in commercial areas, and 70 dB in industrial areas. The Los Coyotes WRP is considered an industrial land use. The ordinance states that no noise shall be generated that causes these noise levels to be exceeded by more than 5 dB.

For any repeated, impulsive noise or steady, audible tone, 5 dB should be subtracted from the maximum sound-level limit to determine whether a violation of the ordinance has occurred. The following adjustments should be applied to the maximum sound level limit only between 7 a.m. and 7 p.m., except for uses in or near residential areas: For any noise occurring for less than 15 minutes per hour, 5 dB should be added to the maximum sound level. For any noise occurring for less than 5 minutes per hour, 10 dB should be added to the maximum sound level. For any noise occurring for less than 1 minute per hour, 15 dB should be added to the maximum sound level.

The City of Cerritos General Plan Noise Element establishes policies designed to control noise levels in the city. Traffic is the main source of noise generated in the city.

Existing Noise Conditions

The Los Coyotes WRP is located adjacent to the Artesia Freeway (SR 91) and the San Gabriel River Freeway (I-605). Consequently, traffic noise generated by automobiles, buses, and trucks using these freeways is the main source of noise in the area. Sensitive noise receptors near the Los Coyotes WRP are Cerritos College to the east, Bellflower High School to the northwest, Valley Christian High School to the south, Bellwood Hospital to the southwest, and a church to the south. No sensitive receptors are located adjacent to the Los Coyotes WRP. No complaints related to noise from this facility have been received.

San Jose Creek Water Reclamation Plant

Although the San Jose Creek WRP is located in the unincorporated area of Los Angeles County, the plant site is adjacent to the City of Industry and South El Monte, and

these areas could be affected by noise generated at the San Jose Creek WRP. Relevant general plan policies and ordinances are described above for Los Angeles County and below for the City of Industry and South El Monte.

City of Industry

The City of Industry has no noise ordinance. The city's general plan noise element describes the general noise environment and noise level policies. Only two types of zones, commercial and industrial, have been designated in the city. Although, some residences were built in the city when the area was primarily used for agricultural purposes, these residences are at variance with city zoning and are zoned either commercial or agricultural-industrial. Because the city is predominantly industrial, few sensitive areas exist that could be exposed to noise (C&C Engineering 1974).

South El Monte

The South El Monte noise ordinance lists maximum permissible sound levels by zone. These zones are low-density residential, multifamily residential or public land use, commercial or commercial/manufacturing, and manufacturing. In specific project locations, if the measured ambient noise level exceeds the maximum permissible sound levels listed below, the measured ambient noise level should be used as the baseline.

For low-density residential zones, the maximum permissible daytime (7 a.m.-10 p.m.) sound level is 55 dB and the maximum permissible nighttime (10 p.m.-7 a.m.) sound level is 45 dB. For multifamily residential zones, the maximum permissible daytime sound level is 60 dB and the maximum permissible nighttime sound level is 50 dB. For commercial or commercial/manufacturing zones, the maximum permissible sound level is 60 dB in the daytime and 55 dB at night. For manufacturing zones, the maximum permissible sound level is 70 dB anytime.

Exterior noise limits based on the maximum permissible sound levels described above are as follows:

- The maximum permissible sound level for a given zone may not be exceeded for more than 30 minutes in any 1-hour period.
- The maximum sound level plus 5 dB may not be exceeded for more than 15 minutes in any 1-hour period.
- The maximum permissible sound level plus 10 dB may not be exceeded for more than 5 minutes in any 1-hour period.

- The maximum permissible sound level plus 15 dB may not be exceeded for more than 1 minute in any 1-hour period.

- The maximum permissible sound level plus 20 dB may not be exceeded for any period of time.

Additionally, if the allegedly offensive noise contains a steady, audible tone such as a whine, screech, or hum, or is a repetitive noise such as hammering or riveting, the exterior noise limits described above should be reduced by 5 dB.

The City of South El Monte General Plan Noise Element serves as an official guide to the city council, planning commission, city departments, businesses, private organizations, and community members concerned with noise pollution in the city. The general plan noise element characterizes noise levels and describes policies applicable to noise issues and includes land use compatibility criteria for noise levels in the city. These criteria describe acceptable community noise equivalent level (CNEL) designations for various land uses. As explained in Appendix D, "Noise", the CNEL is a weighted-average measurement of daily noise levels. These criteria differ from those set forth in the city's noise ordinance, which are applicable only to brief periods within a single hour. Land use compatibility criteria in South El Monte are as follows:

- For low-density residential land uses, 60 dB is the normally acceptable CNEL.

- For multifamily residential and transient lodging land uses (i.e., motels), 65 dB is the normally acceptable CNEL.

- For schools, libraries, churches, hospitals, nursing homes, playgrounds, and neighborhood parks, 70 dB is the normally acceptable CNEL.

- For office, business commercial, and professional buildings, 70 dB is the normally acceptable CNEL.

- For industrial, manufacturing, utility, and agricultural land uses, 75 dB is the normally acceptable CNEL.

In addition, conditionally acceptable, normally unacceptable, and clearly unacceptable CNEL ranges are given for each land use category (J.J. Van Houten & Associates 1981).

Existing Noise Conditions

The San Jose Creek WRP is located behind the Districts offices, adjacent to both I-605 and the Pomona Freeway (SR 60). Consequently, traffic noise generated by automobiles, buses, and trucks using these freeways is the main source of noise in the area. Sensitive land uses near the San Jose Creek WRP include schools to the north, east, and west and residences in all four directions. No sensitive receptors are located adjacent

to the San Jose Creek WRP, and no complaints have been received concerning noise from this facility.

Whittier Narrows Water Reclamation Plant

The Whittier Narrows WRP is located in an unincorporated area of Los Angeles County. However, the WRP is located near the City of Montebello, and noise generated at the WRP could affect the city.

The Montebello noise ordinance lists maximum noise levels for residential, commercial, and industrial land uses in the city. The maximum noise level in a residential area from 7 a.m. to 10 p.m. is 65 dB and from 10 p.m. to 7 a.m. is 60 dB. The maximum noise level in a commercial area is 70 dB anytime, and the maximum noise level in an industrial area is 75 dB anytime.

Exterior noise limits based on maximum allowable noise levels are as follows:

- The maximum noise level for a given land use may not be exceeded for more than 30 minutes in any 1-hour period.
- The maximum noise level for a given land use plus 5 dB may not be exceeded for more than 15 minutes in any 1-hour period.
- The maximum noise level plus 10 dB may not be exceeded for more than 5 minutes in any 1-hour period.
- The maximum noise level plus 15 dB may not be exceeded for more than 1 minute in any 1-hour period.
- The maximum noise level plus 20 dB may not be exceeded for any amount of time.

Additionally, the City of Montebello noise ordinance includes standards for noise generated during manufacturing and industrial processes.

The City of Montebello General Plan Noise Element describes the general noise environment and policies applicable to noise levels in the city. The Santa Ana Freeway (I-5) and SR 60 are major sources of noise in Montebello. Noise levels measured 40 feet from the freeways average about 75 dB, and peak noise levels reach 79 dB. Train traffic along the Santa Fe and UP railroads and spur lines are another major source of noise in the area. Train noise levels approach 80-90 dB at residential locations bordering the train right-of-way. (J. J. Van Houten & Associates 1975.)

Existing Noise Conditions

The Whittier Narrows WRP is located in the Montebello Hills adjacent to San Gabriel Boulevard and Rosemead Boulevard (SR 19). SR 60 is located north of the Whittier Narrows WRP. Because of this location, the main source of noise in the area is automobile, bus, and truck traffic using these freeways. Sensitive land uses near the Whittier Narrows WRP include some residences and schools. Much of the area surrounding this facility is undeveloped. No sensitive receptors are located adjacent to the Whittier Narrows WRP, and no complaints have been received concerning noise from this facility.

Biosolids Disposal and Reuse

Because all biosolids processing occurs at the JWPCP, trucks used for hauling biosolids offsite for disposal or reuse are associated only with the JWPCP. Trucks entering and leaving the plant generate noise, but no noise complaints have been received from nearby community members (see discussion under "JWPCP"). The JWPCP is located directly adjacent to I-110 and major arterials, and the noise environment in the area is dominated by traffic noise.

As described in Appendix D, "Noise", the nature of dB scales is such that the individual sound levels for different noise sources cannot simply be added to arrive at the combined sound level of these sources. Two noise sources producing equal sound levels at a given location will produce a composite sound level that is 3 dB greater than that of either sound alone. When two noise sources differ by 10 dB, the composite noise level will be only 0.4 dB greater than that of the louder source alone. Most people have difficulty distinguishing the louder of two noise sources if they differ by less than 1.5-2.0 dB. Because of this property, noise generated by trucks coming to the plant blends somewhat with other traffic noise in the area and is not considered a major component of overall traffic noise.

IMPACTS AND MITIGATION MEASURES OF THE 2010 PLAN ALTERNATIVES

Methodology and Assumptions for Impact Analysis

Construction-related noise impacts at the JWPCP were evaluated by estimating the amount of noise generated on the theoretical worst-case day of construction activity. This estimate was based on a list and schedule of construction equipment expected to be used during construction activities at the JWPCP. The list was divided into separate contracts, with each contract covering a certain portion of the expansion. The impact analysis focused on the contracts that would involve the greatest amount of construction activity. An average

noise level for each piece of equipment expected to be used during these contracts was estimated (Figure 9-1), and these values were combined to determine the composite construction noise level at the nearest sensitive receptor.

Operation-related noise impacts at the JWPCP were evaluated by estimating the amount of noise generated by new equipment that would be installed at the JWPCP as part of the proposed expansion and upgrade. This estimate was based on a list of equipment expected to be installed by the Districts during expansion and upgrade activities.

Construction- and operation-related noise impacts at the inland WRPs were evaluated by qualitatively assessing construction practices and proposed operational conditions.

Criteria for Determining Significance

Under Appendices G and I of the State CEQA Guidelines, a noise impact is considered significant if it would:

- substantially increase noise levels in noise-sensitive areas,
- expose people to extreme noise levels, or
- generate noise that would conflict with local noise ordinances or planning standards.

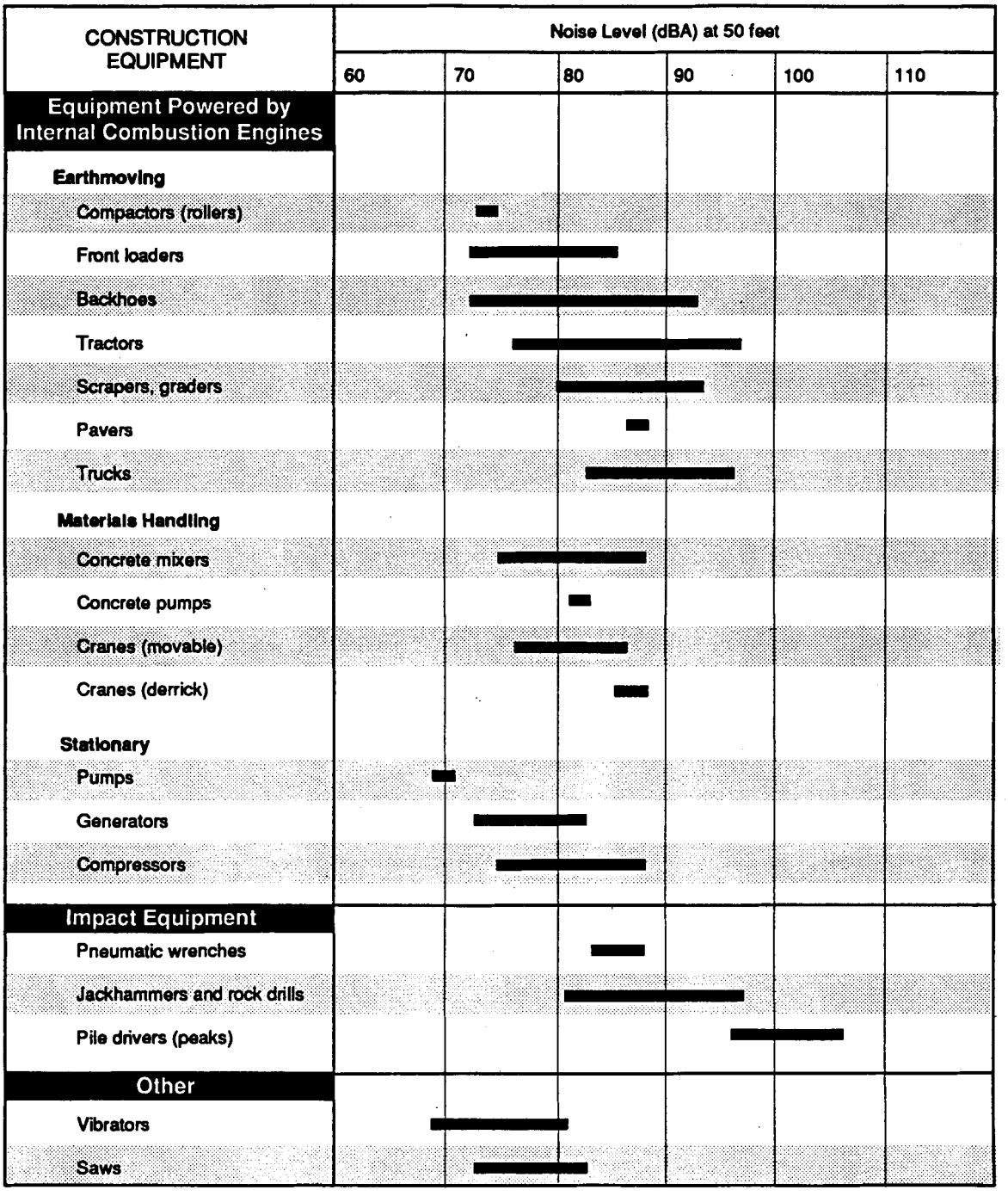
Comparison of Alternatives

Table 9-3 at the end of this chapter shows that the impacts associated with Alternatives 2, 3, and 4 are similar to those associated with Alternative 1, with some variations. These variations are described below for each alternative.

Alternative 1: Upgrade JWPCP/Expand Los Coyotes WRP/San Jose Creek WRP

Construction Impacts

Impact: Increase in Noise Levels during Construction at the JWPCP. Construction of the proposed expansion and upgrade at the JWPCP would occur over an 11-year period. During this period, a varying range of construction vehicles and equipment would be employed at the site. The construction contracts involving the greatest amount of equipment would take place simultaneously during the period from mid-1999 to mid-2002.



COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

Jones & Stokes Associates, Inc.

Figure 9-1
Construction Equipment Noise Ranges

The sensitive receptors closest to the JWPCP construction areas are houses along Lomita Boulevard, located approximately 1,700-2,400 feet south of areas where the loudest construction activities are expected to occur. The next closest sensitive receptor is Wilmington Junior High School, located approximately 2,000-3,300 feet southeast of areas where the loudest construction activities are expected to occur. If all equipment required to complete contracts 4 and 7 were operating simultaneously at some time during the construction period, houses along Lomita Boulevard would be subjected to a maximum 65-dB noise level caused by construction activities during this period. This is a worst-case scenario, as all pieces of equipment are unlikely to be operating simultaneously. Under this worst-case scenario, the junior high school would experience a maximum 62-dB noise level caused by construction activities. These values were calculated based on noise levels shown in Tables 9-1 and 9-2.

The sensitive receptors described above are in the City of Los Angeles. The City of Los Angeles General Plan Noise Element states that the expected ambient noise level in residential areas during the day is 50 dB. The city's noise ordinance states that the expected ambient noise level in a given area may not be increased by more than 5 dB. If the measured preproject ambient noise level is greater than 50 dB, the measured value should be used as the baseline. Results of traffic noise modeling show that 61 dB is the lowest noise level equivalent (L_{eq}) at houses nearest I-110 during hours when construction would take place. Because 61 dB is greater than the expected ambient noise level of 50 dB, 61 dB should be used as the baseline at this receptor. Adding the maximum construction noise level to this value yields an overall L_{eq} of 66.5 dB, an increase of more than 5 dB from the baseline.

Neither the city's noise element nor its noise ordinance explicitly states noise level restrictions for schools. For this analysis, the noise-level restrictions applied to residential land uses will be applied to the school. This is a conservative approach because residential noise limits are usually more stringent than limits for any other land use. Results of traffic noise modeling show that 60 dB is the lowest L_{eq} at the junior high school during the hours when construction would take place. Because 60 dB is greater than the expected ambient noise level of 50 dB, 60 dB should be used as the baseline at this receptor. Adding the maximum construction noise level to this value yields an overall L_{eq} of 64 dB, an increase of less than 5 dB from the baseline.

Because houses along Lomita Boulevard would be exposed to a noise-level increase of greater than 5 dB caused by construction (Wilmington Junior High School would not), this alternative is expected to generate noise levels that would be inconsistent with local noise ordinances. This impact is considered significant.

Mitigation. Implementation of the following mitigation measure would be required to reduce this impact to a less-than-significant level:

Table 9-1. Estimated Construction Noise from
JWPCP Expansion and Upgrade Contract #4

Distance Attenuation		Distance to dB Contours	
Distance to Receptor (feet)	Sound Level at Receptor (dBA)	Sound Level at Contour (dBA)	Distance to Contour (feet)
50	96	95	0
100	90	90	102
200	84	85	181
400	78	80	325
600	74	75	549
800	71	70	869
1,000	69	65	1,469
1,500	65	60	2,130
2,500	61	55	3,145
2,000	59	50	5,037
3,000	56	45	5,654
4,000	52	40	7,702
5,280	48	35	8,396
7,500	42	30	9,152

Notes: Calculations include the effects of atmospheric absorption at a drop-off rate of 0.5 dB/100 meters. Local shielding from buildings and topography will substantially reduce sound levels; effects of such shielding are not included.

Except for sounds with highly distinctive tonal characteristics, noise from a particular source will not be identifiable when its noise level is substantially less than background noise levels.

The following assumptions were used:

Contract #4 equipment source levels at 50 feet:

- 2 scrapers 90
- 1 roller 73
- 2 cranes 87
- 3 front-end loaders 89
- 1 grader 87
- 4 compressors 90
- 2 forklifts 87

Composite equipment source level: 96
Basic sound level drop-off rate: 6.0 dB per doubling of distance
Atmospheric absorption coefficient: 0.5 dB per 100 meters
Distance for reference noise level: 50 feet

Table 9-2. Estimated Construction Noise from
JWPCP Expansion and Upgrade Contract #7

Distance Attenuation		Distance to dB Contours	
Distance to Receptor (feet)	Sound Level at Receptor (dBA)	Sound Level at Contour (dBA)	Distance to Contour (feet)
50	98	95	75
100	92	90	130
200	86	85	227
400	80	80	397
600	76	75	656
800	73	70	1,075
1,000	71	65	1,870
1,500	67	60	2,588
2,500	64	55	3,943
2,000	61	50	5,298
3,000	59	45	7,337
4,000	55	40	7,998
5,280	50	35	8,719
7,500	44	30	9,504

Notes: Calculations include the effects of atmospheric absorption at a drop-off rate of 0.5 dB/100 meters. Local shielding from buildings and topography will substantially reduce sound levels; effects of such shielding are not included.

Except for sounds with highly distinctive tonal characteristics, noise from a particular source will not be identifiable when its noise level is substantially less than background noise levels.

The following assumptions were used:

Contract #7 equipment source levels at 50 feet:

- 6 scrapers	96
- 1 roller	73
- 4 cranes	90
- 2 front-end loaders	87
- 1 grader	87
- 2 compressors	87
- 2 forklifts	87

Composite equipment source level:	98
Basic sound level drop-off rate:	6.0 dB per doubling of distance
Atmospheric absorption coefficient:	0.5 dB per 100 meters
Distance for reference noise level:	50 feet

■ **Mitigation Measure 9-1. Implement noise-reducing construction practices.**

The Districts propose to require all contractors to implement the following noise-reducing construction practices during construction:

- Restrict construction within 2,000 feet of residences to the period between 7:00 a.m. and 6:00 p.m. on weekdays. No construction would be performed within 2,000 feet of an occupied dwelling unit on Sundays or legal holidays, or between the hours of 6:00 p.m. and 7:00 a.m. on other days.

- Perform routine maintenance, including oil changes and tune-ups, of all construction vehicles and equipment according to manufacturers' specifications.

- Supply all equipment with sound-control devices no less effective than those provided on the original equipment. No equipment would have an unmuffled exhaust.

- Implement appropriate additional noise mitigation measures as directed by the Districts, including, but not limited to, changing the location of stationary construction equipment, shutting off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, or installing acoustic barriers around stationary construction noise sources.

Implementing this measure would reduce the impact to a less-than-significant level because well-maintained equipment would produce less noise, as would equipment supplied with sound-control devices. Furthermore, limiting the hours of construction would reduce the chance of disturbing residents during hours when they sleep.

Impact: Increase in Noise Levels during Construction at the Los Coyotes and San Jose Creek WRPs. Expansion of the Los Coyotes and San Jose Creek WRPs would not take as long or involve as much equipment as proposed construction activities at the JWPCP. Additionally, no sensitive receptors are located adjacent to either of these facilities. Therefore, this impact is considered less than significant.

Mitigation. No mitigation is required.

Impacts of Treatment Plant Operations

Impact: Increase in Noise Levels during Operation at the JWPCP. Implementation of Alternative 1 would involve the installation of several additional pieces of equipment at the JWPCP, including reactor gearboxes, a cryogenic plant, cryogenic plant facilities, and

various other secondary treatment facilities. Operation of this additional equipment would generate an approximate 5-dB increase in noise levels in and around the plant, based on the proposed increase in equipment horsepower. As stated in the City of Los Angeles noise ordinance, the expected ambient noise level in a given area may not be increased by more than 5 dB. Therefore, this alternative would generate noise at levels that would be inconsistent with the City of Los Angeles noise ordinance. This impact is considered significant.

Mitigation: Implementation of the following mitigation measure would be required to reduce this impact to a less-than-significant level:

- **Mitigation Measure 9-2. Design new mechanical systems to keep noise below local noise ordinance standards.**

  The Districts propose to design new mechanical systems to keep noise below local noise ordinance standards. Project engineers and designers would lay out and design new equipment and systems proposed for operation at the JWPCP in a way that would preclude their increasing noise levels at sensitive receptors by more than 5 dB. Modifications to reduce reactor gearbox and cryogenic plant noise would be addressed and incorporated into new designs. Proposed design and physical layouts would be demonstrated to meet this criterion before the start of construction and/or upgrades.

Impact: Increase in Noise Levels during Operation at the Los Coyotes and San Jose Creek WRPs. Under Alternative 1, Los Coyotes WRP treatment capacity would be increased from 37.5 mgd to 50 mgd and San Jose Creek WRP treatment capacity would be increased from 100 mgd to 125 mgd. Implementation of Alternative 1 would require installation of additional equipment at these plants, although substantially less equipment than would be installed at the JWPCP. Operation of this additional equipment would increase noise levels in areas surrounding the plants; however, this increase is likely to be less than the 5-dB increase that would occur at the JWPCP. An increase less than 5 dB would barely be audible.

Land uses surrounding the expansion areas at the Los Coyotes and San Jose Creek WRPs are not sensitive and consist of freeways and other major roadways. The Los Coyotes WRP is surrounded by buffering land uses such as SCE and Los Angeles County Flood Control District property, the Ironwood Golf Course and Driving Range, the San Gabriel and Artesia Freeways, and the San Gabriel River. The San Jose Creek WRP expansion area is also surrounded by buffering land uses such as LADWP land, the San Gabriel River, the San Jose Creek Diversion Channel, and SR 60. In addition to being a buffer, SR 60 produces noise that blends with noise generated at the San Jose Creek WRP. As mentioned above, no complaints have been received regarding noise generated by the Los Coyotes WRP or the San Jose Creek WRP.

Because the increase in noise generated during operation of the Los Coyotes and San Jose Creek WRPs under Alternative 1 is expected to barely audible, and because no sensitive receptors are in the immediate vicinity of either plant, this alternative would not be expected to considerably increase noise levels in noise-sensitive areas. This impact is considered less than significant.

Mitigation. No mitigation is required.

Impacts of Biosolids Disposal and Reuse

Impact: Minimal Increase in Noise Levels Resulting from Biosolids Disposal and Reuse. Implementation of the 2010 Plan would increase the amount of biosolids generated by the Districts, resulting in increased disposal and reuse activities. These activities would generate more truck-related traffic, which would generate more noise. However, the additional traffic would not substantially increase noise levels, and the Districts would continue to comply with appropriate noise standards for these activities. This impact is considered less than significant

Mitigation. No mitigation is required.

Alternative 2: Upgrade JWPCP/Expand Los Coyotes WRP

Under Alternative 2, impacts at the JWPCP and the Los Coyotes WRP would be the same as under Alternative 1. No impacts would occur at the San Jose Creek WRP. Construction of a relief sewer line would result in an additional impact, which is described below.

Impact: Increase in Noise Levels during Construction of Sewer Lines. Implementation of Alternative 2 would involve construction of a relief sewer to accommodate increased flows from the expanded facilities. Construction of expanded sewer facilities could increase noise levels in noise-sensitive areas. However, the construction schedule for each segment of sewer is short and construction would involve minimal amounts of equipment. Therefore, this impact is considered less than significant.

Mitigation. No mitigation is required.

Alternative 3: Upgrade JWPCP/Expand Whittier Narrows WRP

Under Alternative 3, impacts at the JWPCP would be the same as under Alternatives 1 and 2. No impacts would occur at the Los Coyotes or San Jose Creek WRPs. Impacts at the Whittier Narrows WRP are described below.

Construction Impacts

Impact: Increase in Noise Levels during Construction at the Whittier Narrows WRP. This impact is considered less than significant for reasons described above under Alternative 1 for the San Jose Creek and Los Coyotes WRPs.

Mitigation. No mitigation is required.

Impacts of Treatment Plant Operations

Impact: Increase in Noise Levels during Operation at the Whittier Narrows WRP. Under Alternative 3, Whittier Narrows WRP treatment capacity would be increased from 37.5 mgd to 52.5 mgd. This impact is considered less than significant for reasons similar to those described above under Alternative 1 for the Los Coyotes and San Jose Creek WRPs.

Mitigation. No mitigation is required.

Alternative 4: Upgrade Los Coyotes WRP/Expand San Jose Creek WRP/Whittier Narrows WRP

Under Alternative 4, impacts at the JWPCP and the Los Coyotes and San Jose Creek WRPs would be the same as under Alternative 1, impacts on sewers would be the same as under Alternative 2, and impacts at the Whittier Narrows WRP would be the same as under Alternative 3. No additional impacts would occur under this alternative.

No-Project Alternative

Under the No-Project Alternative, no increase in treatment capacity or upgrade in the level of treatment would occur at the JWPCP or any of the inland WRPs. Therefore, no increase in noise levels generated at the JWPCP or the inland WRPs would occur. No significant noise impacts would result under this alternative.

Table 9-3. Comparison of Noise Impacts by Alternative

Impacts and Mitigation Measures	Alternative 1			Alternative 2			Alternative 3		Alternative 4				
	JWPCP	LC	SJC	JWPCP	LC	Sewers	JWPCP	WN	JWPCP	LC	SJC	WN	Sewers
Construction Impacts													
Impact: Increase in noise levels during construction at the JWPCP (S)	✓			✓			✓		✓				
Mitigation Measure 9-1. Implement noise-reducing construction practices													
Impact: Increase in noise levels during construction at the Los Coyotes and San Jose Creek WRPs (LT)		✓	✓		✓					✓	✓		
No mitigation is required													
Impact: Increase in noise levels during construction of sewer lines (LT)						✓							✓
No mitigation is required													
Impact: Increase in noise levels during construction at the Whittier Narrows WRP (LT)								✓				✓	
No mitigation is required													
Impacts of Treatment Plant Operations													
Impact: Increase in noise levels during operation at the JWPCP (S)	✓			✓			✓		✓				
Mitigation Measure 9-2. Design new mechanical systems to keep noise below local noise ordinance standards													
Impact: Increase in noise levels during operation at the Los Coyotes and San Jose Creek WRPs (LT)		✓	✓		✓					✓	✓		
No mitigation is required													

LT = less than significant. S = significant.

Impacts and Mitigation Measures	Alternative 1			Alternative 2			Alternative 3		Alternative 4				
	JWPCP	LC	SJC	JWPCP	LC	Sewers	JWPCP	WN	JWPCP	LC	SJC	WN	Sewers
Impact: Increase in noise levels during operation at the Whittier Narrows WRP (LT) No mitigation is required								✓				✓	
Impacts of Biosolids Disposal and Reuse Impact: Minimal increase in noise levels resulting from biosolids disposal and reuse (LT) No mitigation is required	✓			✓			✓		✓				

No significant and unavoidable noise-related impacts would occur.

LT = less than significant. S = significant.