CHAPTER 14

NOISE

Introduction

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Impacts and Mitigation Measures of the 2015 Plan Alternatives

CHAPTER 14 NOISE

INTRODUCTION

This chapter describes the regional and local noise settings and identifies noise impacts of the 2015 Plan using information from the Los Angeles County General Plan, the Los Angeles County Noise Control Ordinance, and the City of Santa Clarita General Plan. Information on construction and operations related noise sources at the VWRP was provided by the Districts. Due to the minor nature of the proposed upgrades at the SWRP and VWRP (reference Chapters 7 and 8), discussion of the existing conditions at the SWRP is not included in this chapter, and only the potential noise impacts associated with the construction and operation of these upgrades are addressed.

SETTING

Regional Setting

Residents of the SCVJSS service area are exposed to a wide range of noises that are common to urbanized environments. Vehicular traffic is one of the dominant noise sources. Sources associated with this noise source include automobiles, trucks, and trains. Much of the traffic noise comes from the major roads, arterials, and freeways serving the transportation needs of the valley. Stationary noise sources, such as recreational, commercial, and business activities, also generate noises that affect nearby uses and contribute to the overall noise environment.

Noise Standards

The VWRP is located in an unincorporated area of the county. The Noise Element for the County of Los Angeles General Plan establishes noise-related goals and policies and describes the general noise environment in Los Angeles County. The county has also adopted a Noise Control Ordinance that recommends maximum expected ambient noise levels for various land use categories.

The Noise Control Ordinance adopted by the county recommends maximum expected ambient noise levels[1] for the following four land use categories (Table 14-1):

Table 14-1
MAXIMUM EXPECTED AMBIENT NOISE LEVELS

LAND USE	MAXIMUM AMBIENT NOISE LEVEL (DECIBELS)
Noise-Sensitive Areas	45 dB (Anytime)
Residential	50 dB (Daytime) 45 dB (Nighttime)
Commercial	60 dB (Daytime) 55 dB (Nighttime)
Industrial	70 dB (Anytime)

Notes: Noise-Sensitive Areas and Sensitive Receptors include schools, libraries, and hospitals.
Daytime Hours: 7 AM to 10 PM.
Nighttime Hours: 10 PM to 7 AM.

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.

Per the county's Noise Control Ordinance, exterior noise exceedence standards in the 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.

1. The county's Noise Control Ordinance requires noise levels to be measured utilizing the "A-weighting" scale (dBA). Noise measurement taken using the A-weighted scale are adjusted for frequencies that correspond with responses of the human ear.

- The baseline noise level plus 5 dB may not be exceeded for more than 15 minutes in any one-hour period.
- The baseline noise level plus 10 dB may not be exceeded for more than five minutes in any one-hour period.
- The baseline noise level plus 15 dB may not be exceeded for more than one minute in any one-hour period.
- The baseline noise level plus 20 dB may not be exceeded for any period of time.

Pe ne county's Noise Control Ordinance, residential unit interior noise exceedence standards for the county are as follows:

- For all multifamily residential land uses, the allowable interior noise level is 40 dB during nighttime hours and 45 dB during daytime hours.
- The allowable interior noise level may not be exceeded for more than five minutes in any one-hour period,
- The allowable interior noise level plus 5 dB cannot be exceeded for more than one minute in any one-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 Standards

The county has specific restrictions for construction-related noise. According to the county's Noise Control Ordinance, maximum noise levels at affected structures are not to exceed the following levels for mobile and stationary equipment (Tables 14-2 and 14-3):

Table 14-2
MOBILE CONSTRUCTION EQUIPMENT NOISE LIMITS

LAND USE	MAXIMUM DAYTIME NOISE LEVELS	MAXIMUM NIGHTTIME NOISE LEVELS
Residential	75 dBA	60 dBA
Multi-Family Residential	80 dBA	65 dBA
Residential/Commercial	85 dBA	70 dBA

Notes: Daytime: 7 AM to 8 PM, excluding Sundays and holidays.
Nighttime: 8 PM to 7 AM daily and all day on Sundays and holidays.

Table 14-3
STATIONARY CONSTRUCTION EQUIPMENT NOISE LIMITS

LAND USE	MAXIMUM DAYTIME NOISE LEVELS	MAXIMUM NIGHTTIME NOISE LEVELS
Residential	60 dBA	50 dBA
Multi-Family Residential	65 dBA	55 dBA
Residential/Commercial	70 dBA	60 dBA

Notes: Daytime: 7 AM to 8 PM, excluding Sundays and holidays.
Nighttime: 8 PM to 7 AM daily and all day on Sundays and holidays.

Valencia Water Reclamation Plant

The VWRP is located west of The Old Road and the Golden State Freeway, and east of the Santa Clara River. Six Flags Magic Mountain Theme Park is located west of the river, approximately one-half mile away. At this location, the main sources of noise are automobile and truck traffic using the freeway and The Old Road as well as the rides and attractions at the nearby theme park. Noise levels along the VWRP boundary range from 60 dBA to 68 dBA. Noise levels at the commercial property located on the other side of The Old Road range from 66 dBA to 88 dBA, depending on the amount of traffic using the freeway and The Old Road. Much of the area immediately surrounding the VWRP is undeveloped. No sensitive receptors are located proximate to the VWRP.

Biosolids Disposal and Reuse

All solids processing for the SCVJSS occurs at the VWRP. Trucks used for hauling biosolids offsite for disposal or reuse generate noise as they enter and leave the plant. However, noise generated by trucks coming to and from the plant blends with other traffic noise in the area and is not considered a major component of overall traffic noise. In addition, no noise complaints have been received from the surrounding area.

Trucks used for hauling biosolids from the VWRP for disposal would enter and leave the SCVJSS service area via the I-5 and the Antelope Valley freeways. Studies conducted in 1989 by Michael Brandman Associates, Inc. for the City of Santa Clarita General Plan Noise Element indicated that roadway traffic from I-5 and SR-14 generated noise levels between 73.88 and 78.51 dB, when measured at a distance of 50 feet. According to the city's Noise Element, these levels are only acceptable for land uses which contain industrial, manufacturing, and agricultural uses or contain golf courses, riding stables, water recreation sites, and cemeteries. The current land uses along these traffic routes are compatible with the measured noise levels (Santa Clarita, 1991).

IMPACTS AND MITIGATION MEASURES OF THE 2015 PLAN ALTERNATIVES

Methodology and Assumptions for Impact Analysis

Construction-related noise impacts at the VWRP will be evaluated by estimating the amount of noise generated on the theoretical worst-case day of construction activity. This estimate will be based on the construction schedule and a list of construction equipment expected to be used during construction activities at the VWRP. The schedule will be divided into separate tasks, with each task covering a certain portion of the expansion. The impact analysis will focus on the tasks that would involve the greatest amount of construction activity. An average noise level for each piece of equipment expected to be used during these tasks will be estimated and these values will be combined to determine the composite construction noise level[2] at various distances from the VWRP.

Operations-related noise impacts at the VWRP will be evaluated by estimating the increase in noise due to the composite amount of noise generated by new equipment that would be installed at the VWRP as part of the proposed expansion.

Criteria for Determining Significance

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

2. 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 (Rau and Wooten, 1980).

- Substantially increase ambient noise levels for adjoining areas.
- Substantially increase noise levels in noise-sensitive areas.
- Expose people to extreme noise levels.
- Generate noise that would conflict with local noise ordinances or planning standards.

The Recommended Project

VWRP Expansion Construction Impacts

Impact: *Increase in Noise Levels During Construction at the VWRP.* Construction is expected to take approximately 30 months for each VWRP expansion. During construction, various construction vehicles and equipment would be employed at the site. Construction activities will only occur during the daytime. The construction activities involving the greatest amount of mobile equipment and generating the greatest amount of noise would occur during excavation for the primary sedimentation, aeration, and final sedimentation basins. Table 14-4 provides an estimate of the construction noise during those excavation activities. Estimated construction noise from stationary construction equipment that would be located at the site for longer durations or used for multiple construction activities is provided in Table 14-5.

Table 14-4
MOBILE CONSTRUCTION EQUIPMENT NOISE

DISTANCE ATTENUATION		DISTANCE TO dB CONTOURS	
DISTANCE TO RECEPTOR (ft)	SOUND LEVEL AT RECEPTOR (dBA)	SOUND LEVEL AT CONTOUR (dBA)	DISTANCE TO CONTOUR (ft)
50	93.4	95	41
100	87	90	74
200	81	85	130
400	75	80	225
800	68	75	390
1000	66	70	665
2000	58	65	1080
3000	53	60	1725
4000	49	55	2625
5280	45	50	3800
7500	39	45	5250

Notes: The following assumptions were used:
Equipment source levels at 50 feet: 1 Front Loader, 79 dBA
2 Trucks, 92 dBA
1 Grader/Excavator, 87 dBA
Composite Equipment Source Level: 93.4 dBA
Distance Attenuation Rate: 6.0 dBA per doubling of distance
Atmospheric Absorption Coefficient: 0.5 dBA per 100 meters
Shielding from buildings, topography, barriers, and vegetation will substantially reduce sound levels; however attenuation from such shielding is not included.

Table 14-5
STATIONARY CONSTRUCTION EQUIPMENT NOISE

DISTANCE ATTENUATION		DISTANCE TO dB CONTOURS	
DISTANCE TO RECEPTOR (ft)	SOUND LEVEL AT RECEPTOR (dBA)	SOUND LEVEL AT CONTOUR (dBA)	DISTANCE TO CONTOUR (ft)
50	82	85	35
100	76	80	62
200	70	75	110
400	63	70	195
800	57	65	335
1000	55	60	575
2000	47	55	950
3000	42	50	1525
4000	38	45	2350
5280	34	40	3450
7500	27	35	4800

Notes: The following assumptions were used:
Equipment source levels at 50 feet: 1 Compressor, 82 dBA
Composite Equipment Source Level: 82 dBA
Distance Attenuation Rate: 6.0 dBA per doubling of distance
Atmospheric Absorption Coefficient: 0.5 dBA per 100 meters
Shielding from buildings, topography, barriers and vegetation will substantially reduce sound levels, however attenuation from such shielding is not included.

Review of the surrounding land use indicates only commercial uses, located approximately 400 feet from the area of excavation (mobile construction equipment), and approximately 300 feet from any area of construction at the site (stationary construction equipment). The estimated noise for mobile construction equipment for a distance of 400 feet is 75 dBA, which is less than the allowable 85 dBA for daytime noise as provided by the county's Noise Control Ordinance. The estimated noise for stationary construction equipment for a distance of 300 feet would be less than the allowable 70 dBA, as provided by the county's Noise Control Ordinance. Additionally, no sensitive receptors are located near or adjacent to this facility. Therefore, this impact is considered less than significant.

Mitigation: No mitigation is required.

VWRP Expansion Operations Impacts

Impact: *Increase in Noise Levels during Operations at the VWRP.* Expansion of the VWRP would require installation of additional equipment. Operation of this additional equipment would increase noise levels in areas surrounding the facility, however, the composite increase in overall noise from the VWRP would be less than 5 dB. Ambient noise levels for industrial land use as provided by the county's Noise Control Ordinance would not be exceeded. Therefore, this impact is considered less than significant.

Mitigation: No mitigation is required.

SWRP and VWRP Upgrade Construction Impacts

Impact: *Increase in Noise Levels During Construction at the SWRP and VWRP.* Construction at the SWRP and VWRP would potentially involve site

preparation activities that would be limited to those associated with the possible placement of a storage tank and installation of additional recirculation piping and equipment. No heavy construction equipment would be needed for the construction. Construction activities will only occur during the daytime. On-site noise levels would be less than the allowable 85 dBA for daytime noise, as provided by the county's Noise Control Ordinance. Therefore, this impact is considered less than significant.

Mitigation: No mitigation is required.

SWRP and VWRP Upgrade Operations Impacts

Impact: *Increase in Noise Levels During Operations at the SWRP and VWRP.* Upgrade of the SWRP and VWRP would require installation of additional recirculation piping and equipment, which includes submersible pumps and mixers. However, because the additional equipment would be submerged, no additional discernable noise is expected. Therefore, this impact is considered less than significant.

Mitigation: No mitigation is required.

Biosolids Disposal and Reuse Impacts

Impact: *Increase in Noise Levels Resulting from Biosolids Disposal and Reuse.* Implementation of the 2015 Plan would increase the amount of biosolids generated, 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 continue to use the current truck routes from the VWRP to offsite biosolids disposal or reuse sites. Composite noise levels should not increase significantly, and areas adjacent to the truck routes should not be impacted. Therefore, this impact is considered less than significant.

Mitigation: No mitigation is required.

No Project Alternative

Under the No Project Alternative, no increase in treatment capacity would occur at the VWRP. Therefore, no increase in noise levels generated at the VWRP would occur. No significant noise impacts would result under this alternative.