APPENDIX A

Local Noise Regulations

1.0 Local Noise Regulations

Section 4.0 in the main body of the technical report provides critical information regarding project noise and vibration impact criteria, including a summary of local noise policy. This appendix provides expanded information on local noise policy that was identified and considered from each jurisdiction within the study area. The information in this appendix is not exhaustive, nor was it sought to include local noise policy documents in their entirety, but rather to include additional information that may have some relevance to the California High-Speed Rail Project, such as those sections pertaining to transportation noise sources, fixed noise sources (that may be included at train stations or other fixed facilities), and construction noise. For each municipality, relevant policy language is reported, where available, from both the local noise ordinance (typically an enforcement document) and the Noise Element of the General Plan (the municipality's general planning document).

1.1 City of Atwater

The following information is extracted or summarized from the Atwater General Plan July 2000 and City Noise Ordinance, as noted in the footnotes.

1.1.1 From the Noise Element of the General Plan[1]

The Atwater General Plan Noise Element addresses the existing noise sources in the City and attempts to predict future noise levels. The noise sources considered include State Route (SR) 99, major roadways, Union Pacific Railroad (UPRR) and Burlington Northern Santa Fe Railway (BNSF), Castle Airport, and commercial and industrial companies. The Element also contains policies that address noise-sensitive land uses and standards to avoid noise-related impacts from existing and future transportation projects. Table A-1 is used as a general guide when considering the feasibility of new development with respect to existing and future transportation noise levels. Table A-2 outlines the maximum allowable noise levels for the City of Atwater. Mitigation must be implemented and new noise-sensitive land uses must be avoided when new transportation noise sources exceed these levels. Additionally, acoustical analysis is required when noise-sensitive land uses are proposed in areas exposed to existing or projected exterior noise levels exceeding those in Table A-2. For major roadway improvement projects, instances in which mitigation will not reduce noise volumes to the levels in Table A-2 must adhere to the following criteria from Policy NO-2.5 of the General Plan Noise Element:

a. "Where existing traffic noise levels are less than 60 dB L_{dn} in the outdoor activity areas of noise-sensitive uses, roadway improvement projects which increase noise levels to 60 dB L_{dn} will not be considered significant."

b. "Where existing traffic noise levels range between 60 and 65 dB L_{dn} in the outdoor activity areas of noise-sensitive land uses, a +3 dB L_{dn} increase in noise levels due to a roadway improvement project will be considered significant."

c. Where existing traffic noise levels are greater than 65 dB L_{dn} in the outdoor activity areas on noise-sensitive uses, a +1.5 dB L_{dn} increase in noise levels due to a roadway improvement project will be considered significant."

The Noise Element requires that noise-sensitive residential land uses not be exposed to exterior noise levels exceeding 60 dB L_{dn} at outdoor activity areas and 45 dB L_{dn} within the interior living spaces.

[1] City of Atwater. 2000. *City of Atwater General Plan*. Chapter 6: Noise. July 24.

Table A-1
Land Use Compatibility Guidelines for Development

Land Use Category		Community Noise Exposure L_{dn} or CNEL, dB						
		55	60	65	70	75	80	
Residential, Theaters, Meeting Halls, Churches, Auditoriums	A.	■	■					
	C.A.			■	■			
	U.					■	■	■
Transient Lodging, Motels, Hotels	A.	■	■					
	C.A.			■	■	■		
	U.						■	■
Schools, Libraries, Hospitals, Child Care, Museums	A.	■	■					
	C.A.			■	■	■		
	U.						■	■
Playgrounds, Neighborhood Parks, Amphitheaters	A.	■	■	■	■			
	C.A.					■		
	U.						■	■
Office Buildings, Businesses, Commercial and Professional	A.	■	■	■				
	C.A.				■	■		
	U.						■	■
Industrial, Utilities, Manufacturing, Agriculture	A.	■	■	■	■			
	C.A.					■	■	■
	U.							
Golf Courses, Riding Stables, Outdoor Spectator Sports	A.	■	■	■	■			
	C.A.					■	■	
	U.							■

A. Generally Acceptable - No noise mitigation measures are required.
C.A. Conditionally Acceptable - Use should be permitted only after careful study and inclusion of mitigation measures as needed to satisfy the policies of the Noise Element.
U. Generally Unacceptable - Development is usually not acceptable.
Source: 1990 California General Plan Guidelines (Appendix A)

Source: Table 6-5 in *City of Atwater General Plan.*

Table A-2
Maximum Allowable Noise Exposure Transportation Noise Sources

Land Use	Outdoor Activity Areas[1] L_{dn}/CNEL, dBA	Interior Spaces	
		L_{dn}/CNEL, dBA	L_{eq}, dBA[2]
Residential	60[3]	45	--
Transient Lodging	60[3]	45	--
Hospitals, Nursing Homes	60[3]	45	--
Theaters, Auditoriums, Music Halls	--	--	35
Churches, Meeting Halls	60[3]	--	40
Office Buildings	--	--	45
Schools, Libraries, Museums	60[3]	--	45
Playgrounds, Neighborhood Parks	70	--	--

1 The exterior noise-level standard shall be applied to the outdoor activity area of the receiving land use. Outdoor activity areas are normally located near or adjacent to the main structure and often occupied by porches, patios, balconies, etc.

2 As determined for a typical worst-case hour during periods of use.

3 Where it is not possible to reduce the noise in outdoor activity areas to 60 dBA, L_{dn}/CNEL or less using a practical application of the best available noise reduction measures, an exterior noise level of up to 65 dBA, L_{dn}/CNEL may be allowed, provided that practical exterior noise level reduction measures have been implemented and that interior noise levels are in compliance with this table.

Source: Table 6-6 in *City of Atwater General Plan.*

1.1.2 Construction Noise

From the City of Atwater Code of Ordinances, Title 8 Health and Safety, Chapter 8.44 Noise Control[2]:

"A. Permissible Hours of Construction. All construction for which a grading or building permit is required shall be conducted between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, and 9:00

2 Ord. No. CS 879, § 1, 5-14-2007. http://library.municode.com/index.aspx?clientID=16784&stateID=5&stateName=California

a.m. and 5:00 p.m. Saturdays and Sundays. For purposes of this Section, "construction" or "construction activity" shall include site preparation, demolition, grading, excavation, and the erection, improvement, remodeling or repair of structures, including operation of equipment or machinery and the delivery of materials associated with those activities."

"B. Special Circumstances. The building official may grant an exception to the provisions of this Section in accordance with the procedures set forth below. Upon receipt of an application in writing therefore stating the reasons for the request and the facts upon which such reasons are based, the building official may grant such permission if he or she finds that:

1. The work proposed to be done is in the public interest; or

2. Unusual hardship, injustice or unreasonable delay would result from adherence to the hours and days specified above.

Any person dissatisfied with the decision of the building official may forthwith appeal to the City Council."

"C. Utilities Exemption. The provisions of this Section do not apply to construction, repair or excavation by a public utility which is subject to the jurisdiction of the Public Utilities Commission and where such work is necessary for the immediate preservation of the public health, safety, or welfare and where such necessity makes it necessary to construct, repair or excavate during the prohibited hours."

"D. City Exemption. The provisions of this Section do not apply to public works which are authorized by the City."

From the Noise Element of the General Plan

Not available.

1.2 City of Merced

The following information is extracted or summarized from the City of Merced Vision 2015 General Plan and Merced Municipal Airport Master Plan September 2007, as noted in the footnotes.

The Code has adopted California Environmental Quality Act guidelines. Acceptable noise levels are not specified by the Code.

1.2.1 From the Noise Element of the General Plan[3]

The Noise Element of the General Plan of Merced outlines several goals and policies concerned with noise-sensitive land uses and reducing noise-related impacts due to transportation noise sources. Existing and projected noise levels from roadways and railroads are discussed, including three state highways, major local streets, and UPRR and BNSF railroads. Noise from Merced Regional Airport is also addressed. A noise/land use compatibility matrix is presented for noise standards for different land uses. The City of Merced uses guidelines shown in Figure A-1 for determining land use compatibility with respect to noise along with the following considerations[4]:

[3] City of Merced. 1993. *Merced Vision 2015 General Plan*.

[4] City of Merced. 1993. *Merced Vision 2015 General Plan*, Section 10.3.5, "Noise Sensitive Land Uses."

- "A maximum outdoor noise level of 60 L_{dn} in residential areas where outdoor use is a major consideration and whenever the realm of economic or aesthetic consideration makes it possible; a maximum of 65 L_{dn} in any other case."
- "The indoor noise level, as required by the State of California Noise Insulation Standards, must not exceed 45 L_{dn} in multi-family or single-family dwellings."
- "If the noise source is the railroad, then 70 L_{dn} as the maximum outdoor noise level should be considered as long as a maximum of 45 dBA indoor level in bedrooms is achieved. This is acceptable because train noise is usually characterized by relatively few loud events during which the noise levels will be acceptable for speech communication; the 45 dBA indoor level requirement should be implanted especially if there are trains passing by during the night (10:00 p.m. to 7:00 a.m.)."

1.2.2 Construction Noise

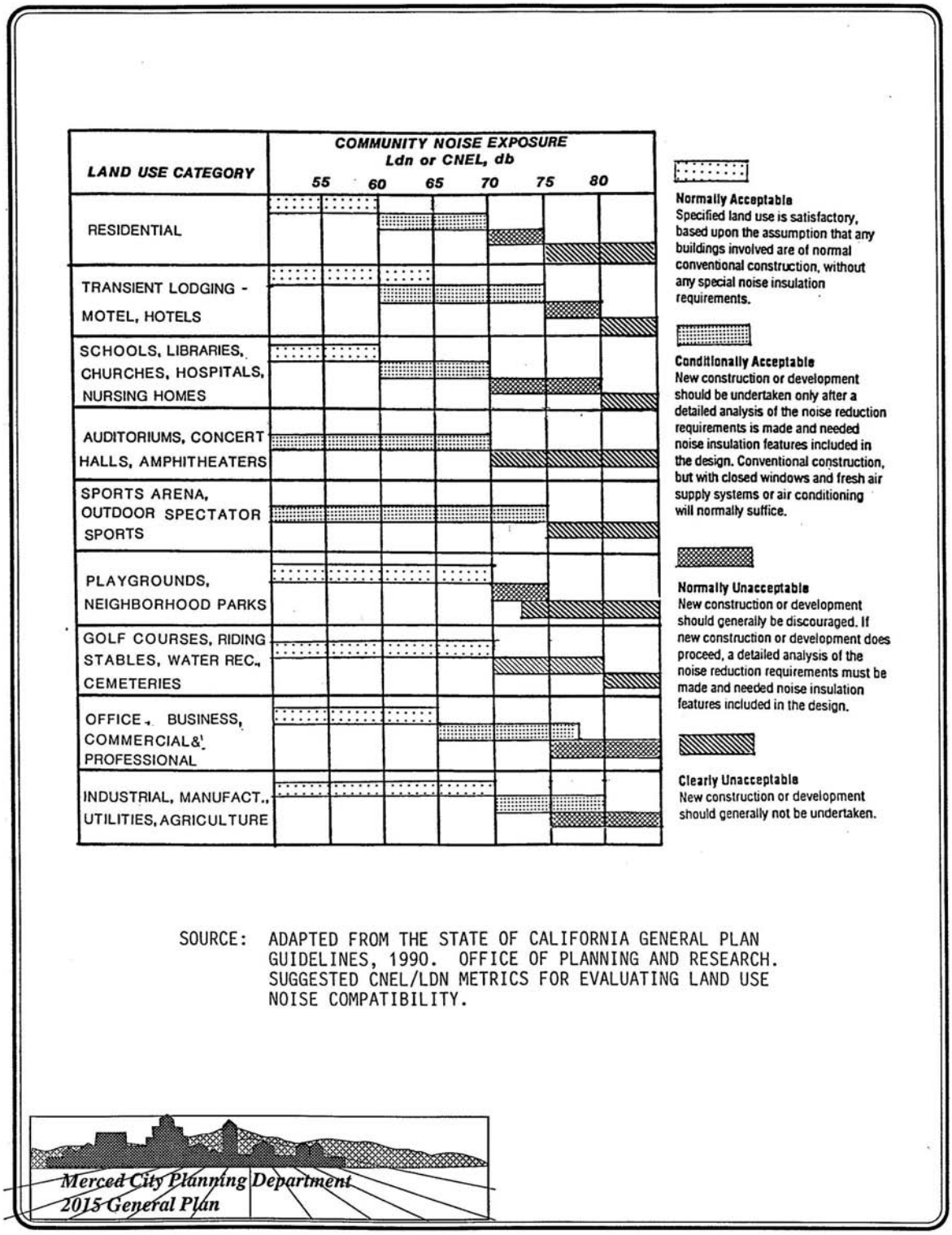
From the Noise Ordinance

Not available.

From the Noise Element of the General Plan

Construction noise is viewed as temporary in nature and as such there has not been an endeavor to reduce the equipment noise levels.

Figure A-1
Merced General Plan Noise Compatibility Guidelines



Source: Figure 10-6, City of Merced, 1993, *Merced Vision 2015 General Plan*.

1.3 City of Chowchilla

The following information is extracted or summarized from the Draft Noise Element for the City of Chowchilla General Plan of October 2009 and Madera County Airports Land Use Compatibility Plan adopted in December 1993, as noted in the footnotes.

1.3.1 From the Noise Element of the Draft General Plan[5]

The City of Chowchilla's General Plan Noise Element contains goals and policies that aim to minimize transportation-related noise impacts and separate noise-sensitive land uses from noise-producing land uses. Existing and projected noise levels from roadway and railroad corridors are discussed. Major contributors to roadway and railroad noise include SR 99, SR 152, SR 233, other arterial roads, and UPRR and BNSF railroads. Noise from fixed sources such as industrial business and county fairgrounds is also addressed.

1.3.2 Construction Noise

From the Noise Ordinance

Not available.

From the Noise Element of the Draft General Plan

Not available.

1.4 City of Madera

The following information is extracted or summarized from the Madera County Airports Land Use Compatibility Plan adopted in December 1993 and City Noise Ordinance, as noted in the footnote.

1.4.1 From the Noise Element of the General Plan

The Noise Element of Madera's General Plan is currently under development.

1.4.2 From the Airport Land Use Compatibility Plan[6]

The Airport Land Use Compatibility Plan addresses existing and projected noise levels from the Madera Municipal Airport.

1.4.3 Construction Noise

From the Noise Ordinance - Title III Public Safety, Chapter 11: Noise Control[7]

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[5] City of Chowchilla. 2009. *Draft Noise Element of City of Chowchilla General Plan*. October.

[6] Madera County Airports. 1993. *Airport Land Use Compatibility Plan*. December.

[7] City of Madera, California, Code of Ordinances, Title III Public Safety, Chapter 11: Noise Control provided under Ord 622 passed 5-18-94 and Am. Ord. 834 C.S. passed 4-16-08. http://www.amlegal.com/nxt/gateway.dll/California/madera_ca/titleiiipublicsafety/Chapter11.

§3-11-01 Unlawful Noise.

"(A) No person shall make, or cause or permit to be made or caused, upon any premises owned, occupied, possessed, or controlled by them or upon any public street, alley, or thoroughfare any unnecessary noise or sound which is physically annoying to persons of ordinary and normal sensitivity or which is so harsh or so prolonged, unnatural or unusual in its use, time, and place as to cause physical discomfort, or which is injurious to the lives, health, peace, and comfort of the inhabitants of the city."

§3-11-02 Specific Noise Prohibitions.

"The following activities area specifically prohibited:"

"(B) Between the hours of 8:00 p.m. and 6:00 a.m. of the following day. Noise sources associated with operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, remodeling, paving, or grading of any real property or demolition work which creates sound which is in violation of §3-11-01 of this title is prohibited. Provided, however, the Community Developer Director or their designated representative may, for good cause, exempt certain construction work from the provisions of this Noise chapter for a limited time when an unforeseen or unavoidable condition occurs during a construction project and the nature of the project necessitates that work in progress be continued until a specific phase is completed. In such circumstance, the contractor or owner shall be allowed to work after 8:00 p.m. and to operate machinery and equipment necessary until the specific work in progress can be completed in a manner which will not jeopardize the inspection or acceptance of a project or create undue financial hardships for the contractor or property owner."

"(C) Between the hours of 10:00 p.m. and 6:00 a.m. of the following day. Operating or permitting the operation of any mechanically powered saw, drill, grinder, lawn or garden tool, or similar tool which creates sound which is in violation of §3-11.01 of this title."

From the Noise Element of the General Plan

Currently under development.

1.5 County of Fresno

The following information is extracted or summarized from the Fresno County General Plan Update, Chapter 10 Noise, adopted in October 2000, as noted in the footnote.

1.5.1 From the Noise Element of the General Plan[8]

The Noise Element of the General Plan of Fresno County is based on the California Department of Health Service's Office of Noise Control (ONC) land use compatibility guidelines and *Model Community Noise Control Ordinance*.

Table A-3 displays the ONC land use compatibility guidelines showing various land use categories and the acceptability of the various levels of the noise exposure in terms of the community noise equivalent level. These guidelines do present some flexibility or uncertainty when there is some overlapping of the acceptability for a given category. Tables A-4 through A-7 summarize the ONC community noise control ordinance baseline limits and maximum intrusive noise above the baseline for both exterior and interior environments. The intrusive limits are designed to reflect time-varying noise levels that may cause real-time intrusion on the receiver.

[8] EIP Associates. 2000. *Fresno County General Plan Update, Background Report.* Chapter 10: Noise. Adopted October 2000.

In its adopted General Plan Noise Element, Fresno County established maximum acceptable noise levels, as shown in Table A-8. The Element recommends establishing noise impact areas for those areas are subjected to L_{dn} above 60 dB, requires review of noise impacts on proposed projects within these impact areas, and calls for incorporation of measures to protect new noise-sensitive development from existing sources. In addition, with respect to transportation noise sources, the Element calls for sensitivity in land use and transportation planning to incorporate measures that would mitigate an increase in noise levels associated with the implementation of a new transportation-related project. The County also has developed a noise control ordinance, similar to that developed by the State ONC, for providing standards for exterior and interior noise levels consistent with the General Plan's guidelines for L_{50} for rural residential areas. Tables A-9 and A-10 show these standards.

Noise from SR 99, the UPRR railroad, and the BNSF railroad is discussed in the Element. Fixed noise sources such as agriculture, mining, manufacturing, and landscape/building materials processing sites are also addressed.

The General Plan indicates that an environmental review would be required for any new high-speed rail or light-rail network. Transit noise was estimated to affect noise-sensitive land uses within approximately 750 feet of new commuter rail lines and approximately 300 feet of intermediate-capacity rail lines.

1.5.2 Construction Noise

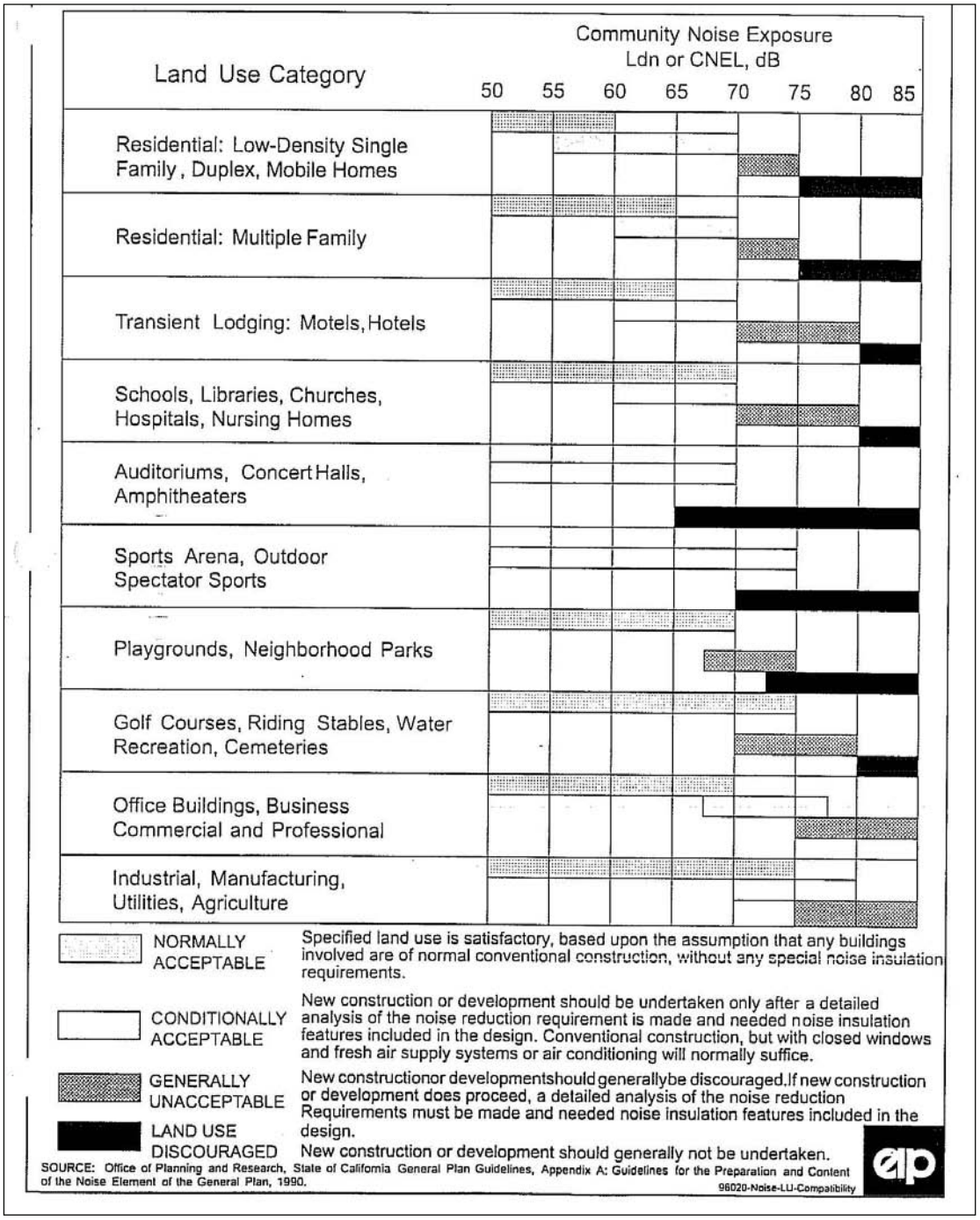
From the Noise Ordinance

Not available.

From the Noise Element of the General Plan

Not available.

Table A-3
Land Use Compatibility for Community Noise Environments



Source: EIP Associates, 2000, Chart 10-1 of *Fresno County General Plan Update*

Table A-4
ONC Model Community Noise Control Ordinance Baseline Exterior Noise Limits

Receiving Land Use Category	Time Period	Noise Level (dBA) by Noise Zone Classification		
		Rural Suburban	Suburban	Urban
One & Two Family Residential	10 p.m.-7 a.m. 7 a.m.-10 p.m.	40 50	45 55	50 60
Multiple Dwelling Residential/ Public Space	10 p.m.-7 a.m. 7 a.m.-10 p.m.	45 50	50 55	55 60
Limited Commercial; Some Multiple Dwellings	10 p.m.-7 a.m. 7 a.m.-10 p.m.	55 60		
Commercial	10 p.m.-7 a.m. 7 a.m.-10 p.m.	60 65		
Light Industrial Heavy Industrial	10 p.m.-7 a.m. 7 a.m.-10 p.m.	70 75		

Source: ONC, April 1977

[1] The classification of different areas of the community in terms of environmental noise zones shall be determined by the Noise Control Office(r), based upon assessment of community noise survey data. Additional area classifications should be used as appropriate to reflect both lower and higher existing ambient levels than those shown. Industrial noise limitations are intended primarily for use at the boundary of industrial zones rather than for noise reduction within the zone.

Source: EIP Associates, 2000, Table 10-6a of *Fresno County General Plan Update*

Table A-5
ONC Maximum Allowable Intrusive Noise Above Baseline Exterior Noise Limits

Cumulative Duration of the Intrusive Sound	Maximum Amount By Which Intrusive Noise May Exceed Baseline Standards Indicated Above (dBA)
Cumulative period of 30 minutes per hour	0
Cumulative period of 15 minutes per hour	+5
Cumulative period of 5 minutes per hour	+10
Cumulative period of 1 minutes per hour	+15
Level not to be exceeded for any time per hour	+20
Source: ONC, April 1977	

Source: EIP Associates, 2000, Table 10-6b of *Fresno County General Plan Update*

Table A-6
ONC Model Community Noise Control Ordinance Baseline Interior Noise Limits

Noise Zone	Type of Land Use	Time Interval	Allowable Interior Noise Level (dBA)
All	Multifamily Residential	10 p.m.-7 a.m. 7 a.m.-10 p.m.	35 45
Source: ONC, April 1977			

Source: EIP Associates, 2000, Table 10-7a of *Fresno County General Plan Update*

Table A-7
ONC Maximum Allowable Intrusive Noise Above Baseline Interior Noise Limits[1]

Cumulative Duration of the Intrusive Sound	Maximum Amount By Which Intrusive Noise May Exceed Baseline Standards Indicated Above (dBA)
Cumulative period of 5 minutes per hour	0
Cumulative period of 1 minutes per hour	+5
Level not to be exceeded for any time per hour	+10
Source: ONC, April 1977 [1] These guidelines relate to intrusive noise originating from an adjoining dwelling unit.	

Source: EIP Associates, 2000, Table 10-7b of *Fresno County General Plan Update*

Table A-8
Fresno County General Plan Existing Noise Element Maximum Acceptable Noise Levels

Land Use	L_{50}		L_{dn}	
	Daytime	Nighttime	Exterior	Interior
Rural Residential	50	45	55	45
Urban Residential & Noise Sensitive Receivers[1]	55	50	60	45
Urban Commercial	65	60		
Urban Industrial	70	70		
Source: EIP Associates [1] Schools, parks, hospitals and rest homes				

Source: EIP Associates, 2000, Table 10-9 of *Fresno County General Plan Update*

Table A-9
Fresno County Noise Control Ordinance Exterior Noise Standards

Category	Cumulative Number of Minutes in any One-Hour Time Period	Noise Level Standards (dBA)	
		Daytime (7 a.m.-10 p.m.)	Nighttime (10 p.m.-7 a.m.)
1	30	50	45
2	15	55	50
3	5	60	55
4	1	65	60
5	0	70	65
Source: Fresno County Noise Control Ordinance, July 1978			

Source: EIP Associates, 2000, Table 10-10a of *Fresno County General Plan Update*

Table A-10
Fresno County Noise Control Ordinance Interior Noise Standards

Category	Cumulative Number of Minutes in any One-Hour Time Period	Noise Level Standards (dBA)	
		Daytime (7 a.m.-10 p.m.)	Nighttime (10 p.m.-7 a.m.)
1	5	45	35
2	1	50	40
3	0	55	45
Source: *Fresno County Noise Control Ordinance*, July 1978			

Source: EIP Associates, 2000, Table 10-10b of *Fresno County General Plan Update*

1.6 City of Fresno

The following information, and tables are extracted or summarized from the City of Fresno 2025 General Plan Noise Element as noted in the footnote.[9]

1.6.1 From the Noise Element of the General Plan

The City of Fresno's General Plan Noise Element contains policies that address maximum allowable noise levels for land uses impacted by existing and future transportation noise sources and requirements for projects affecting noise-sensitive land uses. Table A-11 defines maximum allowable noise levels from transportation noise sources, while Table A-12 defines maximum allowable noise levels from stationary noise sources. Fresno-Chandler Airport and Fresno-Yosemite International Airport are addressed in the Plan, as well as Sierra Sky Park Airport.

[9] City of Fresno. 2002. *2025 Fresno General Plan*, Chapter 4, Noise Element.

The Noise Element requires that noise-sensitive residential land uses not be exposed to exterior noise levels exceeding 60 dB L_{dn} at outdoor activity areas and 45 dB L_{dn} within the interior living spaces.

Table A-11
Maximum Allowable Noise Exposure Transportation Noise Sources

Land Use [4]	Outdoor Activity Areas[1] L_{dn} dB	Interior Spaces	
		L_{dn} dB	L_{eq} dB[2]
Residential	60[3]	45	---
Transient Lodging	60[3]	45	---
Hospitals, Nursing Homes	60[3]	45	---
Theaters, Auditoriums, Music Halls	---	---	35
Churches, Meeting Halls	60[3]	---	45
Office Buildings	---	---	45
Schools, Libraries, Museums	---	---	45

[1]Where the location of outdoor activity areas is unknown or is not applicable, the exterior noise level standard shall be applied to the property line of the receiving land use.

[2]As determined for a typical worst-case hour during periods of use.

[3]Noise levels up to 65 dE L_{dn} adjacent to the Burlington Northern Santa Fe and Union Pacific mainline tracks may be allowed by the project approving authority when it is determined that it is not possible to achieve 60 dB L_{dn} in outdoor activity areas using a practical application of the best-available noise reduction technology, and when all feasible exterior noise reduction measures have been proposed.

[4] The Planning and Development Director, on a case-by-case basis, may designate land uses other than those shown in this table to be noise-sensitive, and may require appropriate noise mitigation measures.

Source: *2025 Fresno General Plan*, Noise Element, Table 8.

Table A-12
Maximum Allowable Noise Exposure Transportation Noise Sources

	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly Equivalent Sound Level (L_{eq}), dB	50	45
Maximum Sound Level (L_{max}), dB	70	65

[1]As determined at outdoor activity areas. Where the location of outdoor activity areas is unknown or not applicable, the noise exposure standard shall be applied at the property line of the receiving land use. When ambient noise levels exceed or equal the levels in this table, mitigation shall only be required to limit noise to the ambient plus five (5) dB.

Source: *2025 Fresno General Plan*, Noise Element Table 9.

1.6.2 Construction Noise

From the Noise Ordinance

Not available.

From the Noise Element of the General Plan

Not available.

APPENDIX B

Measurement Site Photographs

Long-Term Noise Measurement Sites

Figure B-1
Site LT1: 3005 Lucky Debonair Street – Atwater, CA

Figure B-2
Site LT2: 3227 W Culley Court – Merced, CA

Figure B-3
Site LT3: 2350 Franklin Road – Merced, CA

Figure B-4
Site LT4: 720 W 15th Street – Merced, CA

Figure B-5
Site LT5: 301 E 13th Street – Merced, CA

Figure B-6
Site LT6: 340 S Parsons Avenue – Merced, CA

Figure B-7
Site LT7: 4000 Mariposa Way – Merced, CA

Figure B-8
Site LT9: 240 Front Street – Chowchilla, CA

Figure B-9
Site LT10: 22283 Road 14½ – Chowchilla, CA

Figure B-10
Site LT11: 17142 Avenue 24½ – Chowchilla, CA

Figure B-11
Site LT12: 2046 Varbella Park – Madera, CA

Figure B-12
Site LT14: 1250 E Almond Avenue – Madera, CA

Figure B-13
Site LT15: 10696 SR 99 – Madera, CA

Figure B-14
Site LT17: 5468 Delbert Avenue – Fresno, CA

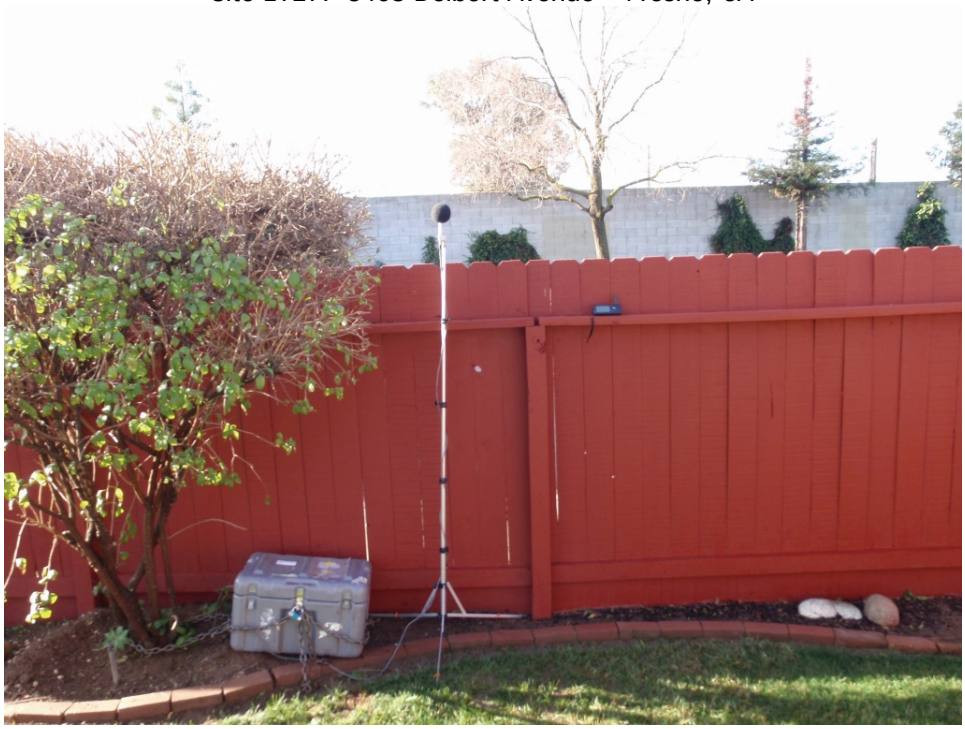


Figure B-15
Site LT18: 3089 N Feland Avenue – Fresno, CA

Figure B-16
Site LT19: 2020 N Weber Avenue – Fresno, CA

Figure B-17
Site LT20: 3269 E Mission Ave – Merced, CA

Figure B-18
Site LT21: 823 Mariposa Way – Merced, CA

Figure B-19
Site LT22: 2373 S Burchell Avenue – Le Grand, CA

Figure B-20
Site LT23: 4280 S Ipsen Avenue – Le Grand, CA

Figure B-21
Site LT24: 4112 Marshall Street – Le Grand, CA

Figure B-22
Site LT25: 27112 Santa Fe Drive – Chowchilla, CA

Figure B-23
Site LT26: 26226 Wayside Drive – Madera Acres, CA

Figure B-24
Site LT27: 16494 Harper Boulevard – Madera, CA

Figure B-25
Site LT28: 9691 Road 32 – Madera, CA

Figure B-26
Site LT29: 20978 Road 18 – Madera, CA

Figure B-27
Site LT30: 309 Prosperity Boulevard – Chowchilla, CA

Figure B-28
Site LT31: 23711 Fairmead Boulevard – Chowchilla, CA

Figure B-29
Site LT32: 22327 Arnott Drive – Chowchilla, CA

Short-Term Noise Measurement Sites

Figure B-30
Site ST1: Franklin Elementary School – Merced, CA

Note: Microphone stand position indicates microphone position used for measurement. Photograph was taken during site set-up.

Figure B-31
Site ST2: Bob Hart Park – Merced, CA

Photograph for Site ST3 is not available.

Figure B-32
Site ST4: Rotary Park – Madera, CA

Figure B-33
Site ST5: Courthouse Park – Madera, CA

Figure B-34
Site ST7: First Spanish Baptist Church – Fresno, CA

Figure B-35
Site ST8: Roeding Park – Fresno, CA

Figure B-36
Site ST9: H Street Lofts – Fresno, CA

Figure B-37
Site ST10: Le Grand Elementary School – Le Grand, CA

Figure B-38
Site ST11: Morning Star Baptist Church – Madera, CA

Figure B-39
Site ST12: Millview Park – Madera, CA

Figure B-40
Site ST13: Galilee Missionary Baptist Church – Chowchilla, CA

Note: Microphone stand position indicates microphone position used for measurement. Photograph was taken during site set-up.

Vibration Propagation Measurement Sites

Figure B-41
Site V1: Santa Fe Avenue – Atwater, CA

Figure B-42
Site V4: 1605 E Gerard Avenue – Merced, CA

Figure B-43
Site V5: 17142 Avenue 24½ – Chowchilla, CA

Figure B-44
Site V7: Peach Street – Madera, CA

Figure B-45
Site V10: G Street – Fresno, CA

Figure B-46
Site V11: Mariposa Way and Whealan Road – Le Grand, CA

Figure B-47
Site V12: Santa Fe Avenue and Le Grand Road – Le Grand, CA

Note: Existing vibration measurements were also obtained at this site.

Figure B-48
Site V14: Avenue 18 and Tulip Road – Madera Acres, CA

Note: Existing vibration measurements were also obtained at this site.

Figure B-49
Site V15: Avenue 13 and Road 30 ½ - Madera, CA

Existing Vibration Measurement Sites

Figure B-50
Site V2: Piro Street – Atwater, CA

Figure B-51
Site V3: B Street – Merced, CA

Figure B-52
Site V6: 23515 Chowchilla Boulevard – Chowchilla, CA

Figure B-53
Site V8: Peach Street – Madera, CA

Figure B-54
Site V9: 2020 N Weber Avenue – Fresno, CA

Figure B-55
Site V13: Santa Fe Drive and Avenue 24 – Madera, CA

APPENDIX C

Noise Measurement Data

Long-Term Noise Measurement Results

Figure C-1
Site LT1 Noise Survey Results

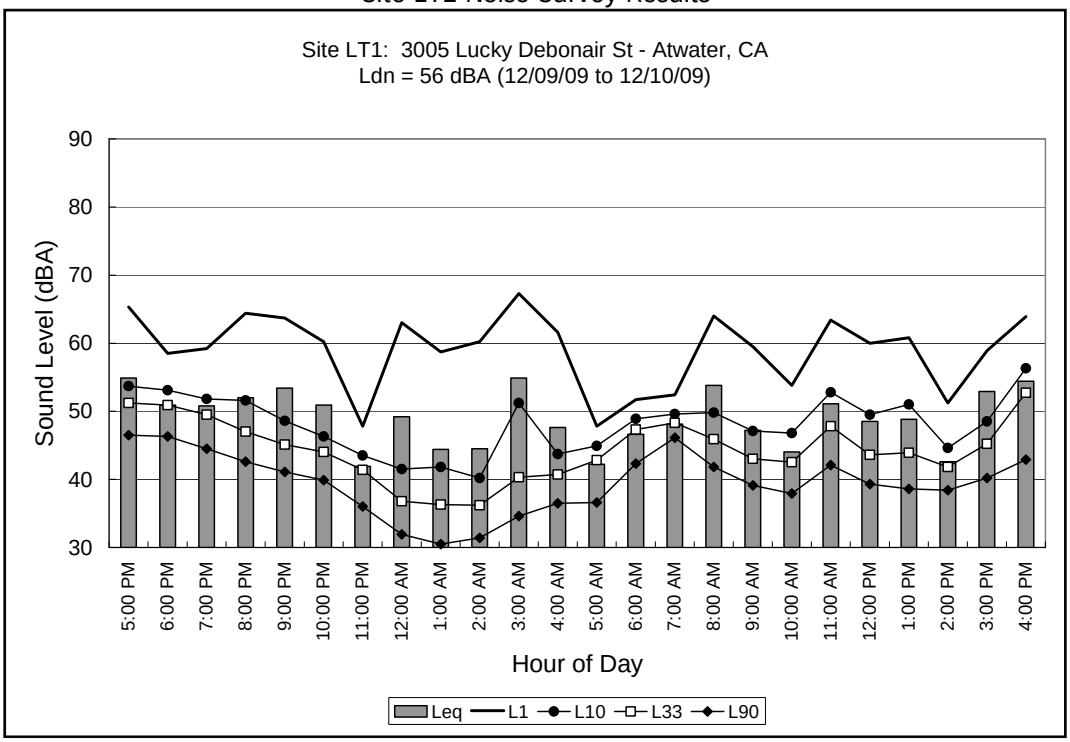


Figure C-2
Site LT2 Noise Survey Results

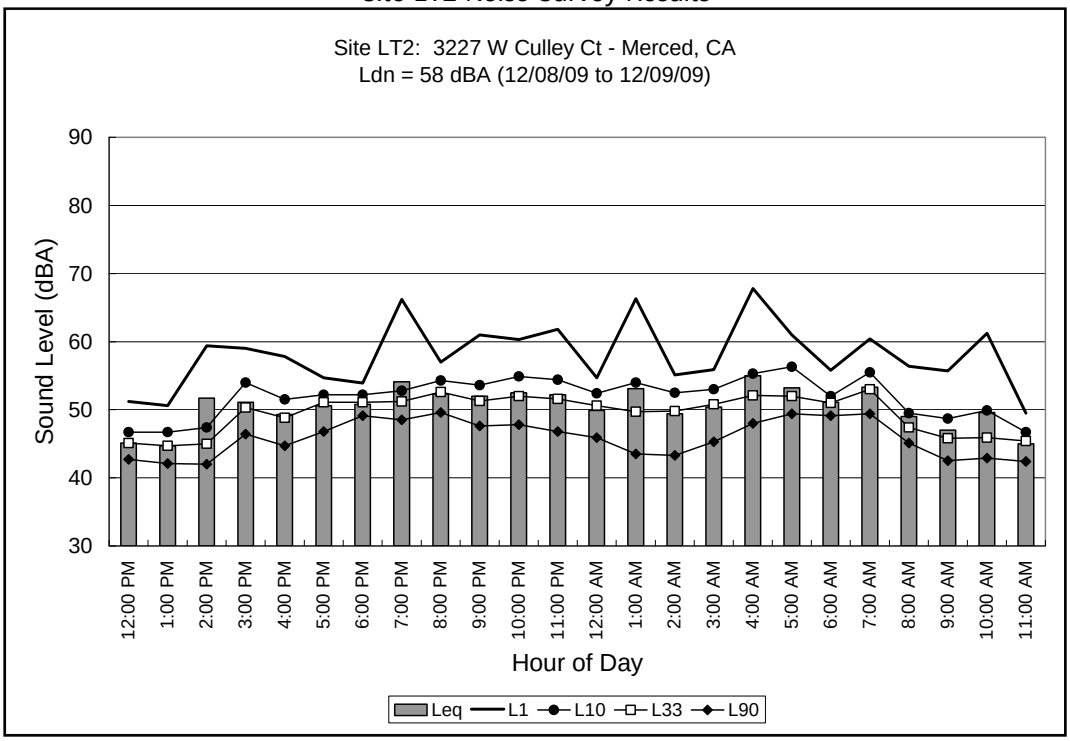


Figure C-3
Site LT3 Noise Survey Results

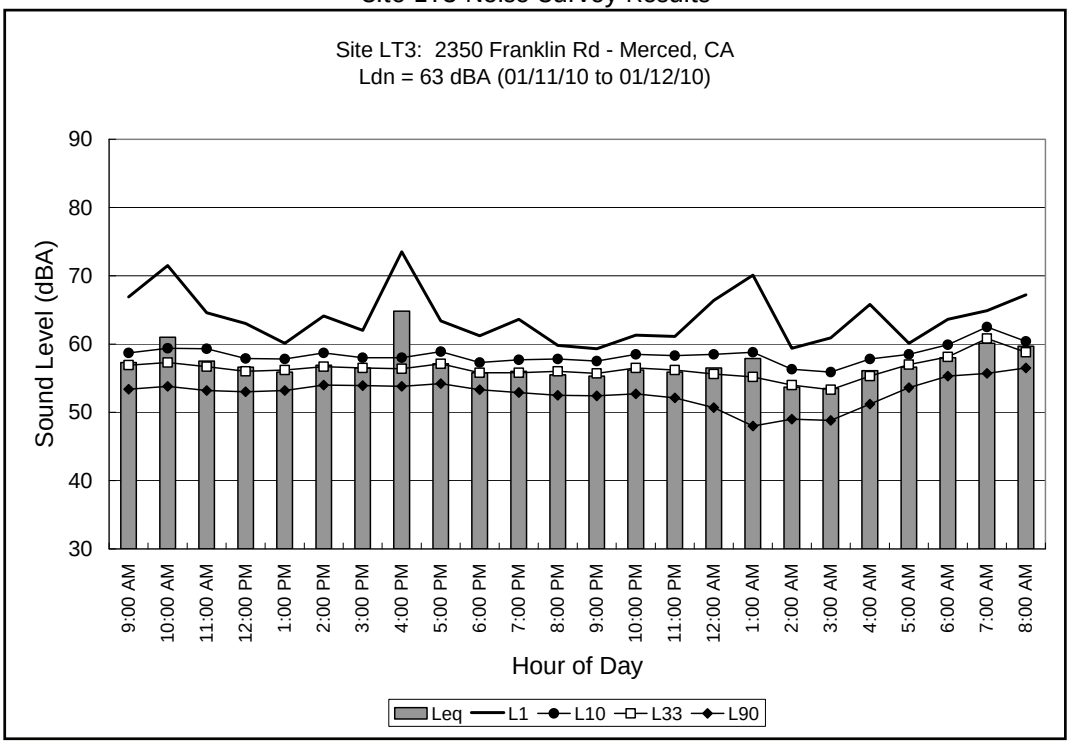


Figure C-4
Site LT4 Noise Survey Results

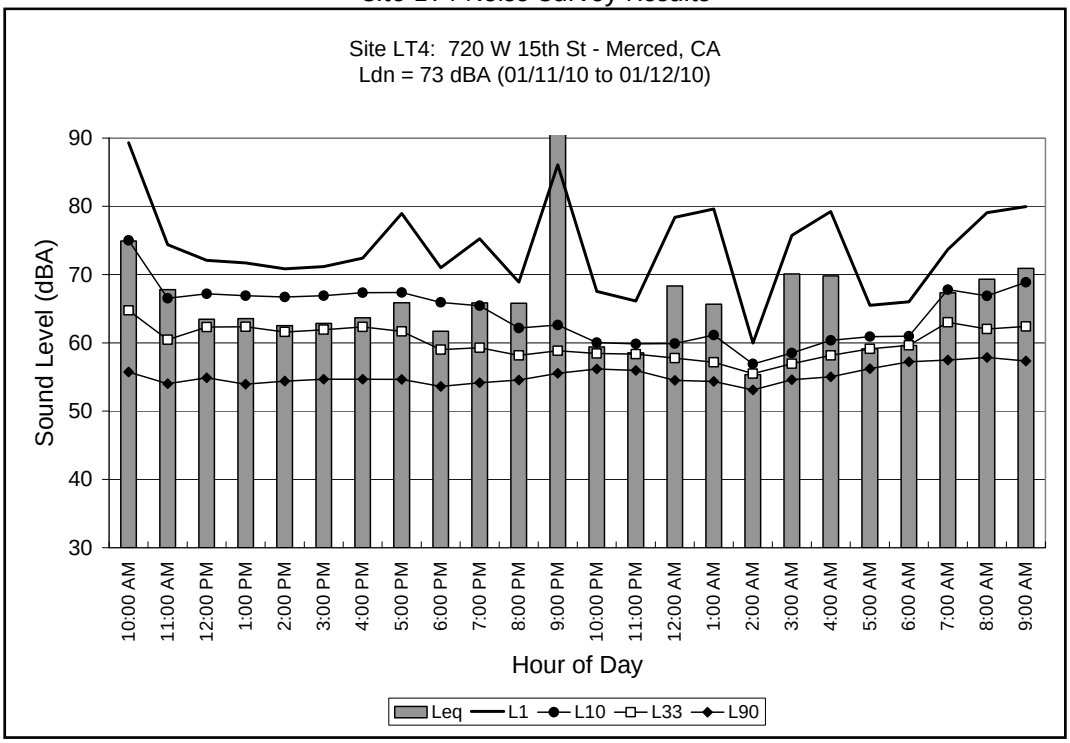
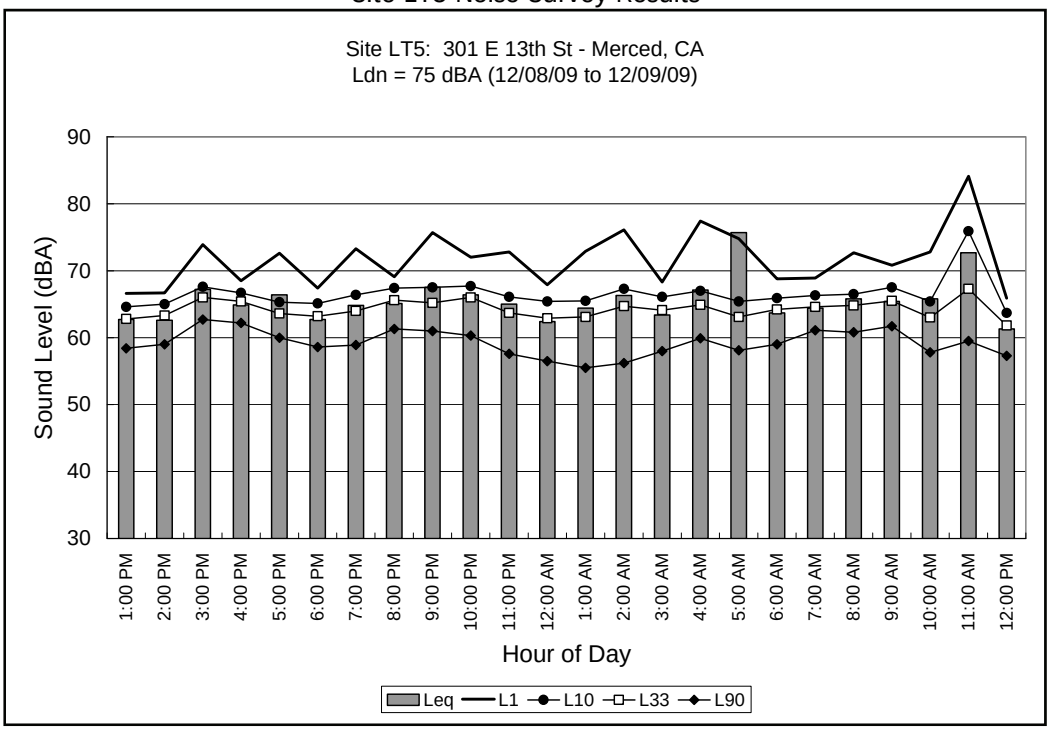


Figure C-5
Site LT5 Noise Survey Results



Note: Correction for surface reflections was applied to Ldn and Peak-Hour Leq in Table 5-20 (ASTM E966 – 02).

Figure C-6
Site LT6 Noise Survey Results

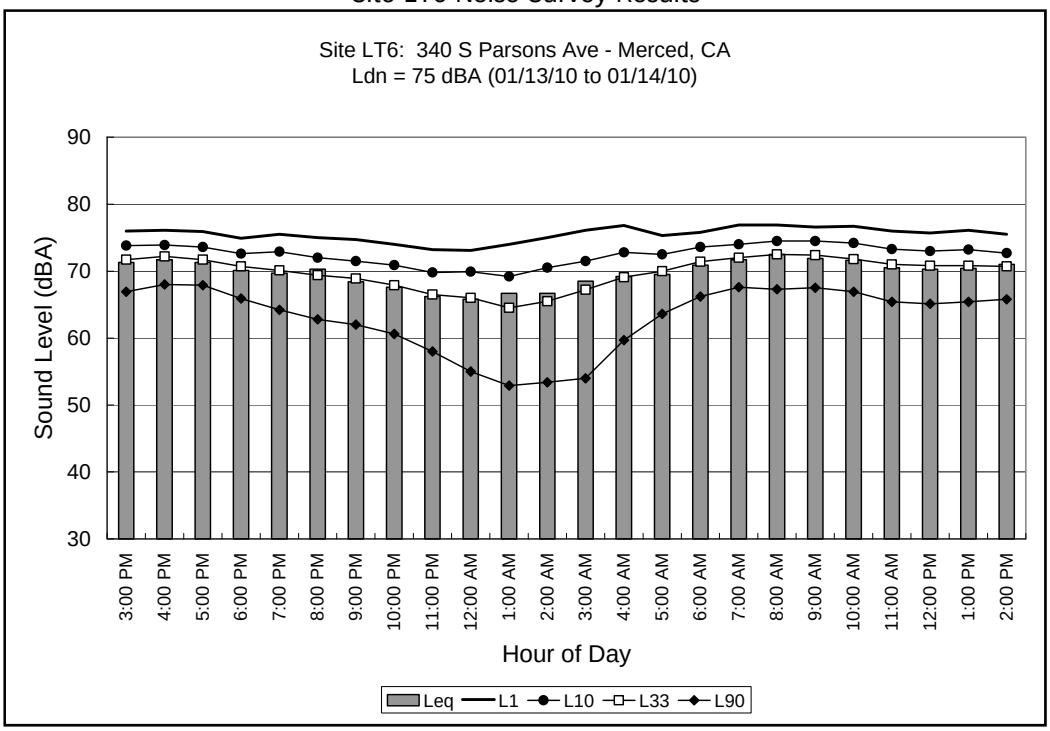


Figure C-7
Site LT7 Noise Survey Results

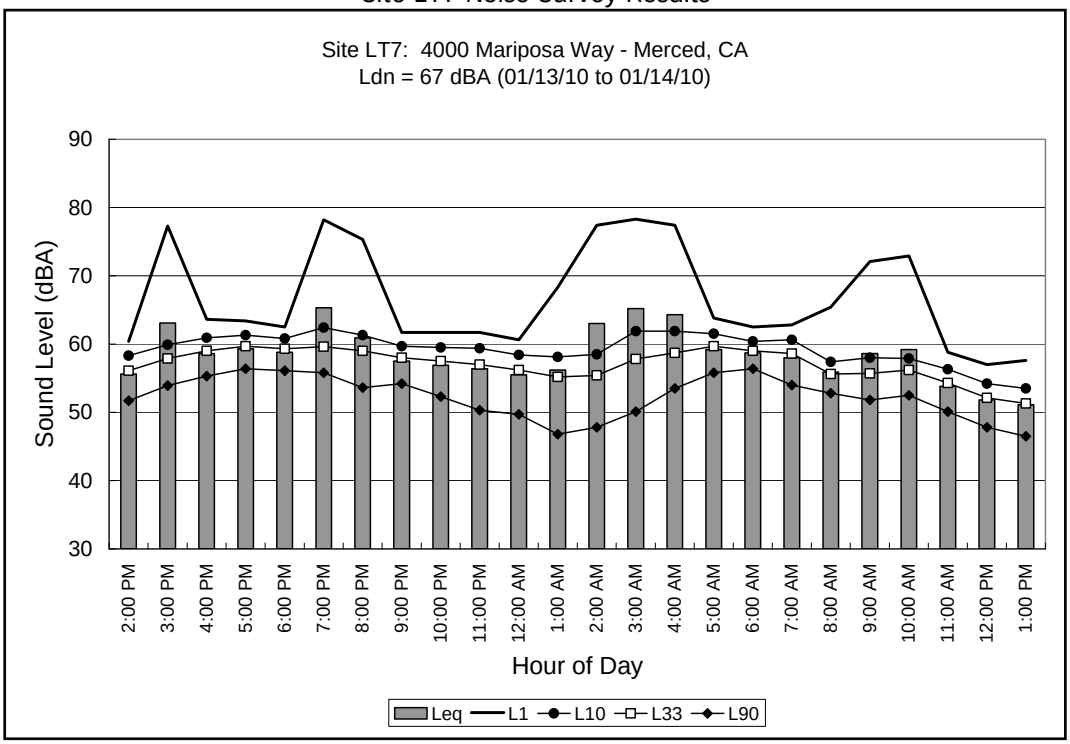


Figure C-8
Site LT9 Noise Survey Results

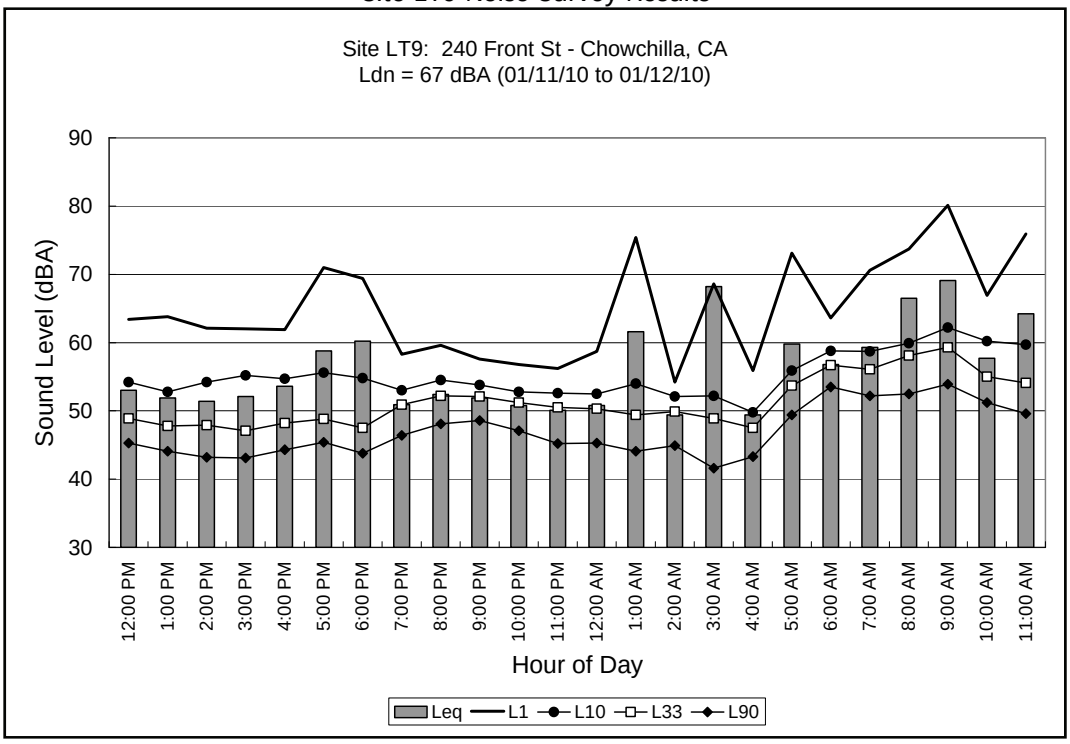


Figure C-9
Site LT10 Noise Survey Results

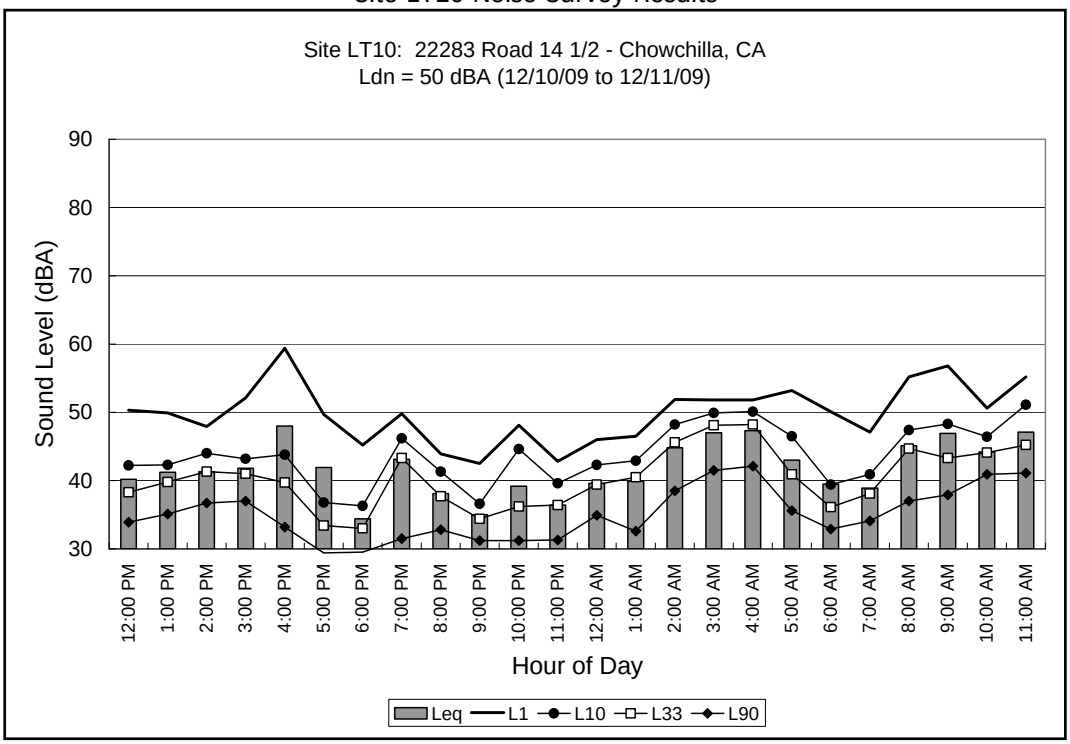


Figure C-10
Site LT11 Noise Survey Results

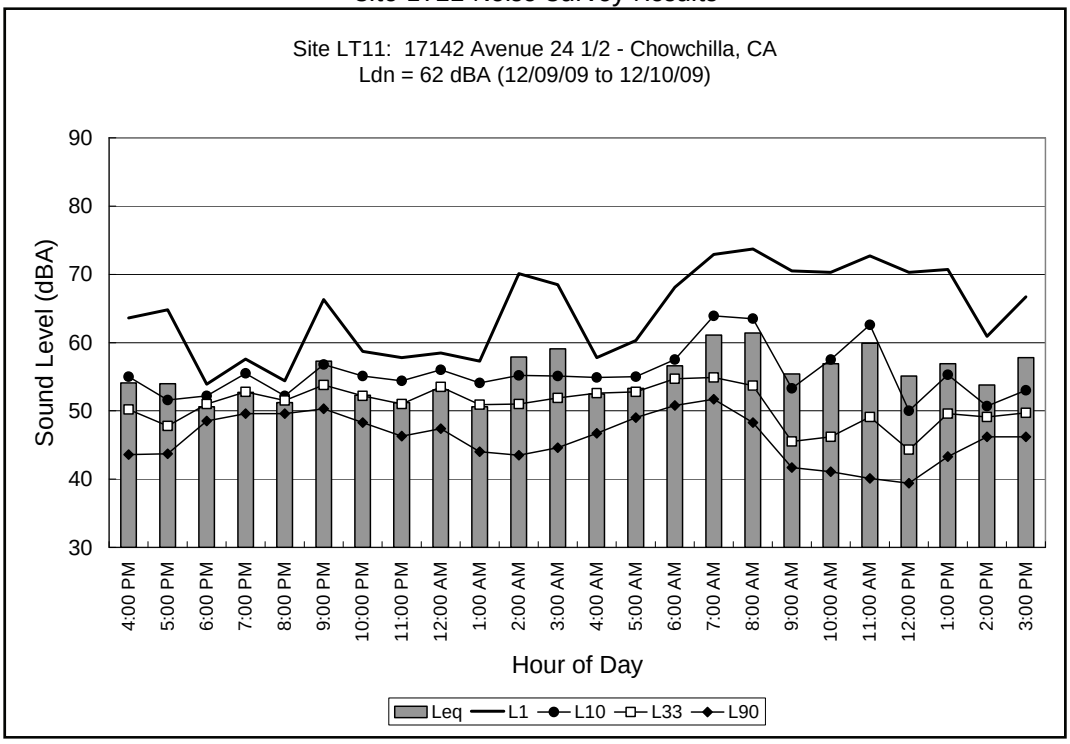


Figure C-11
Site LT12 Noise Survey Results

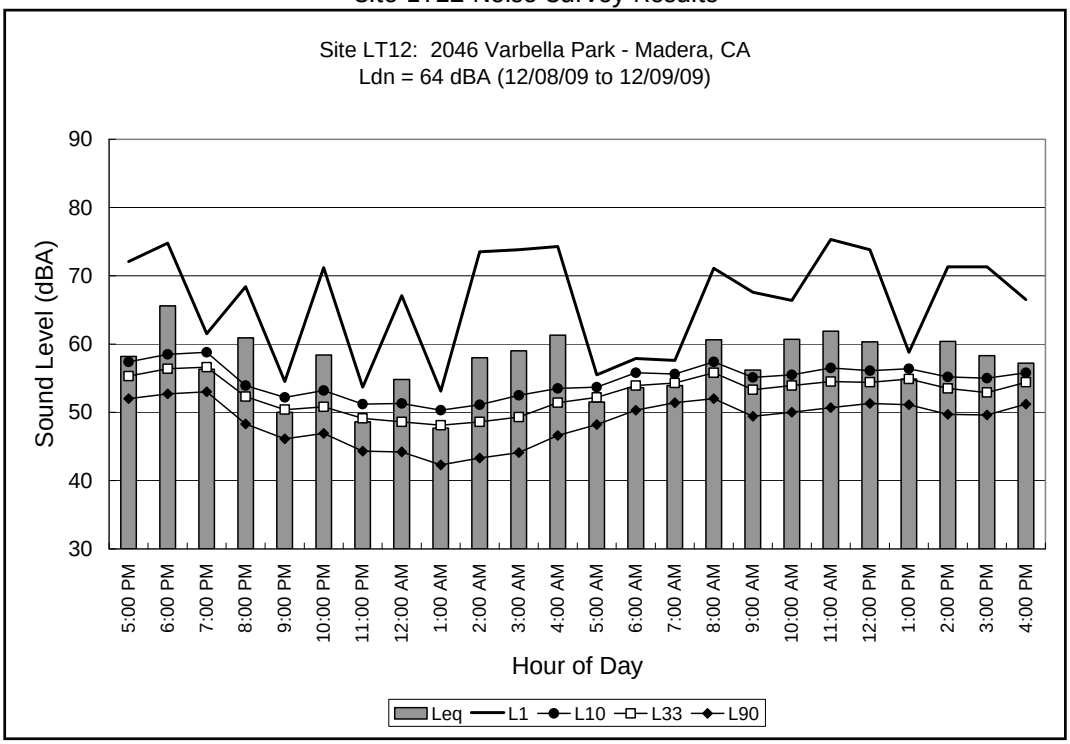


Figure C-12
Site LT14 Noise Survey Results

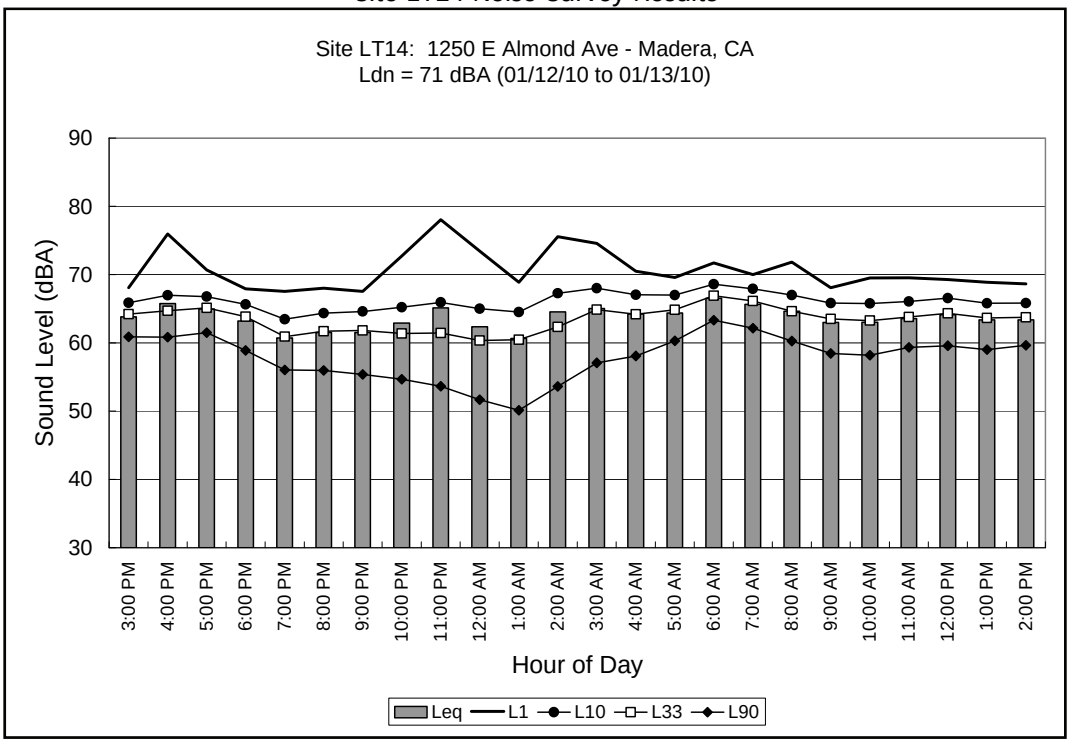


Figure C-13
Site LT15 Noise Survey Results

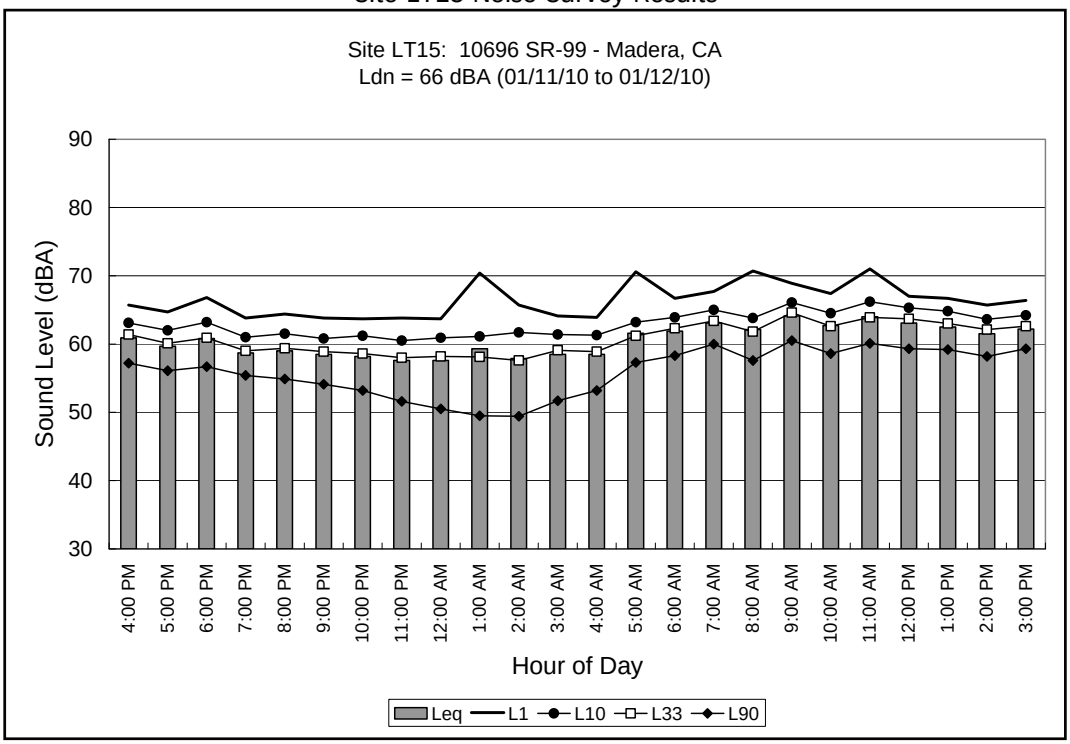


Figure C-14
Site LT17 Noise Survey Results

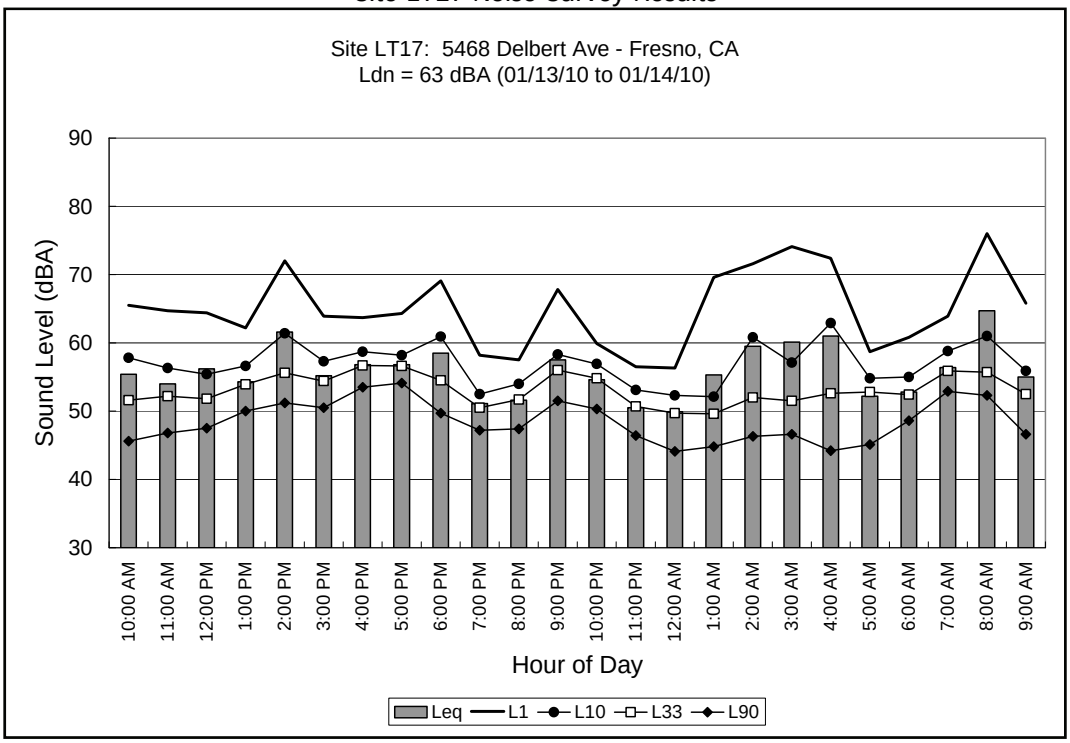


Figure C-15
Site LT18 Noise Survey Results

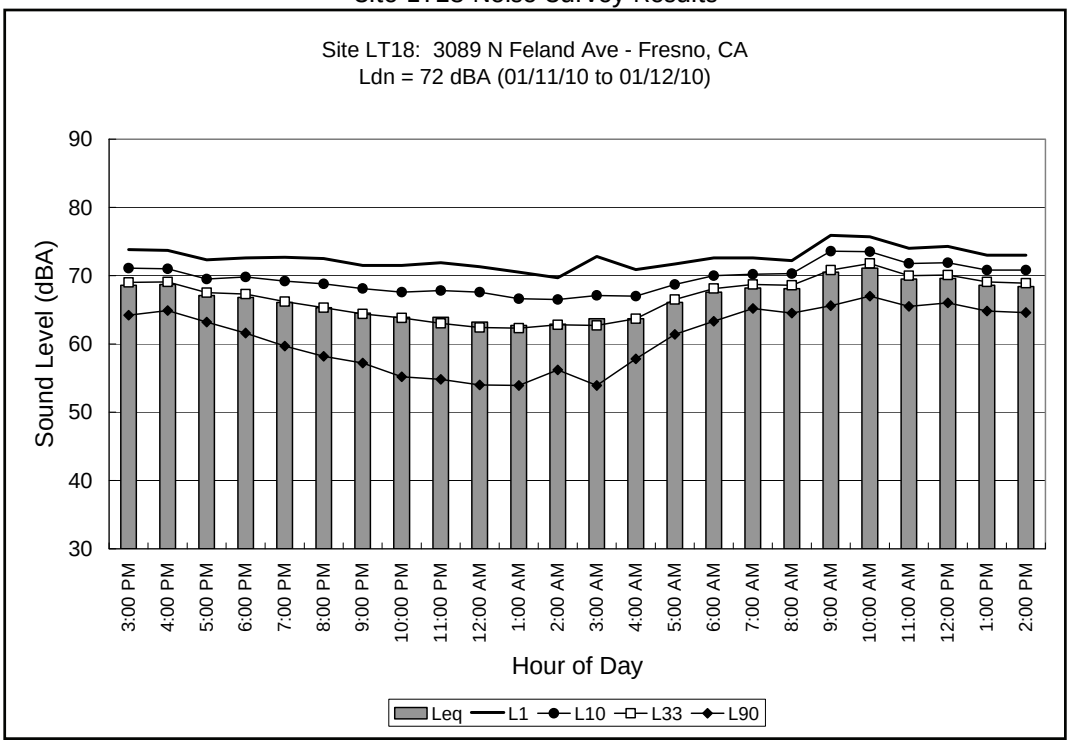


Figure C-16
Site LT19 Noise Survey Results

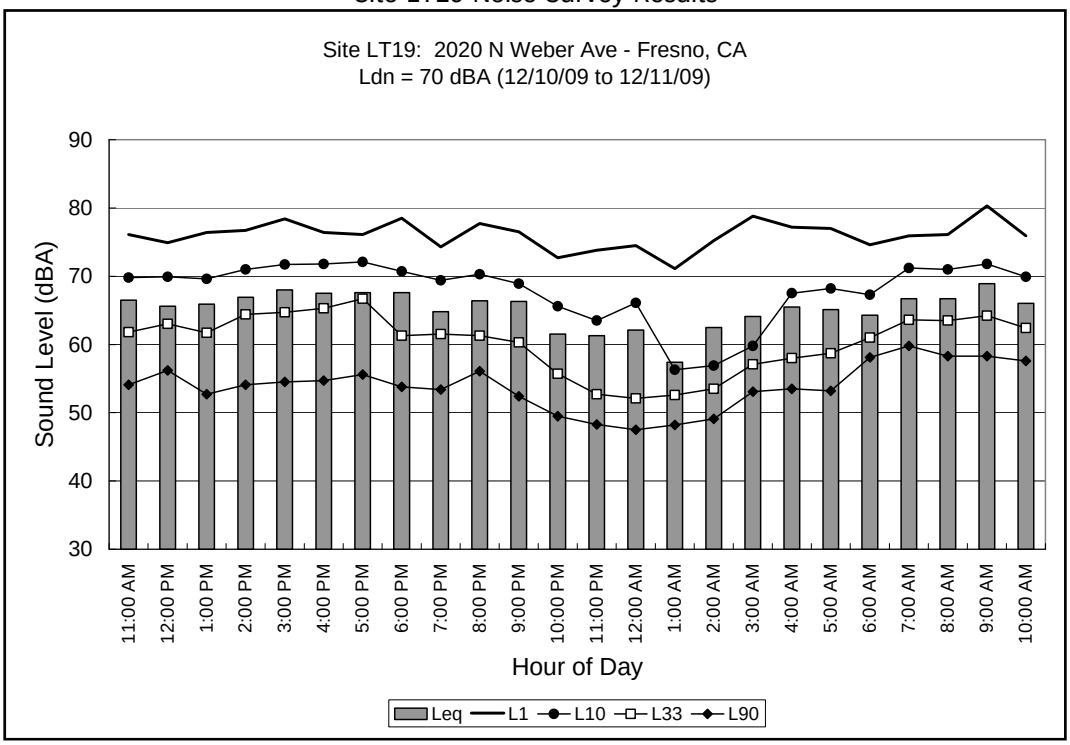


Figure C-17
Site LT20 Noise Survey Results

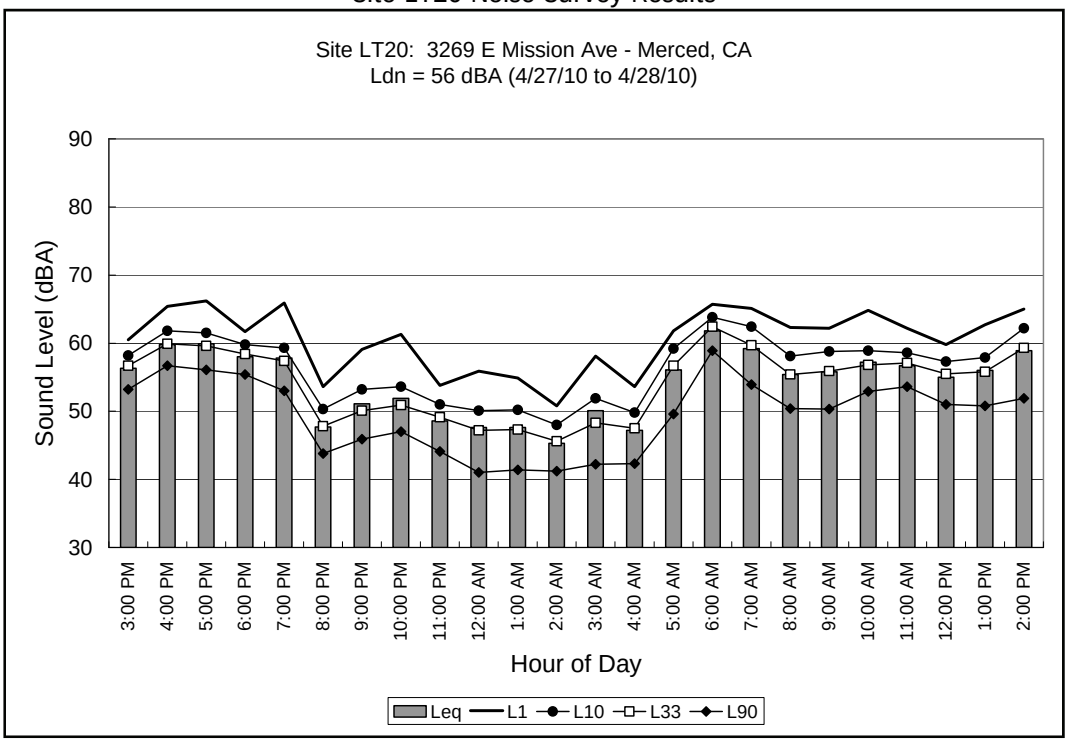


Figure C-18
Site LT21 Noise Survey Results

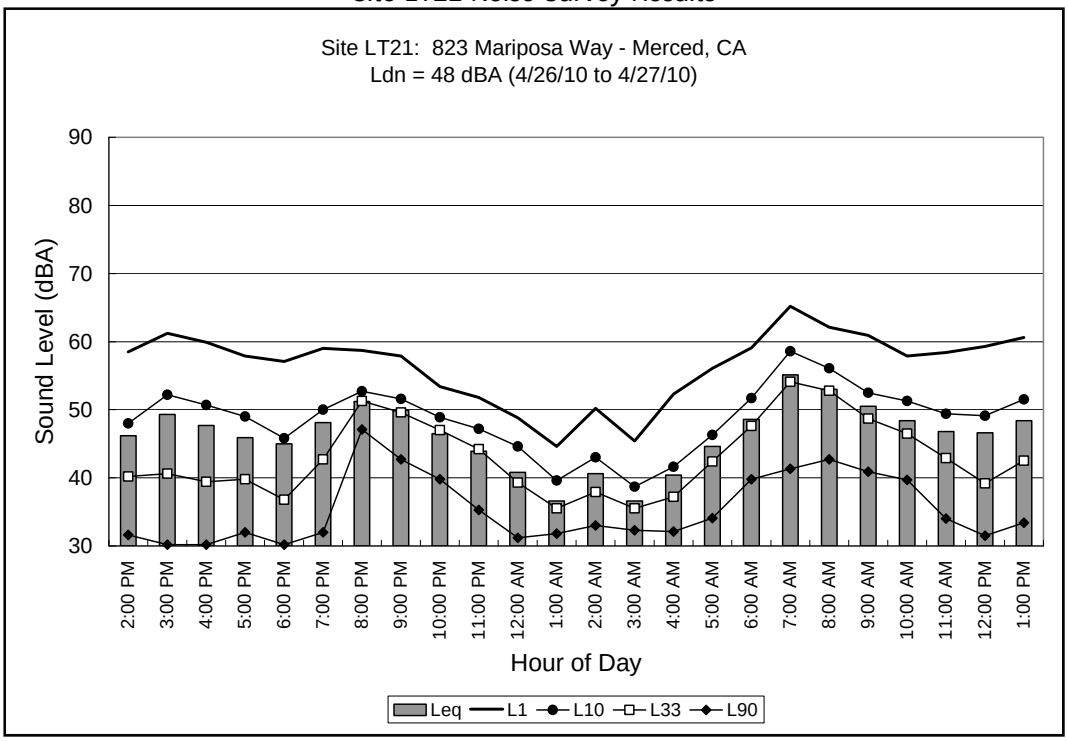


Figure C-19
Site LT22 Noise Survey Results

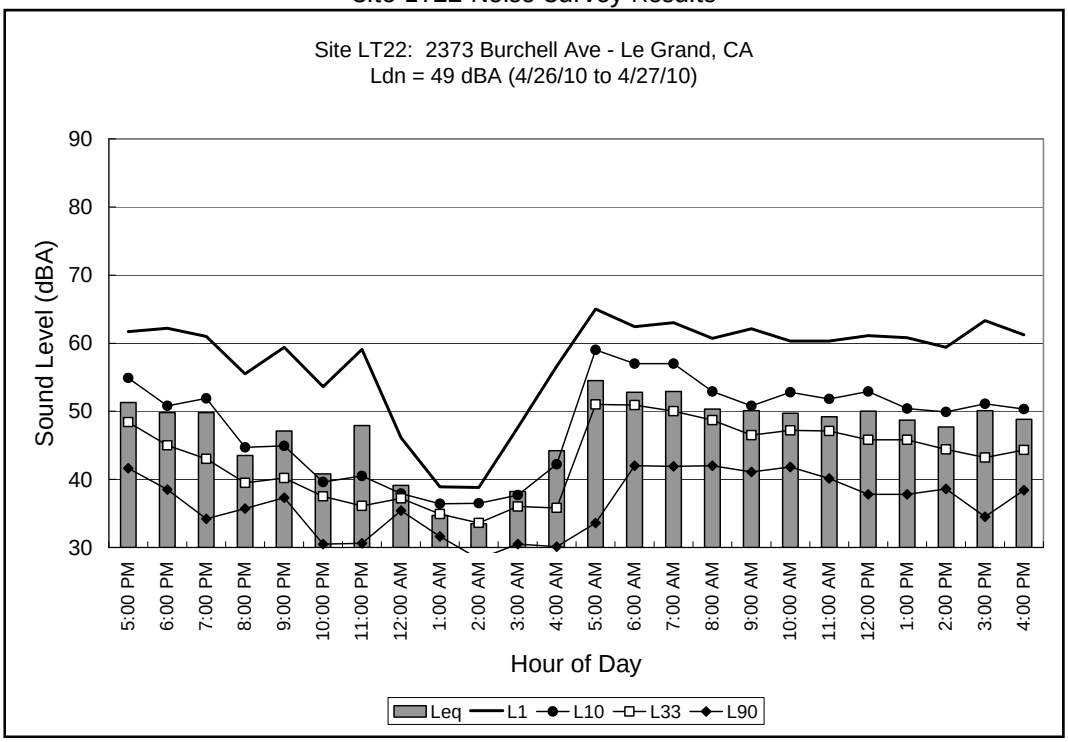


Figure C-20
Site LT23 Noise Survey Results

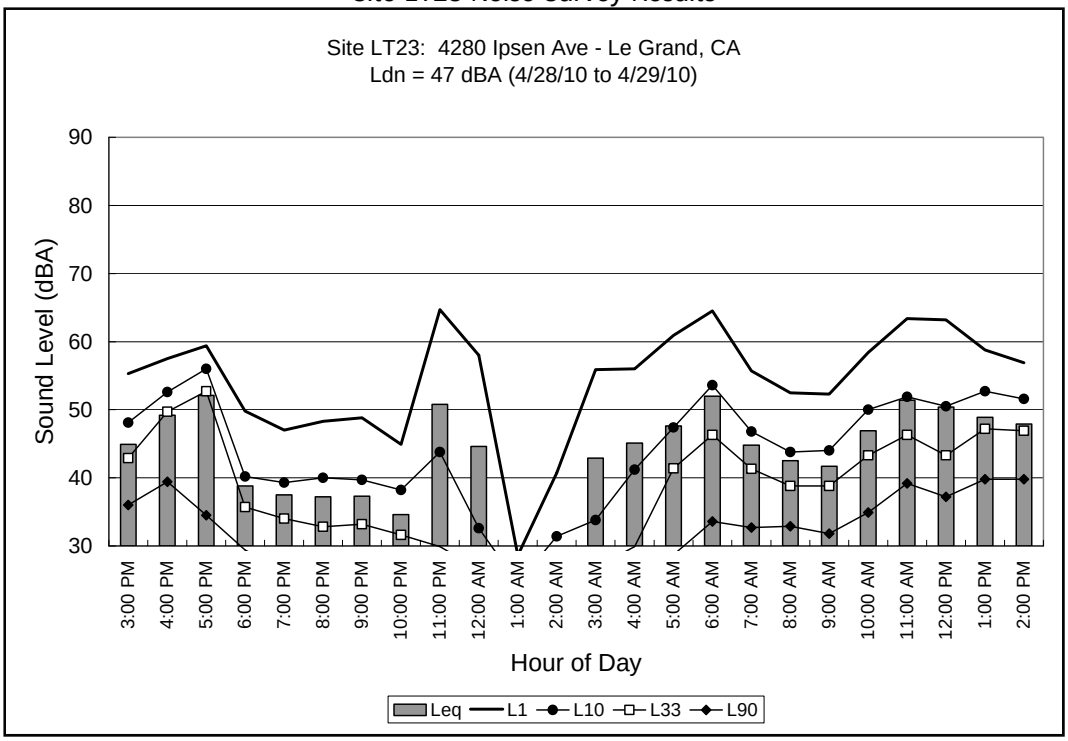


Figure C-21
Site LT24 Noise Survey Results

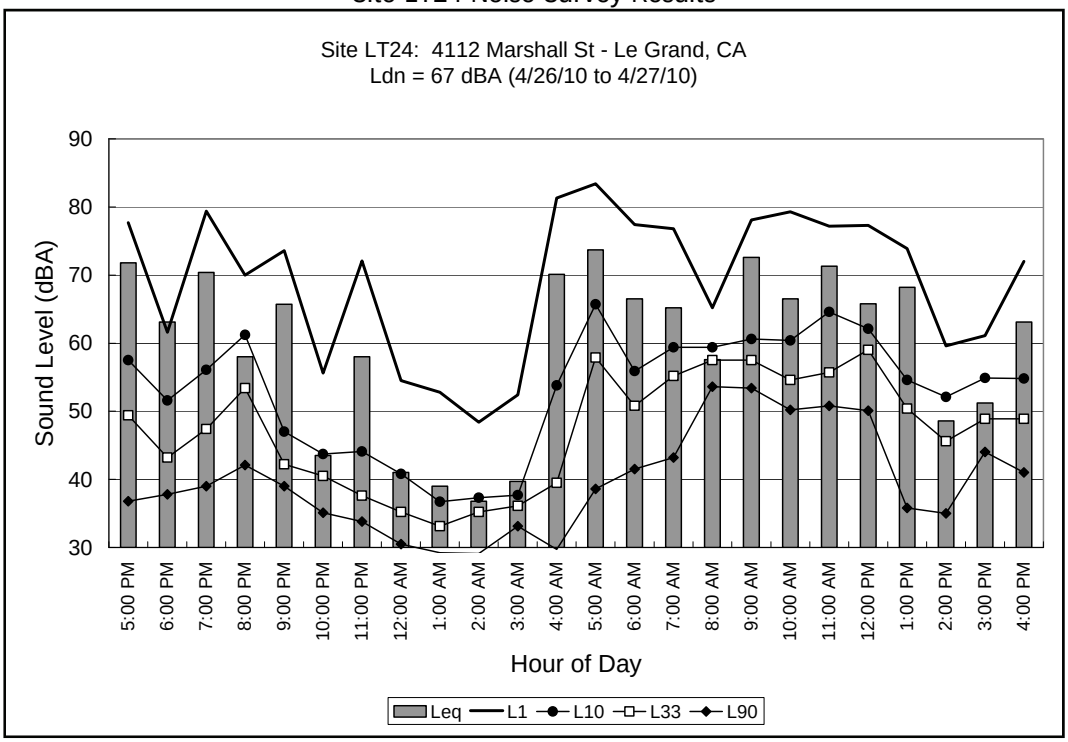


Figure C-22
Site LT25 Noise Survey Results

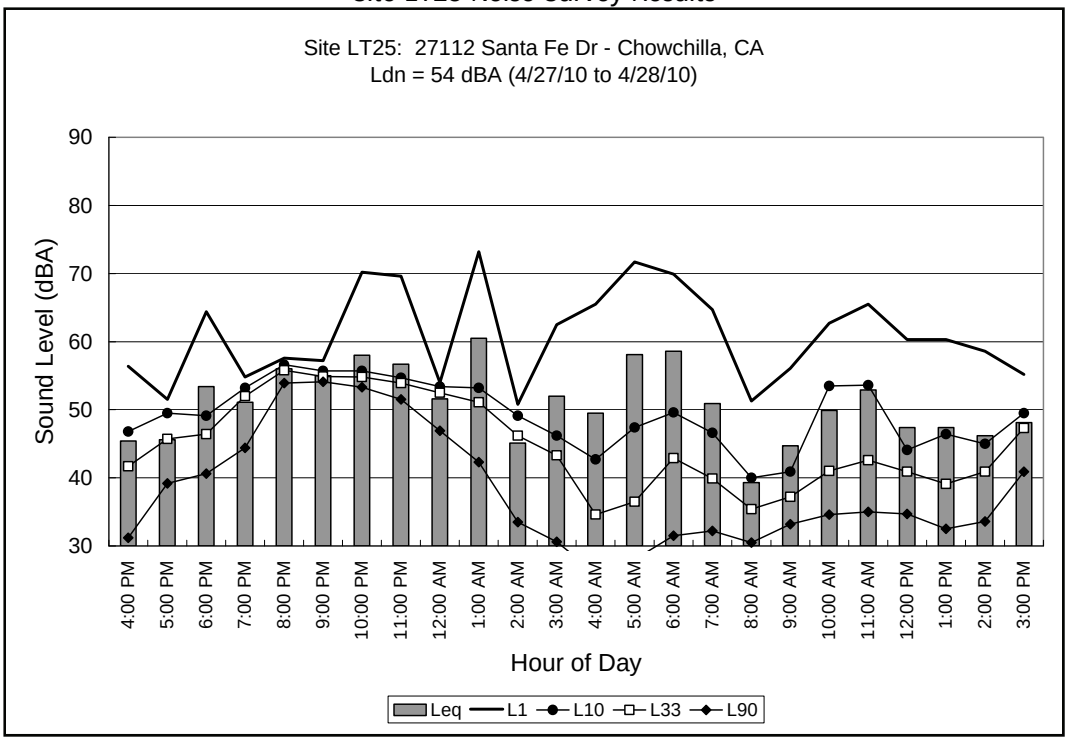


Figure C-23
Site LT26 Noise Survey Results

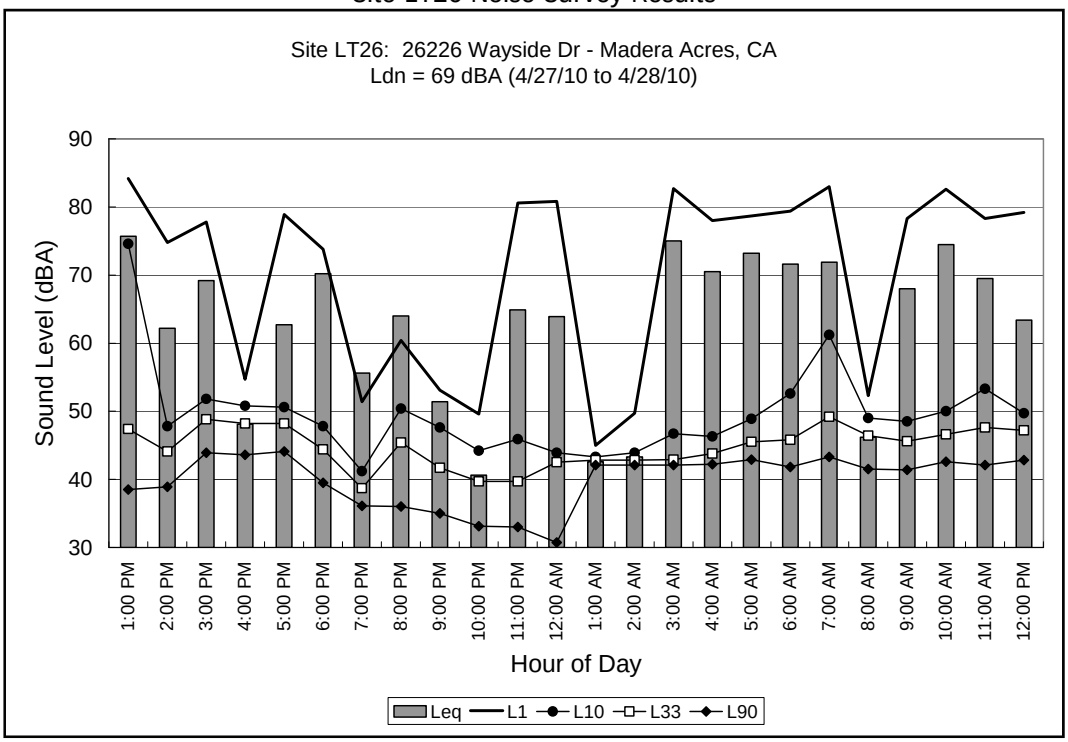


Figure C-24
Site LT27 Noise Survey Results

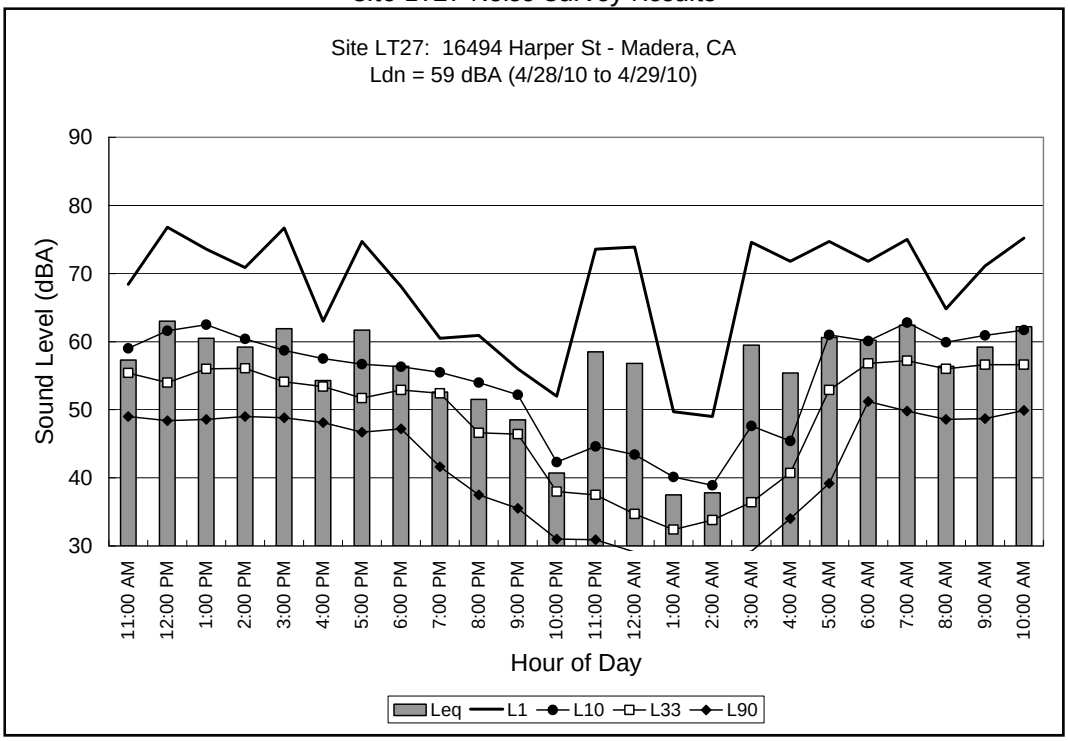


Figure C-25
Site LT28 Noise Survey Results

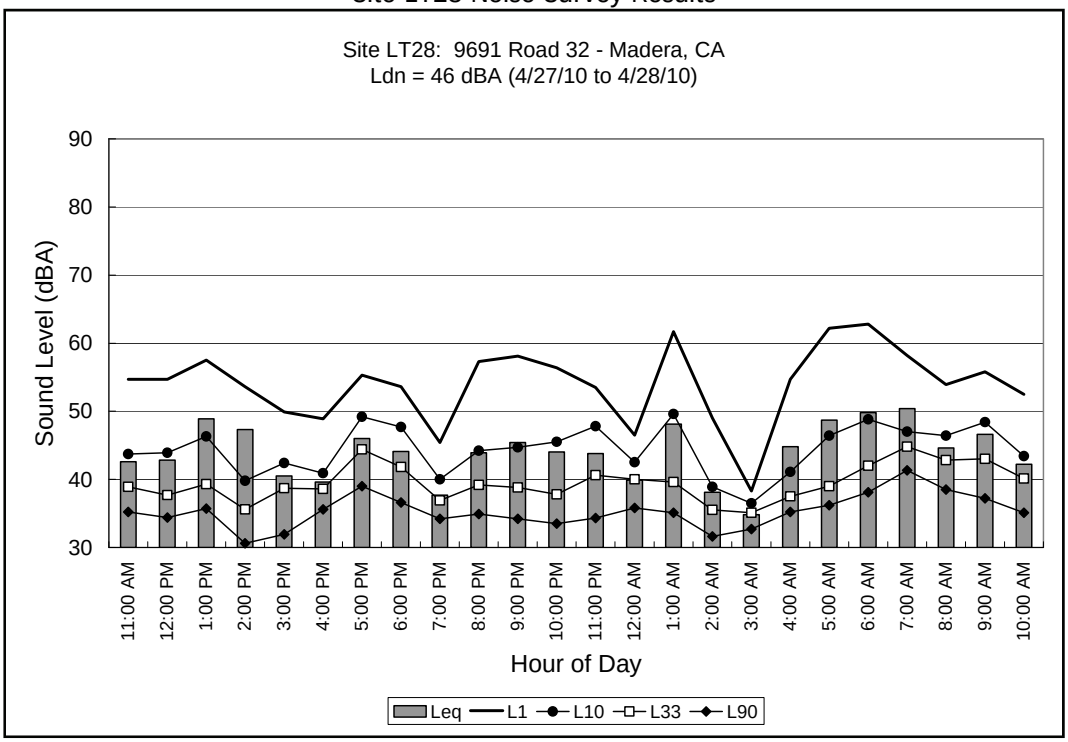


Figure C-26
Site LT29 Noise Survey Results

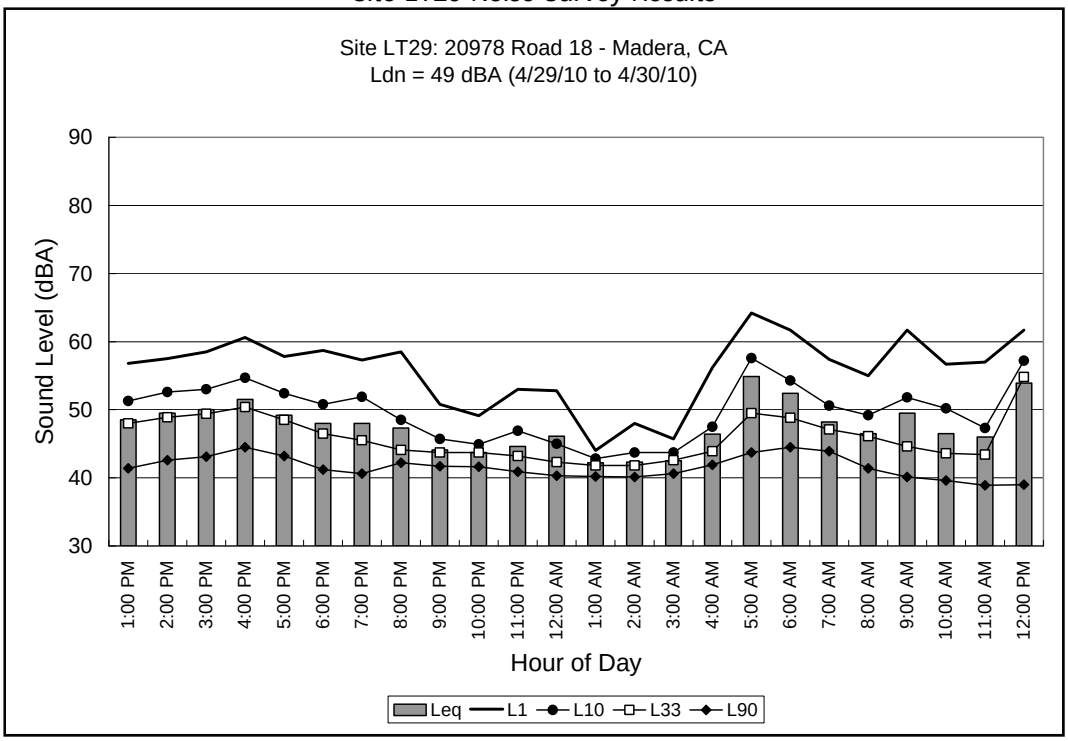


Figure C-27
Site LT30 Noise Survey Results

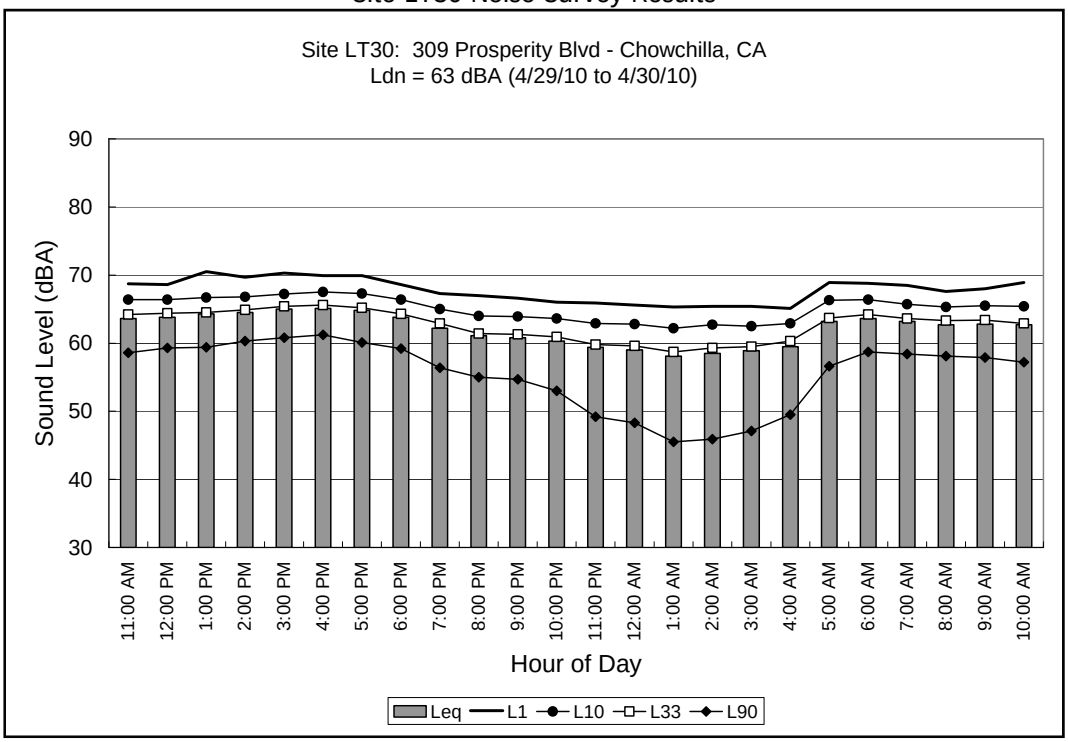


Figure C-28
Site LT31 Noise Survey Results

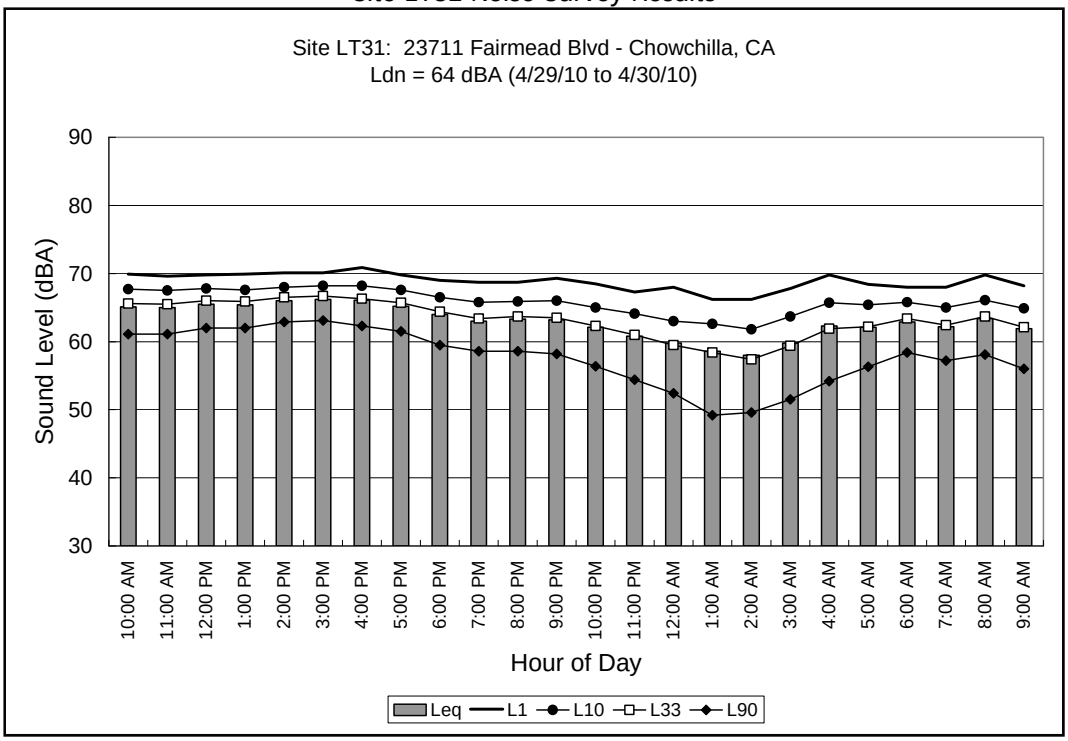
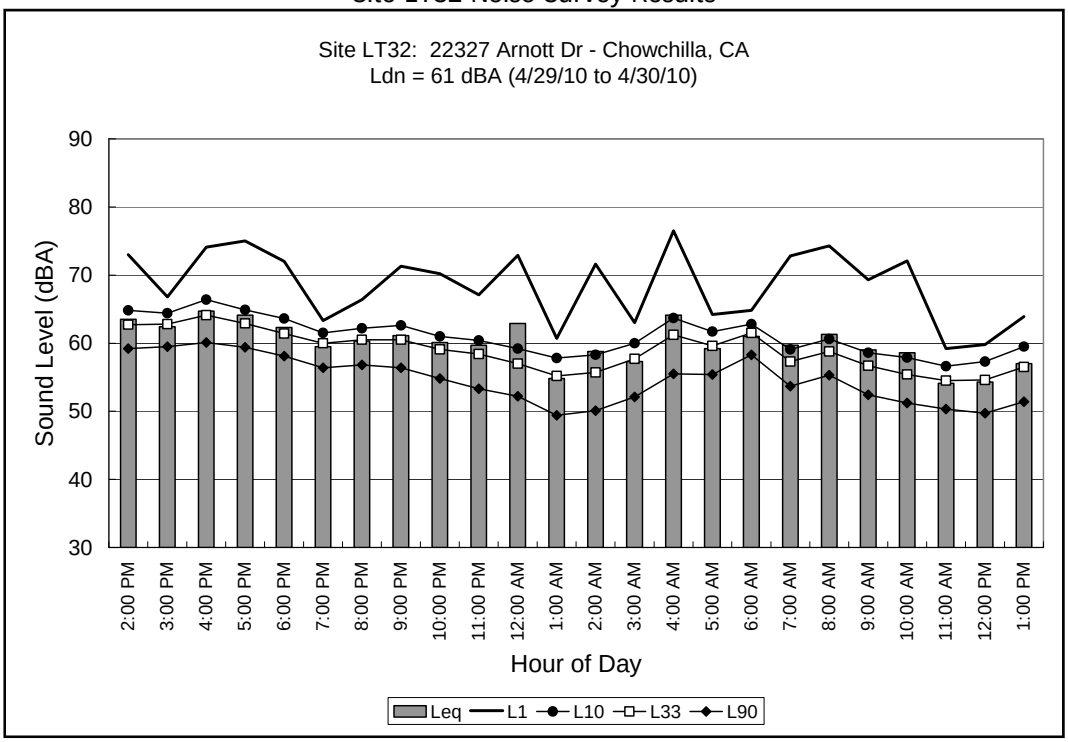


Figure C-29
Site LT32 Noise Survey Results



Long-Term Noise Measurement Data Sheets

Figure C-30
Site LT1 Data Sheet

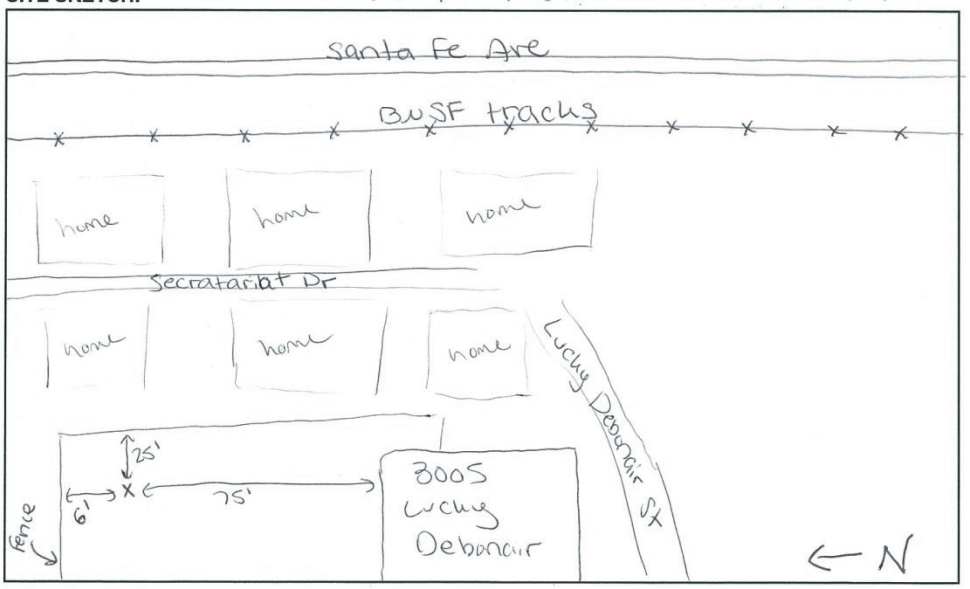
HARRIS MILLER MILLER & HANSON INC.

PROJECT: CAL HSR
JOB NO.: 303320

LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT1
ADDRESS: 3005 Lucky Debonair St Atwater, CA
OWNER: Mario Haro
DESCRIPTION: SF residence
tan house, green trim
NOISE SOURCES: Santa Fe Ave, prop + jet planes, BNSF track
NOISE MONITOR: LD870 #6 S/N: A0346
MICROPHONE: B+K 4189 S/N: 2021340
CALIBRATOR: GR1987 S/N: 2894
START DATE: 12/09/09 END DATE: 12/10/09
START TIME: 4:30 pm END TIME: 5:31 pm
SYNCH W/HOURS? yes
METRICS STORED: Ln, Leq
EXCEEDANCE Threshold: 60 dB Duration: ~~###~~ 5sec

SITE SKETCH: CAL: 114 offset 9.8 POSTCAL: 114.1 offset 9.8



Avg Temperature: 42 °F Weather Conditions: Sunny, wind <5mph

Figure C-31
Site LT2 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

PROJECT: CAL HSR
JOB NO.: 303320

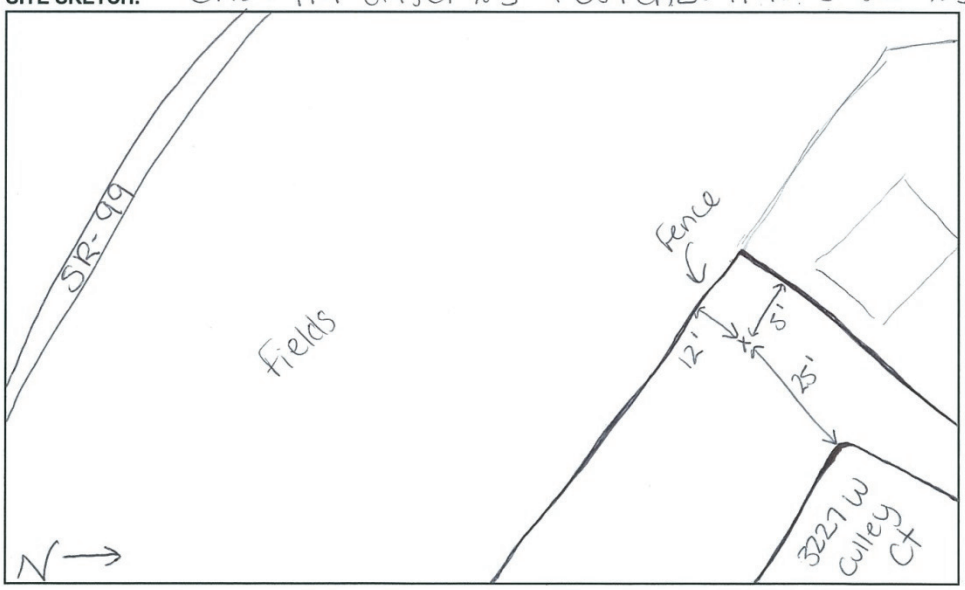
LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT2
ADDRESS: 3227 W Culley Ct Merced, CA
OWNER: Oziel Fernandez
DESCRIPTION: SF Residence

NOISE SOURCES: SR-99, small + commercial planes

NOISE MONITOR: LD 870 #8 S/N: A0193
MICROPHONE: B+K 4189 S/N: 2008916
CALIBRATOR: GR 1987 S/N: 3279 13006
START DATE: 12/08/09 END DATE: 12/09/09
START TIME: 11:11 am END TIME: 1:01 pm
SYNCH W/HOURS? Yes
METRICS STORED: Ln, Leq
EXCEEDANCE Threshold: 60 dB Duration: ~~[illegible]~~ 20 sec

SITE SKETCH: CAL: 114 offset 7.5 POSTCAL: 114.1 offset 7.5



Avg Temperature: 42 °F Weather Conditions: Sunny, wind <5mph

Figure C-32
Site LT3 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

PROJECT: CAL HSR
JOB NO.: 3033320

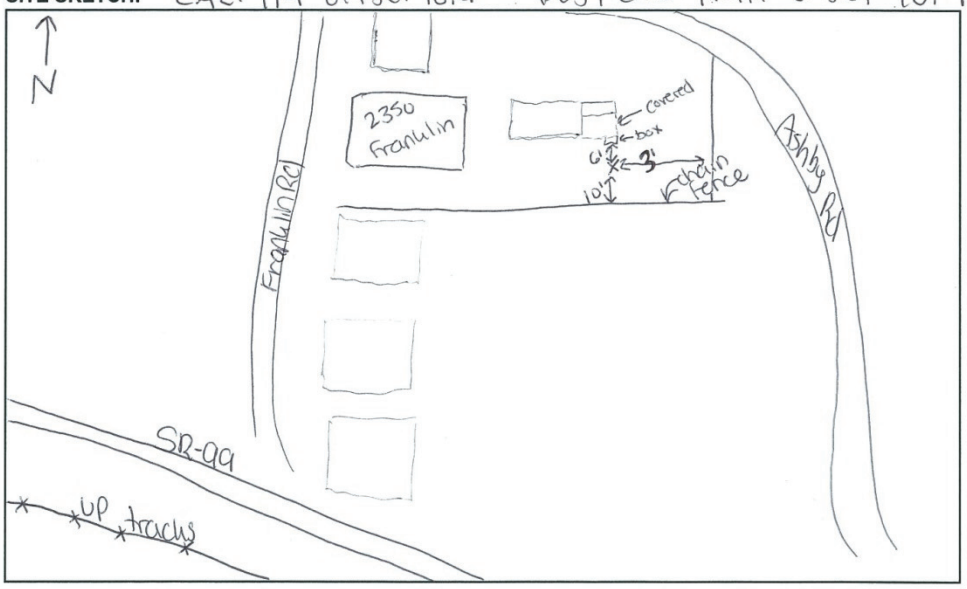
LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT3
ADDRESS: 2350 Franklin Rd Merced, CA
OWNER: Robert Rice
DESCRIPTION: SF Residence

NOISE SOURCES: SR-99, UP tracks, Franklin Rd, barking dogs

NOISE MONITOR: LD 820 #3 S/N: 1286
MICROPHONE: GRAS40AQ S/N: 16979
CALIBRATOR: Quest QC-20 S/N: QF8040011
START DATE: 01/11/10 END DATE: 01/12/10
START TIME: 8:45 am END TIME: 9:20 am
SYNCH W/HOURS? yes
METRICS STORED: Ln, Leq, TH
EXCEEDANCE Threshold: 68 dB Duration: 5 sec.

SITE SKETCH: CAL: 114 offset 10.4 POST CAL: 114.1 offset 10.4



Avg Temperature: 45 °F Weather Conditions: overcast, some fog, wind <5mph

Figure C-33
Site LT4 Data Sheet

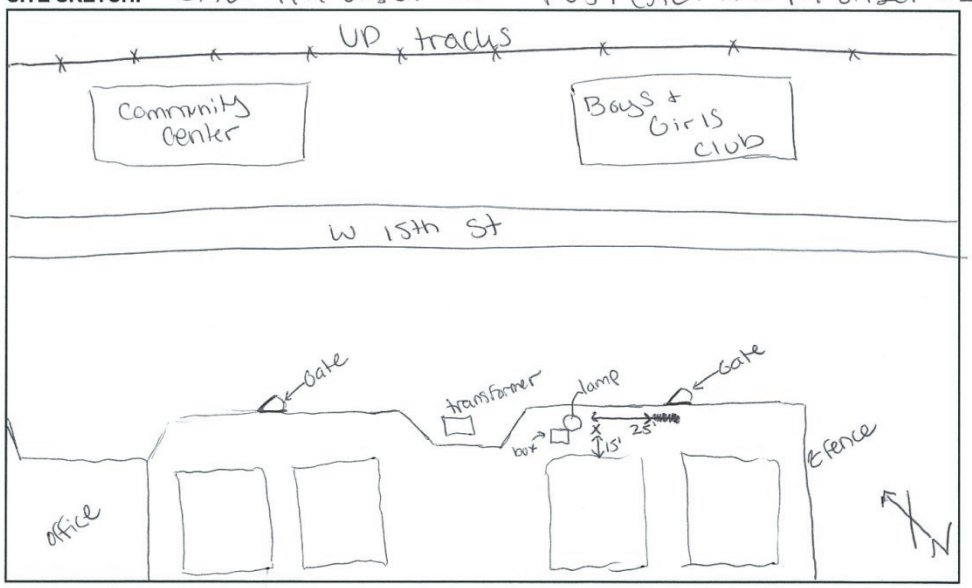
HARRIS MILLER MILLER & HANSON INC.

PROJECT: CAL HSR
JOB NO.: 303320

LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT4
ADDRESS: 720 W 15th St
OWNER: Sierra Meadows Senior Apartments
DESCRIPTION: Retirement village - MF buildings
NOISE SOURCES: SR-99, UP tracks, 15th St, yard work
NOISE MONITOR: LD820 #4 S/N: A1011
MICROPHONE: B+K4189 S/N: 2386155
CALIBRATOR: Quest QC-20 S/N: QC0070019
START DATE: 01/11/10 END DATE: 01/12/10
START TIME: 9:52 am END TIME: 10:50 am
SYNCH W/HOURS? yes
METRICS STORED: Ln, Leq, TMist
EXCEEDANCE Threshold: 70 dB Duration: 5secs.

SITE SKETCH: CAL: 114 offset 7.6 POST CAL: 113.94 offset 7.2



Avg Temperature: 45 °F Weather Conditions: Overcast, fog, wind <5mph

Figure C-34
Site LT5 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

PROJECT: CAL HSR
JOB NO.: 303320

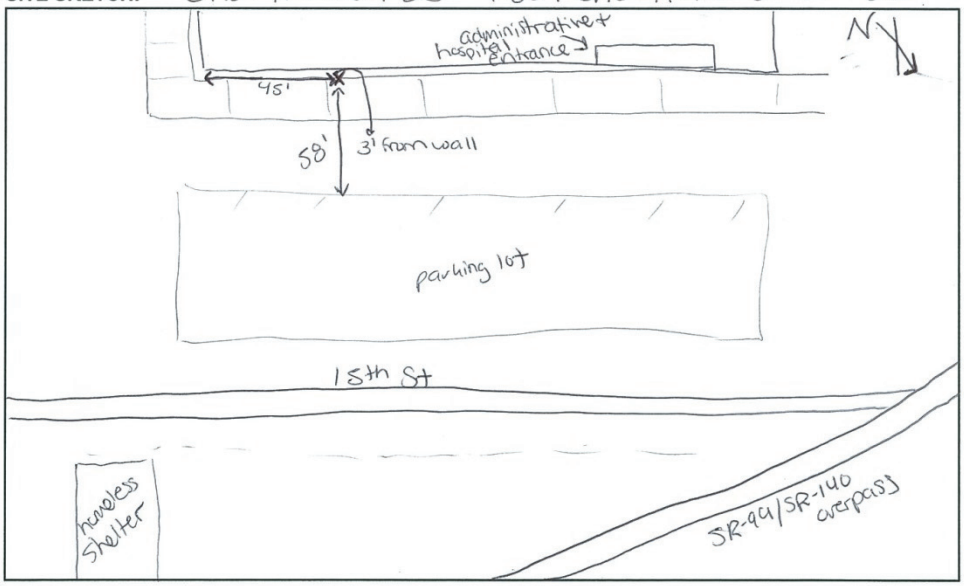
LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT5
ADDRESS: 301 E 13th St Merced, CA (15th St entrance)
OWNER: Mercy Medical Center Merced
DESCRIPTION: hospital

NOISE SOURCES: SR-99, UP tracks, 15th St, Gov't traffic, ambulances, trucks

NOISE MONITOR: LD 870 #7 S/N: A0556
MICROPHONE: GRAS 40AQ S/N: 0653 & pre amp 19907
CALIBRATOR: CA 250 S/N: 2368
START DATE: 12/08/09 END DATE: 12/09/09
START TIME: 12:30 pm END TIME: 1:45 pm
SYNCH W/HOURS? yes
METRICS STORED: Ln, Leq
EXCEEDANCE Threshold: 70 dB Duration: —

SITE SKETCH: CAL: 114 offset 8.5 POST CAL: 114.5 offset 8.5



Avg Temperature: 42 °F Weather Conditions: sunny, wind < 5mph

Figure C-35
Site LT6 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

PROJECT: CAL HSR
JOB NO.: 303320

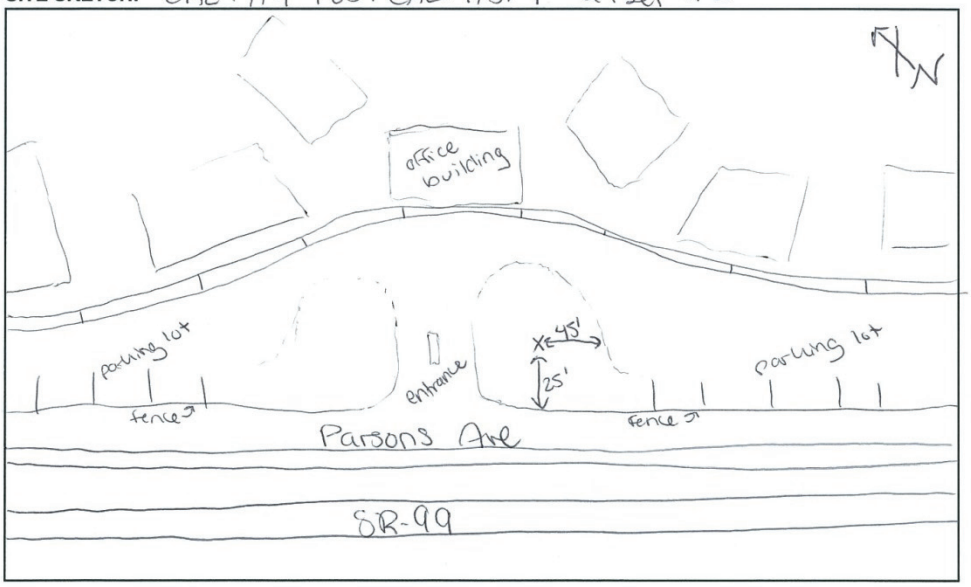
LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT6
ADDRESS: 3410 S Parsons Ave
OWNER: Grove Apartments
DESCRIPTION: MF buildings

NOISE SOURCES: Parsons Ave, SR-99, community noise

NOISE MONITOR: LD 820 #1 S/N: 1212
MICROPHONE: GRAS 40AQ S/N: 23040
CALIBRATOR: Quest QC-20 S/N: Q0004 0021
START DATE: 01/13/10 END DATE: 01/14/10
START TIME: 2:20 pm END TIME: 4:15 pm
SYNCH W/HOURS? Yes
METRICS STORED: Ln, Leq, T Hist
EXCEEDANCE Threshold: [redacted] Duration: 1 sec T Hist

SITE SKETCH: CAL: 114 POST CAL: 113.9 offset 7.2



Avg Temperature: 55 °F Weather Conditions: Sunny, northerly wind < 5 mph

Figure C-36
Site LT7 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

PROJECT: CALHSR
JOB NO.: 303320

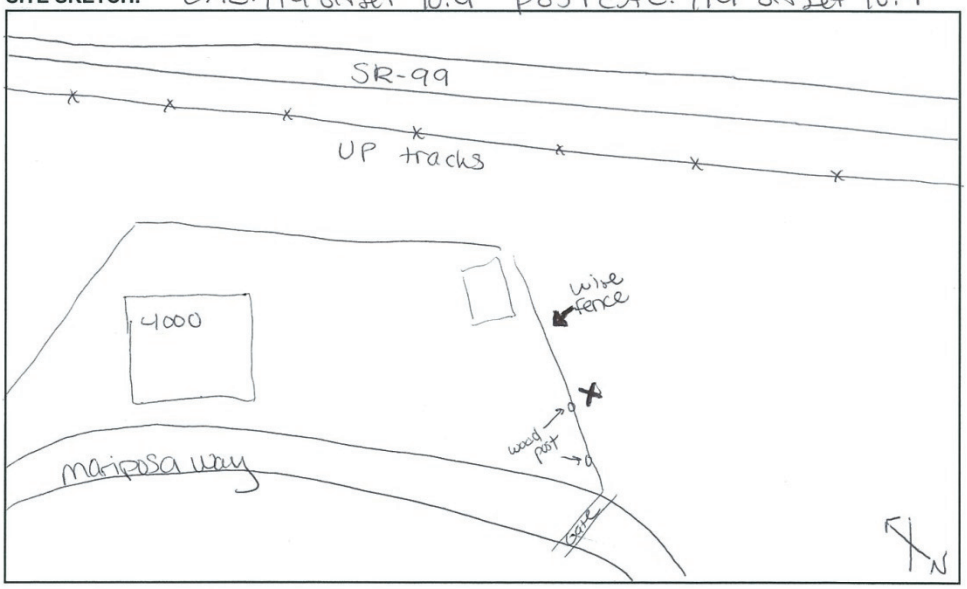
LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT7
ADDRESS: 4000 Mariposa Way Merced, CA
OWNER: Harvey + Vicki Spencer
DESCRIPTION: SF Residence, farm/sheds

NOISE SOURCES: SR-99, UP tracks, dogs barking

NOISE MONITOR: LD 820 #3 S/N: 1286
MICROPHONE: GRAS 40 AQ S/N: 16979
CALIBRATOR: Quest QC-20 S/N: QF8040011
START DATE: 01/13/10 END DATE: 01/14/10
START TIME: 1:50pm END TIME: 3:30pm
SYNCH W/HOURS? Yes
METRICS STORED: Ln, Leq, THist
EXCEEDANCE Threshold: 68 dB Duration: 5 sec

SITE SKETCH: CAL: 114 offset 10.4 POSTCAL: 114 offset 10.4



Avg Temperature: 60 °F Weather Conditions: Sunny, wind < 5 mph

Figure C-37
Site LT9 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

PROJECT: CAL HSR
JOB NO.: 303320

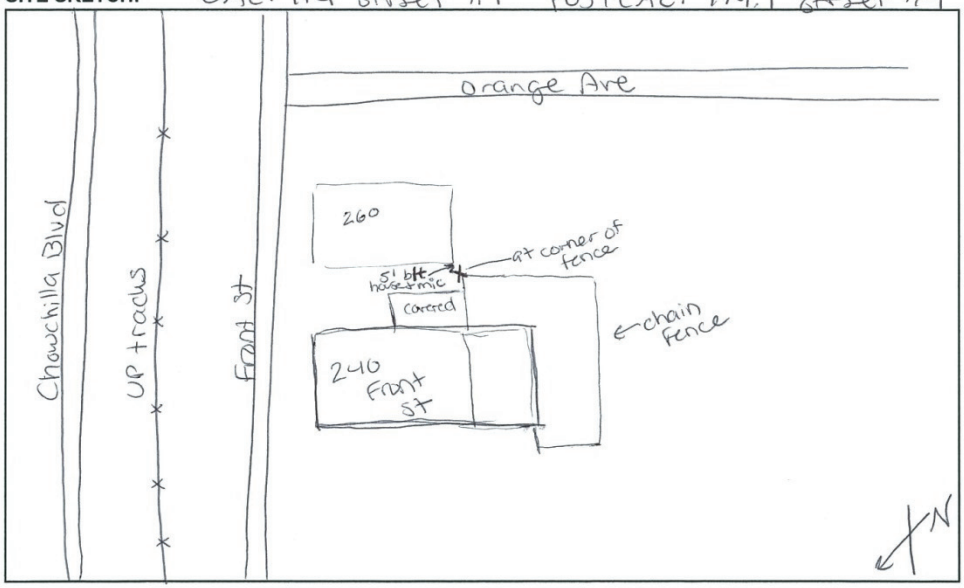
LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT9
ADDRESS: 240 Front St Chowchilla, CA
OWNER:
DESCRIPTION: SF Residence

NOISE SOURCES: SR-99, SR-152, arterial traffic, local traffic, UP tracks

NOISE MONITOR: LD870 #7 S/N: 0556
MICROPHONE: GRAS 40AQ S/N: 19907
CALIBRATOR: CA250 S/N: 2368
START DATE: 01/11/10 END DATE: 01/12/10
START TIME: 11:30 am END TIME: 12:24 pm
SYNCH W/HOURS? yes
METRICS STORED: Ln, Leq, TMist
EXCEEDANCE Threshold: 70 dB Duration: 5 sec

SITE SKETCH: CAL: 114 offset 7.9 POSTCAL: 114.1 offset 7.9



Avg Temperature: 48 °F Weather Conditions: Overcast, Fog, wind < 5mph

Figure C-38
Site LT10 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

PROJECT: CAL HSR
JOB NO.: 303320

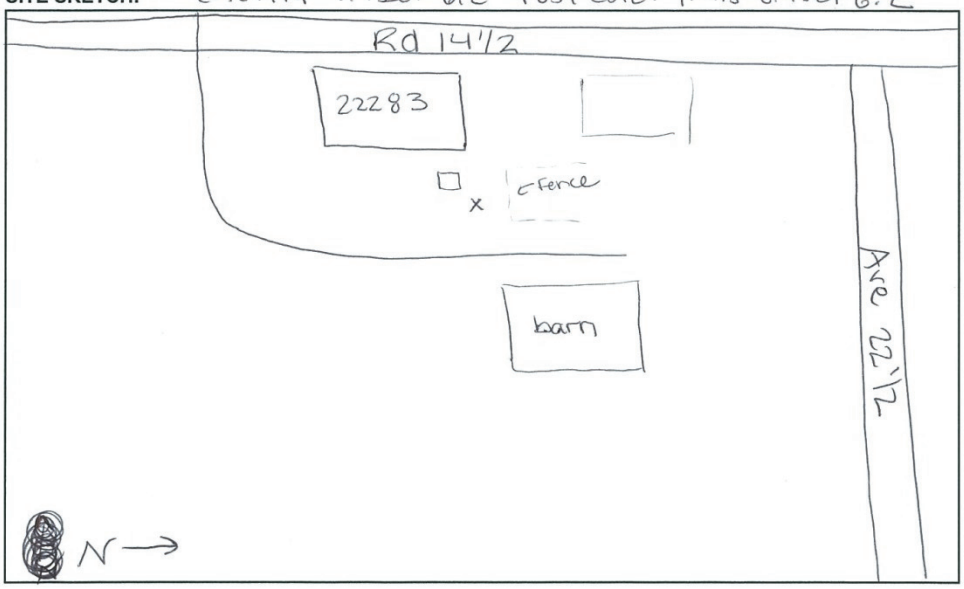
LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT10
ADDRESS: 22283 Rd 14 1/2 Chowchilla, CA
OWNER: Demeter
DESCRIPTION: SF Residence, farm

NOISE SOURCES: rural community, distant rail, Rd 14 1/2

NOISE MONITOR: LD 820 #2 S/N: 1216
MICROPHONE: GRAS 40 AQ S/N: 21520
CALIBRATOR: Quest QC 20 S/N: QO 0040022
START DATE: 12/10/09 END DATE: 12/11/09
START TIME: 10:10 am END TIME: 11:00 am
SYNCH W/HOURS? Yes
METRICS STORED: Ln, Leq
EXCEEDANCE Threshold: NA Duration: —

SITE SKETCH: CAL: 1114 offset 6.2 POST CAL: 1145 offset 6.2



Avg Temperature: 50 °F Weather Conditions: clear, wind < 5mph, overnight rain

Figure C-39
Site LT11 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

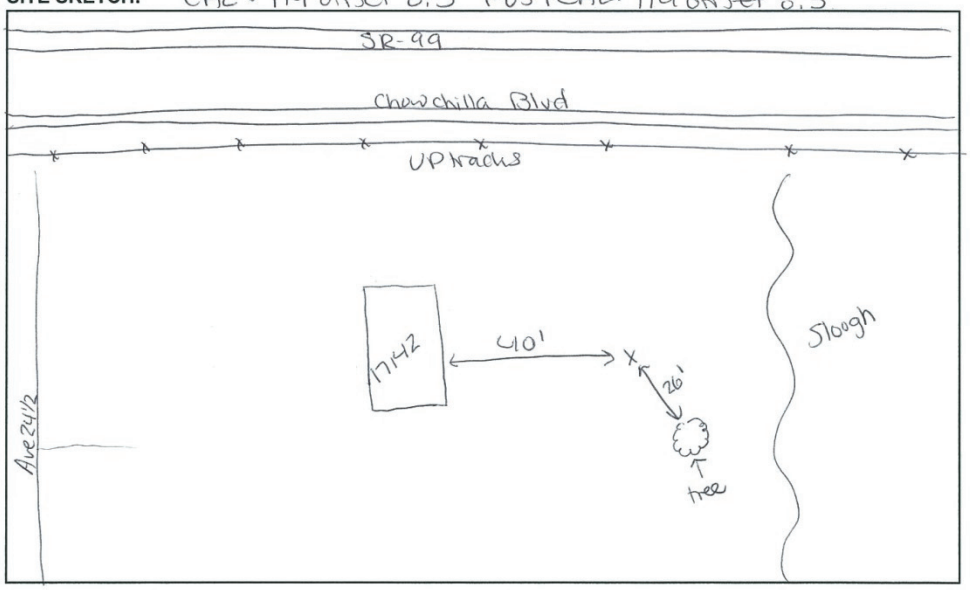
PROJECT: CAL HSR
JOB NO.: 303320

LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT11
ADDRESS: 17142 Ave 24 1/2 Chowchilla, CA
OWNER: Liz Pinto
DESCRIPTION: SF Residence, Farm

NOISE SOURCES: SR-99, UP tracks, Chowchilla Blvd, Ave 24 1/2, tractors/trucks, small/jet planes
NOISE MONITOR: LD870 #7 S/N: 0556
MICROPHONE: GRAS 40AQ S/N: 19907
CALIBRATOR: CA250 S/N: 2368
START DATE: 12/09/09 END DATE: 12/10/09
START TIME: 3:12 pm END TIME: 4:15 pm
SYNCH W/HOURS? yes
METRICS STORED: Ln, Leq
EXCEEDANCE Threshold: 60 dB Duration: —

SITE SKETCH: CAL: 114 offset 8.3 POSTCAL: 114 offset 8.3



Avg Temperature: 42 °F Weather Conditions: sunny, wind <5 mph

Figure C-40
Site LT12 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

PROJECT: CALHSR
JOB NO.: 303320

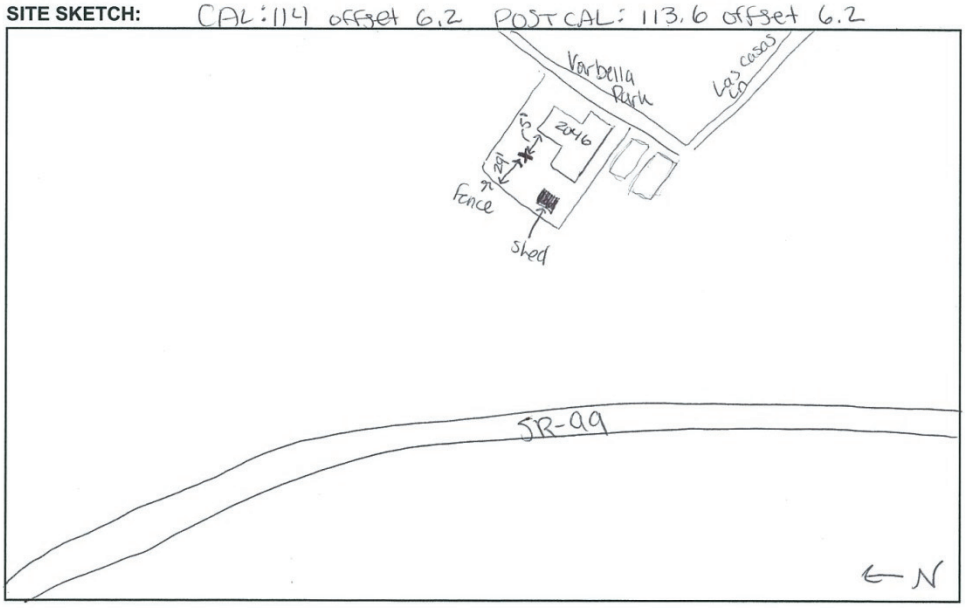
LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT12
ADDRESS: 2046 Varbella Park Madera, CA
OWNER: Jamie Diaz
DESCRIPTION: SF Residence

NOISE SOURCES: SR-99, UP tracks, local traffic

NOISE MONITOR: LD820 #2 S/N: 1216
MICROPHONE: GRAS 40AQ S/N: 21520
CALIBRATOR: Quest QC-20 S/N: Q00040022
START DATE: 12/08/09 END DATE: 12/09/09
START TIME: 4:35 pm END TIME: 5:35 pm
SYNCH W/HOURS? yes
METRICS STORED: Ln, Leq
EXCEEDANCE Threshold: 65 dB Duration: 5 sec

SITE SKETCH: CAL: 114 offset 6.2 POST CAL: 113.6 offset 6.2



Avg Temperature: 42 °F Weather Conditions: wind < 5mph

Figure C-41
Site LT14 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

PROJECT: CALHSR
JOB NO.: 303320

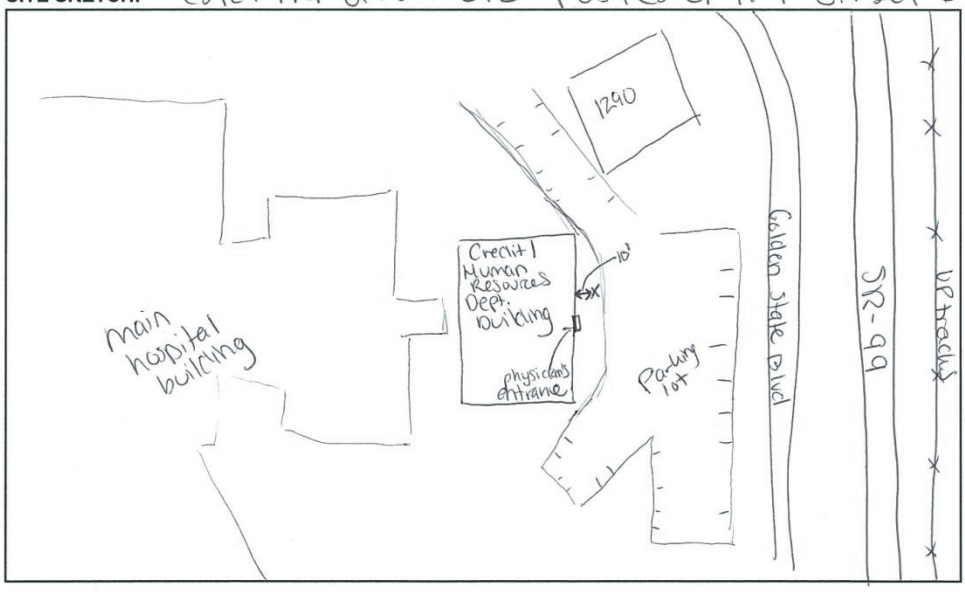
LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT14
ADDRESS: 1250 E Almond Ave Madera, CA
OWNER: Madera Community Hospital
DESCRIPTION: hospital

NOISE SOURCES: SR-99, UP tracks, parking lot & foot traffic, ambulances

NOISE MONITOR: LD 820 H2 S/N: 1216
MICROPHONE: GRAS 40 AQ S/N: 21520
CALIBRATOR: Quest QC-20 S/N: Q0004 0022
START DATE: 11/12/10 END DATE: 11/13/10
START TIME: 2:52 pm END TIME: 3:29 pm
SYNCH W/HOURS? yes
METRICS STORED: Ln, Leq, THist
EXCEEDANCE Threshold: 73 dB Duration: 5 sec

SITE SKETCH: CAL: 114 offset 6.2 POSTCAL: 114 offset 6.2



Avg Temperature: 65 °F Weather Conditions: overcast/rain, wind < 5mph

Figure C-42
Site LT15 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

PROJECT: CAL HSR
JOB NO.: 303320

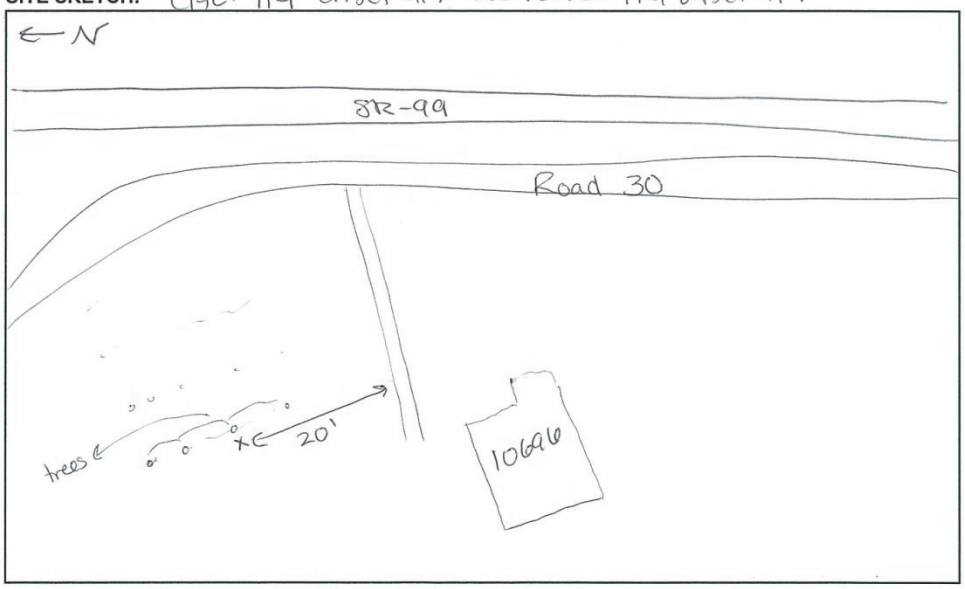
LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT15
ADDRESS: 10696 SR-99 Madera, CA
OWNER: Erikson
DESCRIPTION: SF Residence, farm

NOISE SOURCES: SR-99, Rd 30

NOISE MONITOR: LD 870 #6 S/N: 0346
MICROPHONE: B&K 4189 S/N: 2021340
CALIBRATOR: GR 1987 S/N: 2894
START DATE: 01/11/10 END DATE: 01/12/10
START TIME: 3:30 pm END TIME: 5:00 pm
SYNCH W/HOURS? yes
METRICS STORED: Ln, Leq
EXCEEDANCE Threshold: 70 dB Duration: 5 sec

SITE SKETCH: CAL: 114 offset 9.7 POSTCAL: 114 offset 9.7



Avg Temperature: 55 °F Weather Conditions: Southerly wind <5mph

Figure C-43
Site LT17 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

PROJECT: CAL HSR
JOB NO.: 303320

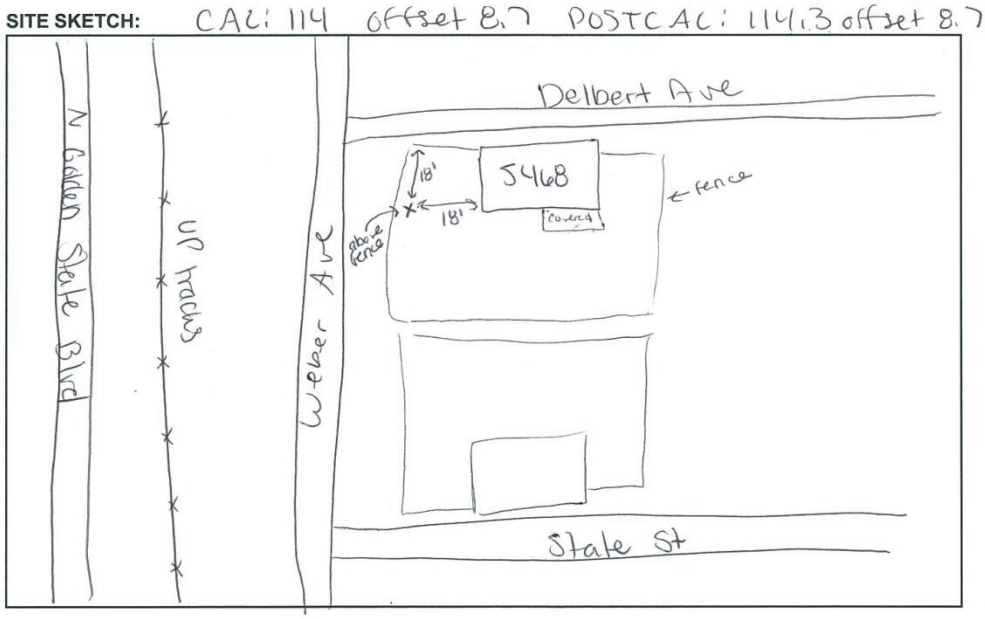
LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT17
ADDRESS: 5468 Delbert Ave Fresno, CA
OWNER: Jim
DESCRIPTION: SF Residence, corner of weber & Delbert

NOISE SOURCES: SR-99, N Golden State Blvd, N weber, UP tracks

NOISE MONITOR: LD 870 #1 S/N: 1212
MICROPHONE: GRAS 40AQ S/N: 23040
CALIBRATOR: Quest QC-20 S/N: Q0040021
START DATE: 01/13/10 END DATE: 01/14/10
START TIME: 9:30 am END TIME: 10:02 am
SYNCH W/HOURS? Yes
METRICS STORED: Ln, Leq, Lmax, THist
EXCEEDANCE Threshold: 73 dB Duration: 5 sec

SITE SKETCH: CAL: 114 offset 8.7 POSTCAL: 114.3 offset 8.7



Avg Temperature: 55 °F Weather Conditions: Sunny, wind <5mph

Figure C-44
Site LT18 Data Sheet

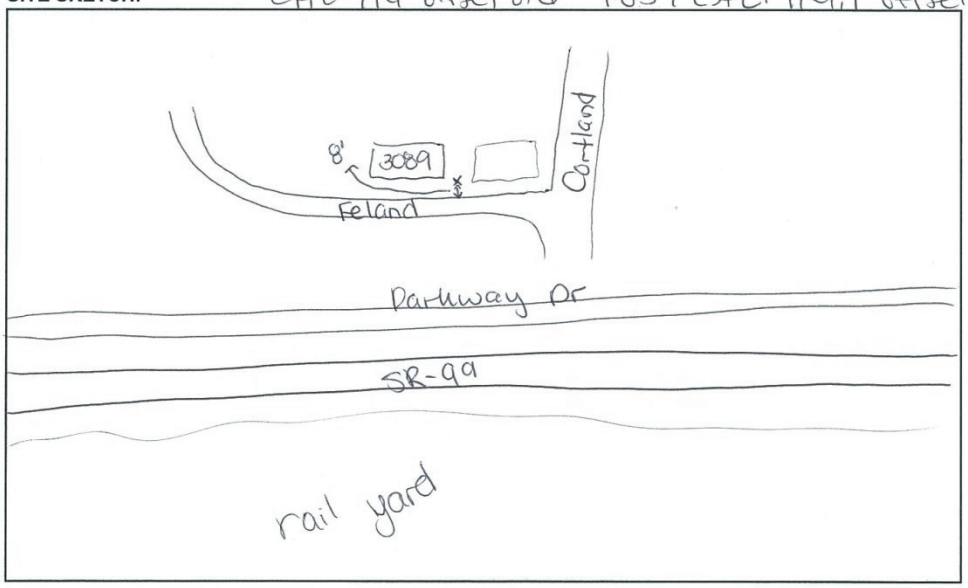
HARRIS MILLER MILLER & HANSON INC.

PROJECT: CAL HSR
JOB NO.: 363320

LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT18
ADDRESS: 3089 N Feland Ave Fresno, CA
OWNER: Don + Pat Smith
DESCRIPTION: mobile SF Residence in Sunset Mobile + RV Park (3187 N Parkway)
NOISE SOURCES: Parkway Dr, SR-99, UP rail yard, community noise
NOISE MONITOR: LD870 #1 S/N: A0222
MICROPHONE: GRAS 40AQ S/N: 6699 & pre amp 22175
CALIBRATOR: CA250 S/N: 23607
START DATE: 01/11/10 END DATE: 01/12/10
START TIME: 2:30pm END TIME: 6:00pm
SYNCH W/HOURS? yes
METRICS STORED: Ln, Leq
EXCEEDANCE Threshold: 75 dB Duration: 5 sec.

SITE SKETCH: CAL: 114 offset 8.6 POST CAL: 114.1 offset 8.6



Avg Temperature: 55 °F Weather Conditions: sunny/slight overcast, wind <5mph

Figure C-45
Site LT19 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

PROJECT: CAL HSR
JOB NO.: 303320

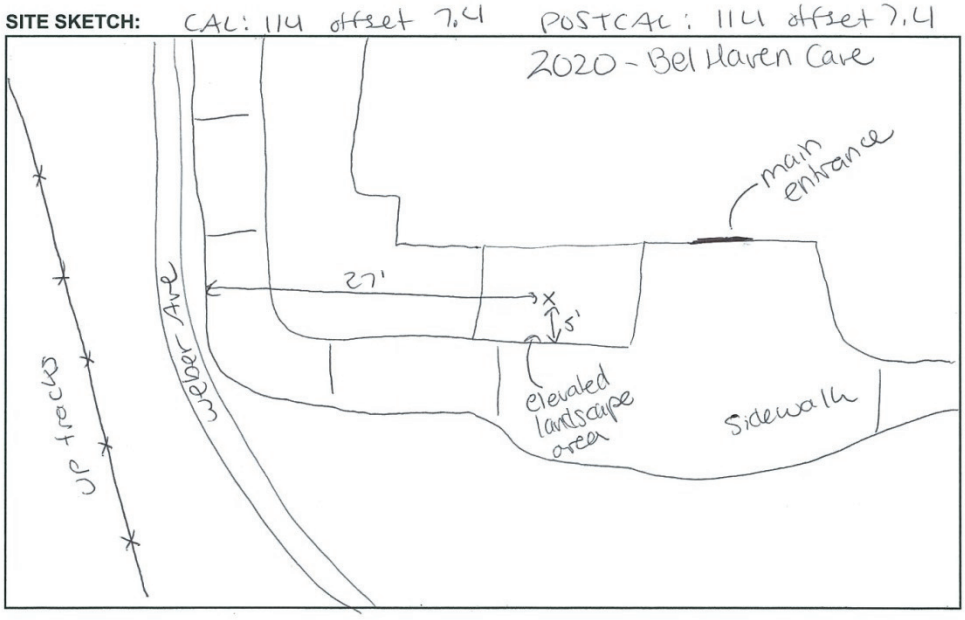
LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT19
ADDRESS: 2020 N Weber Ave Fresno, CA
OWNER: Bel Haven Care
DESCRIPTION: Senior Living Center - MF building

NOISE SOURCES: UP tracks, Weber Ave, parking lot/shuttle, foot traffic

NOISE MONITOR: LD870 #8 S/N: A0193
MICROPHONE: B&K 4189 S/N: 2008916
CALIBRATOR: GR 1987 S/N: 3279130006
START DATE: 12/10/09 END DATE: 12/11/09
START TIME: 10:08 am END TIME: 11:00 am
SYNCH W/HOURS? Yes
METRICS STORED: Ln, Leq
EXCEEDANCE Threshold: 80 dB Duration: 20 sec

SITE SKETCH: CAL: 114 offset 7.4 POSTCAL: 114 offset 7.4



Avg Temperature: 50 °F Weather Conditions: rain overnight, wind <5mph

Figure C-46
Site LT20 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

PROJECT CAHSR
JOB NO. 303320

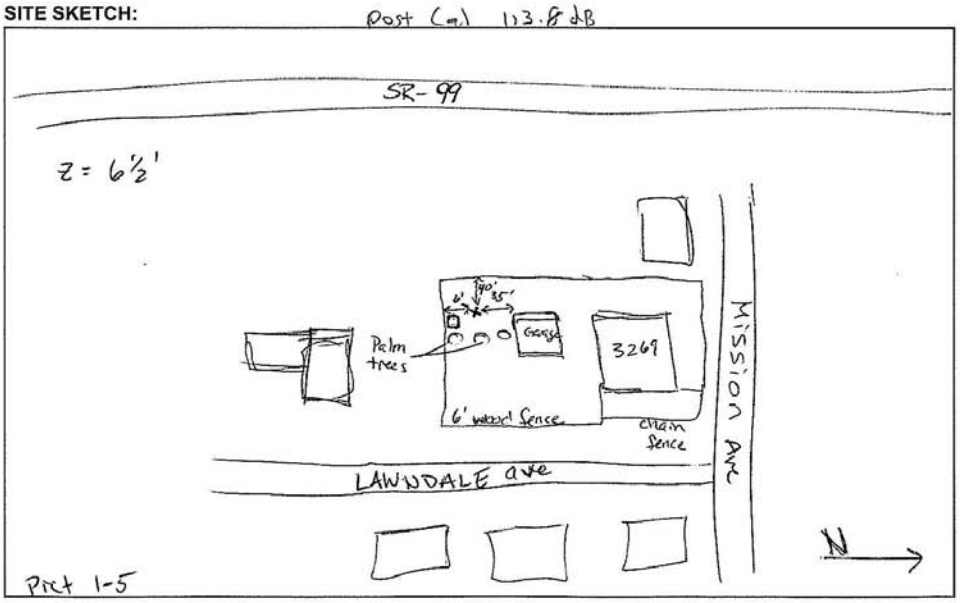
LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT 20
ADDRESS: 3269 E Mission Ave Merced Ca
OWNER: Becky Green
DESCRIPTION: Single Family Res

NOISE SOURCES: E Mission Ave, SR 99, UPRR, Neighborhood helicopter, birds, neighbor dogs

NOISE MONITOR: LD 820 2 S/N:
MICROPHONE: S/N:
CALIBRATOR: Q40022 114.0 offset 6dB S/N:
START DATE: 4/26/10 END DATE: 4/28/10
START TIME: ~~12:32~~ 14:10 END TIME: 15:50
SYNCH W/HOURS? Yes
METRICS STORED: Time hist, Ln, Leq Ldn
EXCEEDANCE Threshold: 68 Duration: 5sec

SITE SKETCH: Post Cal 113.8 dB



Avg Temperature: 80 °F Weather Conditions: sunny, no wind

Figure C-47
Site LT21 Data Sheet

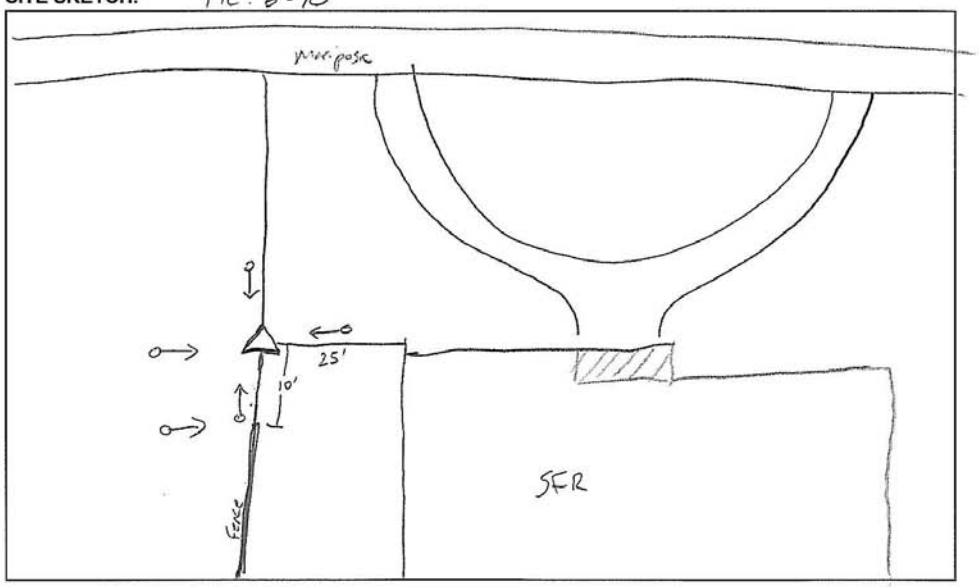
HARRIS MILLER MILLER & HANSON INC.

PROJECT: CAHSR
JOB NO.: 303320

LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT 21
ADDRESS: 823 Mariposa Merced
OWNER: Wendy Brigh-
DESCRIPTION: Single family Res. Ranch House
NOISE SOURCES: Mariposa, Aircraft in distance, Agg. equipment
NOISE MONITOR: Sucto 870 7 S/N:
MICROPHONE: LD S/N: 0917 (Preamp)
CALIBRATOR: LD250 offset, 8.7dB S/N: 4182
START DATE: 4/26/10 END DATE: 4/27/10
START TIME: 13:40 END TIME: 15:23
SYNCH W/HOURS? Yes
METRICS STORED: Leq, Ldn, Ln, Lmax, TH
EXCEEDANCE Threshold: 70 Duration: 5 sec

SITE SKETCH: Pic: 6-10



Avg Temperature: 75 °F Weather Conditions: Sunny / clear wind 0-5 mph

Figure C-48
Site LT22 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

PROJECT

JOB NO. 303320

LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT 22

ADDRESS: 2373 Buchell

OWNER: Gary Beene

DESCRIPTION: Single Family / Farm House w/ scattered ag equip.

NOISE SOURCES: Santa Fe Blvd., Misc. Ag. activity surrounding, Distant train (UPRR?), BNSF line (0.6 miles east)

NOISE MONITOR: 870 1 S/N:

MICROPHONE: 1D PRM 900C S/N: 0699

CALIBRATOR: LD 250 S/N: 2367

START DATE: 4/26/10 END DATE: 4/27/10

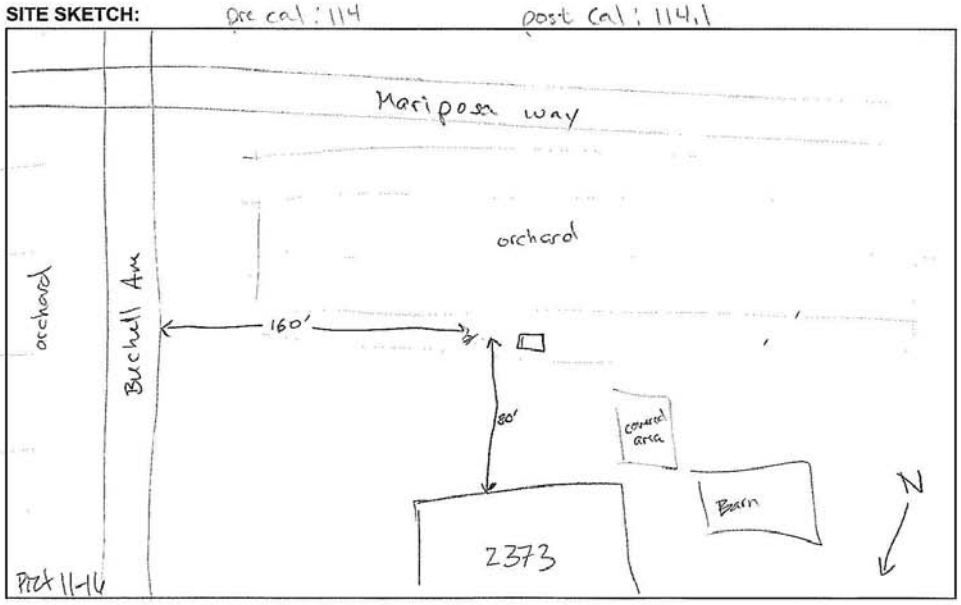
START TIME: 16:15 END TIME: 17:03

SYNCH W/HOURS? Yes

METRICS STORED: Time Hist, Ln, Leq

EXCEEDANCE Threshold: 65 Duration: 5 sec

SITE SKETCH: pre cal: 114 post cal: 114.1



Avg Temperature: 80 °F Weather Conditions: Sunny, Calm, wind 0-3 mph

Figure C-49
Site LT23 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

PROJECT CAHSR
JOB NO. 303320

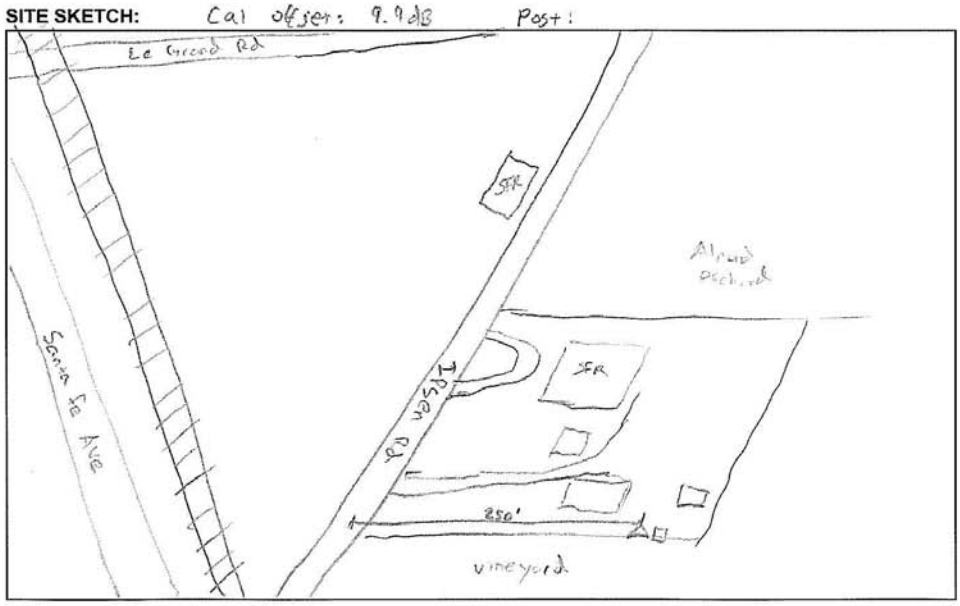
LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT 23
ADDRESS: 4280 Ipsen Ave Le Grand, Ca
OWNER: Le Grand Ranch
DESCRIPTION: Single family Res. and almond ranch

NOISE SOURCES: Santa Fe Ave, BNSF, Ag operations

NOISE MONITOR: 870 - 6 S/N:
MICROPHONE: S/N:
CALIBRATOR: S/N:
START DATE: 4/28/10 END DATE: 4/29/10
START TIME: 14:55 END TIME:
SYNCH W/HOURS? Yes
METRICS STORED: Ldn, Leq, Ln, TH
EXCEEDANCE Threshold: 65 Duration: 5 sec

SITE SKETCH: Cal offset: 9.9dB Post:



Avg Temperature: _____ °F Weather Conditions:

Figure C-50
Site LT24 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

PROJECT: CA HSR
JOB NO.: 303320

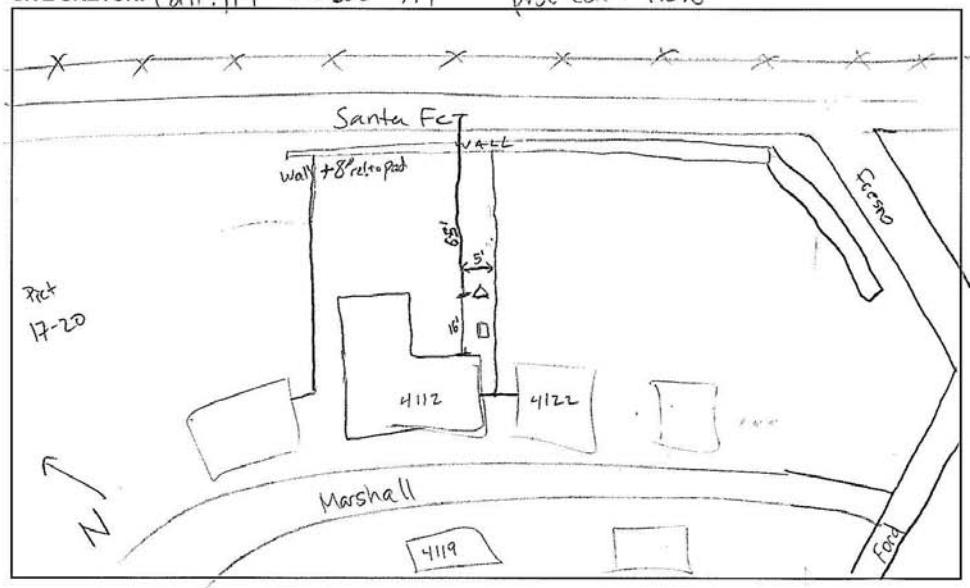
LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT 24
ADDRESS: 4112 Marshall Le Grand
OWNER: Media Martinez
DESCRIPTION: Single Family Res

NOISE SOURCES: Local Traffic / Community noise, Santa Fe road noise Train ; Grade crossing, birds (rooster)

NOISE MONITOR: LD 870-8 S/N:
MICROPHONE: S/N:
CALIBRATOR: S/N:
START DATE: 4/26/10 END DATE: 4/27/10
START TIME: 16:57 END TIME: 17:28
SYNCH W/HOURS? Yes
METRICS STORED: Time Hist, Ln, Leq
EXCEEDANCE Threshold: 72 dB Duration: 5 sec

SITE SKETCH: Call: 114 offset 7.4 post cal: 113.8



Avg Temperature: 80 °F Weather Conditions: Partly Cloudy, Wind calm 0-3 mph

Figure C-51
Site LT25 Data Sheet

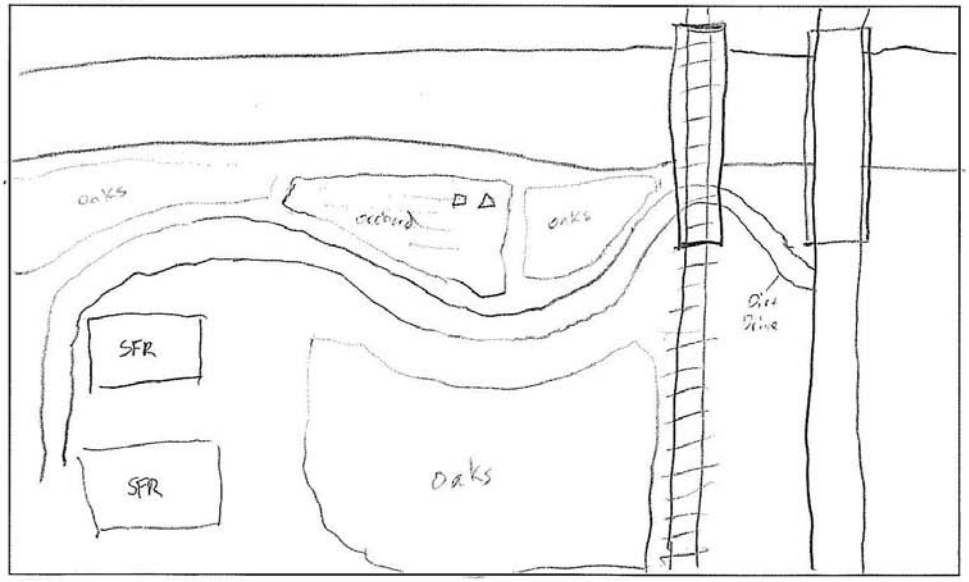
HARRIS MILLER MILLER & HANSON INC.

PROJECT: CA HSR
JOB NO.: 303320

LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT 25
ADDRESS: 27112 Santa fe Ave
OWNER: Contact Villa
DESCRIPTION: Small orchard of trees east of two SFR ranch houses.
NOISE SOURCES: Santa Fe Ave, BNSF, Aircraft, Bird/Bugs, Dogs at House
NOISE MONITOR: Soeto 870-7 S/N:
MICROPHONE: S/N:
CALIBRATOR: S/N:
START DATE: 4/27/10 END DATE: 4/28/10
START TIME: 15:31 END TIME:
SYNCH W/HOURS? Yes
METRICS STORED: Ldn, Leq, Lm, TH
EXCEEDANCE Threshold: 70 Duration: 5 Sec

SITE SKETCH:



Avg Temperature: _____ °F Weather Conditions: _____

Figure C-52
Site LT26 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

PROJECT CAHSR
JOB NO. 303320

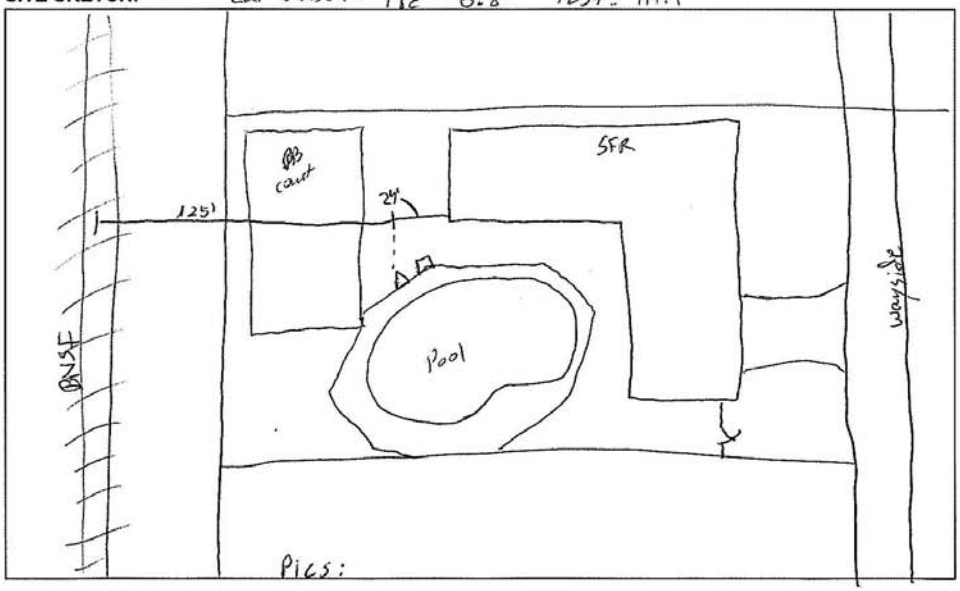
LONG TERM NOISE MONITORING SITE LOG

SITE NO.: A1_BNSF_LT26
ADDRESS: 26226 Wayside Madera Acres
OWNER: Rigo
DESCRIPTION: Single family Res.

NOISE SOURCES: Rd. 26, Wayside Dr, BNSF, Lawn Maint, Community Noise Birds

NOISE MONITOR: 870-1 S/N:
MICROPHONE: S/N:
CALIBRATOR: S/N:
START DATE: 4/27/10 END DATE: 4/28/10
START TIME: 12:30 END TIME: 13:10
SYNCH W/HOURS? Yes
METRICS STORED: Ldn, Leq, Ln, TH
EXCEEDANCE Threshold: 72 Duration: 5 Sec

SITE SKETCH: Cal offset: Pre - 8.8 Post: 114.1



Avg Temperature: 65 °F Weather Conditions: partly cloudy

Figure C-53
Site LT27 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

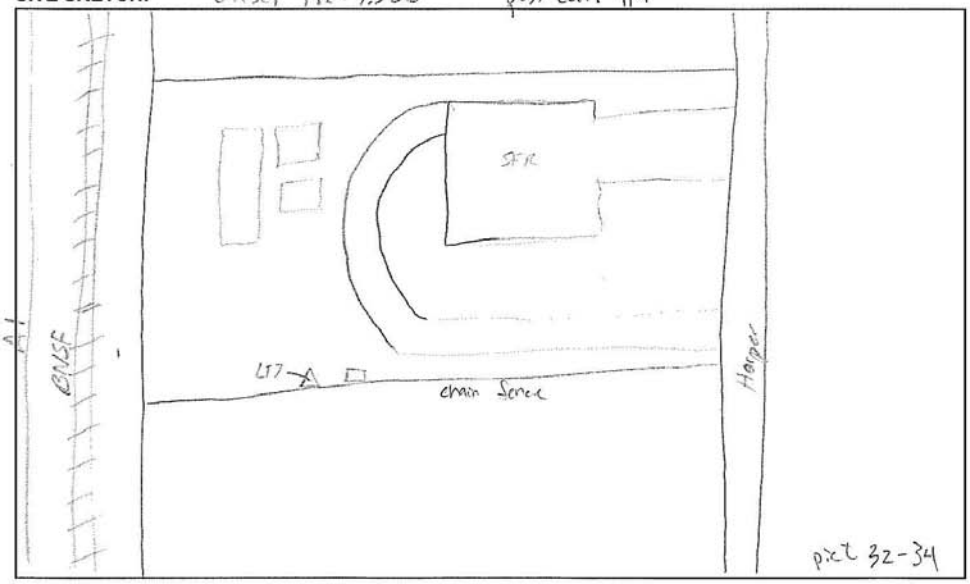
PROJECT: CAHSR
JOB NO.: 303320

LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT 27
ADDRESS: 16494 Harper St Madera Acres, Ca
OWNER: Valerie Garcia
DESCRIPTION: Single Family Residential

NOISE SOURCES: Birds / Roosters, Aircraft overflights, Ag op, dogs barking, BNSF, local traffic, goats/sheep
NOISE MONITOR: LD 870 8 S/N:
MICROPHONE: S/N:
CALIBRATOR: S/N:
START DATE: 4/28/10 END DATE: 4/29/10
START TIME: 10:45 END TIME: 11:23
SYNCH W/HOURS? Yes
METRICS STORED: Time Hist, Ln, Leq
EXCEEDANCE Threshold: 72 dB Duration: 5 sec

SITE SKETCH: offset Pre: 75 dB post cal: 114



Avg Temperature: 60 °F Weather Conditions: partly / cloudy, calm wind 0-5 mph

Figure C-54
Site LT28 Data Sheet

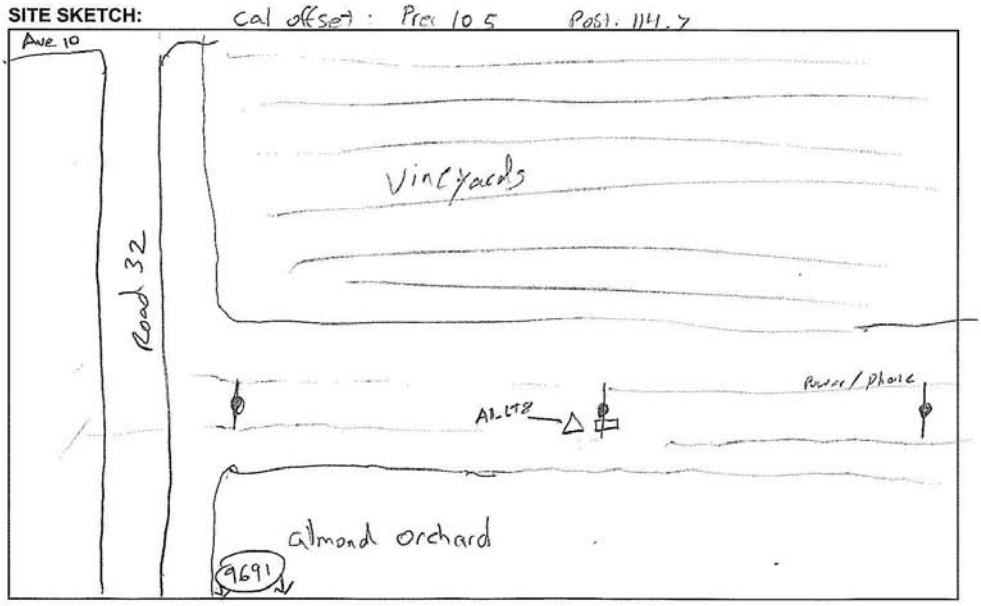
HARRIS MILLER MILLER & HANSON INC.

PROJECT: CAHSR
JOB NO.: 303320

LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT-28
ADDRESS: 9691 Rd 32
OWNER: Powerline Easement / Scob Salem (559)307-2220
DESCRIPTION: access road N. of orchard at 9691 Rd 32. S. of Mr. Salem's Vineyard.
NOISE SOURCES: SR99, UPRR, BNSF, General ag. maint. equipment, aircraft fly over (Distant)
NOISE MONITOR: 870-6 S/N:
MICROPHONE: S/N:
CALIBRATOR: S/N:
START DATE: 04/27/10 END DATE: 04/28/10
START TIME: 10:48 END TIME: 13:48
SYNCH W/HOURS? yes
METRICS STORED: Ldn, Leq, Ln, TH
EXCEEDANCE Threshold: 70 Duration: 5 sec.

SITE SKETCH: Cal offset: Pre 105 Post. 114.7



Avg Temperature: 65 °F Weather Conditions: Overcast / partly cloudy Wind: calm 0-5

Figure C-55
Site LT29 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

PROJECT _____

JOB NO. _____

LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT 29

ADDRESS:

OWNER: Jerhimiah Fredricks

DESCRIPTION: SFR Ranch house

NOISE SOURCES: Ag. Operations, UPRR, Aircraft overflights

NOISE MONITOR: 870-8 S/N:

MICROPHONE: S/N:

CALIBRATOR: S/N:

START DATE: 4/29/10 END DATE:

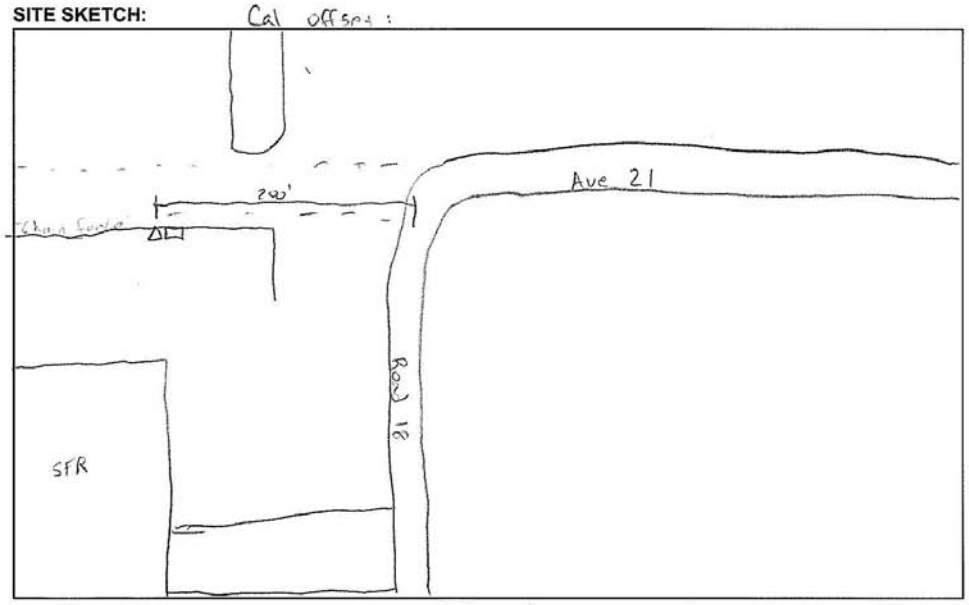
START TIME: 12:25 END TIME:

SYNCH W/HOURS? Yes

METRICS STORED: Ldn, Leq, Ln, TH

EXCEEDANCE Threshold: 72 Duration: 5sec

SITE SKETCH: Cal offset:



Avg Temperature: 65 °F Weather Conditions: Part Cld 0-8 mph Wind

Figure C-56
Site LT30 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

PROJECT: CAHSR
JOB NO.: 303320

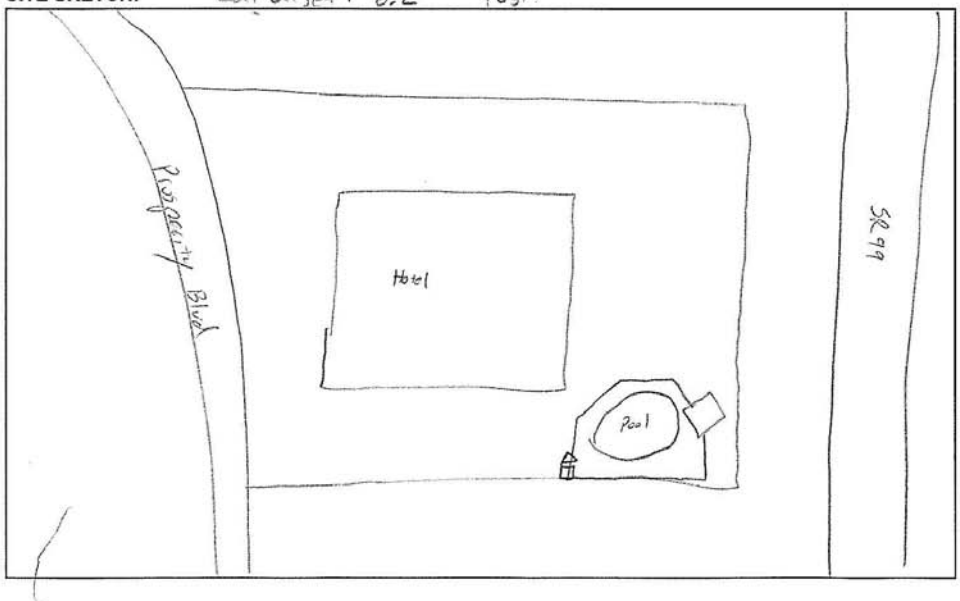
LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT 30
ADDRESS: 309 Prosperity Blvd Chowchilla
OWNER: Holiday Inn
DESCRIPTION: Holiday Inn Express

NOISE SOURCES: SR 99, UPRR

NOISE MONITOR: Sarto 820 S/N:
MICROPHONE: S/N:
CALIBRATOR: S/N:
START DATE: 4/29/10 END DATE: 4/30/10
START TIME: 10:25 END TIME: 11:02
SYNCH W/HOURS? yes
METRICS STORED: Ldn, Leq, Ln, TH
EXCEEDANCE Threshold: 60 Duration: 5

SITE SKETCH: Cal Offset: 6.2 Post:



Avg Temperature: ____ °F Weather Conditions:

Figure C-57
Site LT31 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

PROJECT

JOB NO. 303320

LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT 31

ADDRESS: 23711 Fairmeade Chowchilla

OWNER:

DESCRIPTION: Single family Res. w/ House ranch

NOISE SOURCES: SR 99, UPRR

NOISE MONITOR: 870 7 S/N:

MICROPHONE: S/N:

CALIBRATOR: S/N:

START DATE: 4/29/10 END DATE: 4/30/10

START TIME: 09:30 END TIME: 10:05

SYNCH W/HOURS? yes

METRICS STORED: Ldn, Leq, Ln, TH

EXCEEDANCE Threshold: 80 Duration: 5

SITE SKETCH: Cal offset: 9.5 Post

* Meter found with microphone laying on ground. Post Cal OK at 114, check data for impact.

Avg Temperature: 65 °F Weather Conditions: Partly Cloudy wind: 5-10 mph

Figure C-58
Site LT32 Data Sheet

HARRIS MILLER MILLER & HANSON INC.

PROJECT

JOB NO. 303320

LONG TERM NOISE MONITORING SITE LOG

SITE NO.: LT 32

ADDRESS: 22327 Arnott Dr Fairmead

OWNER:

DESCRIPTION: Single Fam. Res

NOISE SOURCES: SR 99, UPRR, Community noise

NOISE MONITOR: S/N:

MICROPHONE: S/N:

CALIBRATOR: S/N:

START DATE: 4/29/10 END DATE:

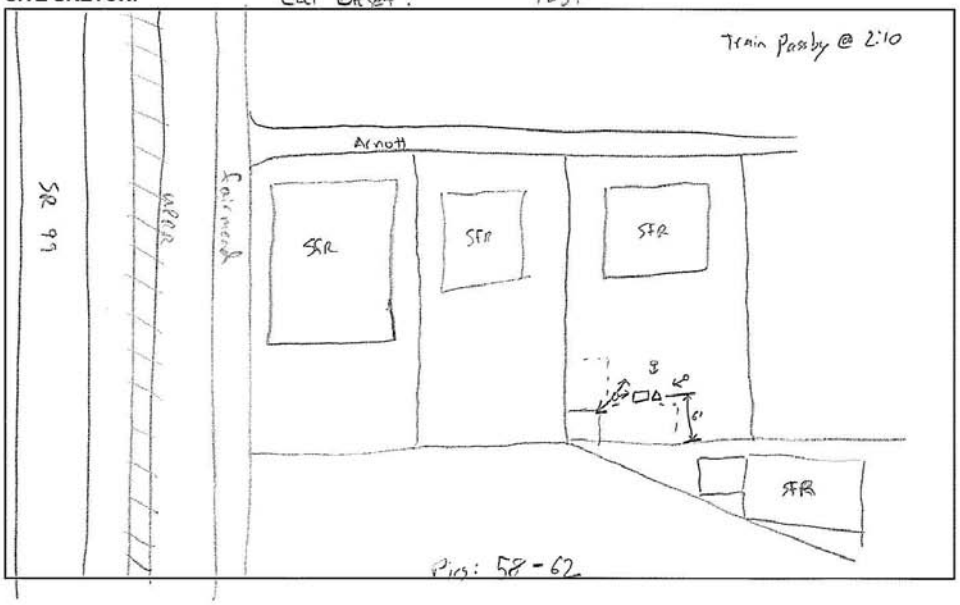
START TIME: 13:59 END TIME:

SYNCH W/HOURS? Yes

METRICS STORED: Ldn, Leq, Lx, TH

EXCEEDANCE Threshold: Duration: 5sec

SITE SKETCH: Cal offset: Post



Avg Temperature: 65 °F Weather Conditions: Part. Cldy. Wind 0-5 mph

Additional Noise Measurement Detail

Figure C-59
Sample Short-Term Noise Measurement Data Sheet

HARRIS MILLER MILLER & HANSON INC.
Rail Short Term Noise Measurement Data Sheet

Project & Site No: CAL WSR 303320 STG
Location/Address: 1814 W St Fresno, CA H St Lots
L0820 H 1

Engineer: CEH, RAM
Date: 12/10/09

1 Minute Period Starting	Measured Leq (dBA)	Reject?	Comments	1 Minute Period Starting	Measured Leq (dBA)	Reject?	Comments
13:24	65			54	62.7		
25	64			55	64.6		
26	63.3			56	63.4		
27	61		walk by	57	68		
28	62.8		distant whistle	58	64.9		
29	71		train	59	54.4		
30	61.3			14:00	65.5		
31	57.9			01	66.9		
32	58			02	62.4		
33	65.3			03	66.3		
34	58.9		walk by	04	63.8		
35	61.6		car start	05	66.3		
36	66.5			06	64.4		
37	64.2		small plane	07	65.3		
38	64.1			08	68.5		
39	62.7			09	61.2		car horn
40	55.7		car start	10	61.5		
41	61.9		truck	11	64.3		jet
42	62.2			12	59.8		
43	53.4			13	58.3		
44	62.2			14	63.4		
45	58.6			15	65.6		
46	62.7			16	60.7		
47	62.5			17	61.4		
48	62.1			18	64.4		
49	65		truck	19	62.2		
50	60.6			20	61.8		
51	60.8		gate buzzer	21	63		
52	61.3			22	58		
53	66.6		truck	23	62.7		

Weather Conditions: Slight wind < 5 mph
Sketch: car + foot traffic, UP trains

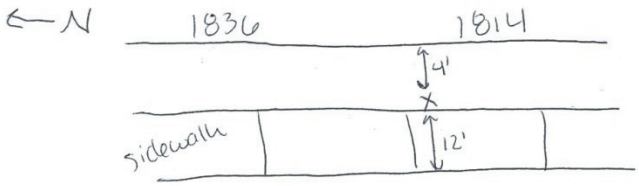


Table C-1
List of Acoustical Equipment Used

Type	Make	Model	Serial Number	Calibration Due Date
Type 1 Noise Monitor	Larson Davis	824	A3975	10/25/2010
Type 1 Noise Monitor	Larson Davis	820	1286	7/20/2010
Type 1 Noise Monitor	Larson Davis	820	A1011	7/20/2010
Type 1 Noise Monitor	Larson Davis	820	1212	8/6/2010
Type 1 Noise Monitor	Larson Davis	820	1216	7/24/2010
Type 1 Noise Monitor	Larson Davis	870	0346	1/22/2010
Type 1 Noise Monitor	Larson Davis	870	A0193	7/20/2010
Type 1 Noise Monitor	Larson Davis	870	0556	1/5/2011
Type 1 Noise Monitor	Larson Davis	870	A0222	2/4/2010
Source: Compiled by HMMH 2010				

APPENDIX D

Vibration Propagation Measurement Data

Figure D-1
Representative Transfer Mobility Functions, Site V-1

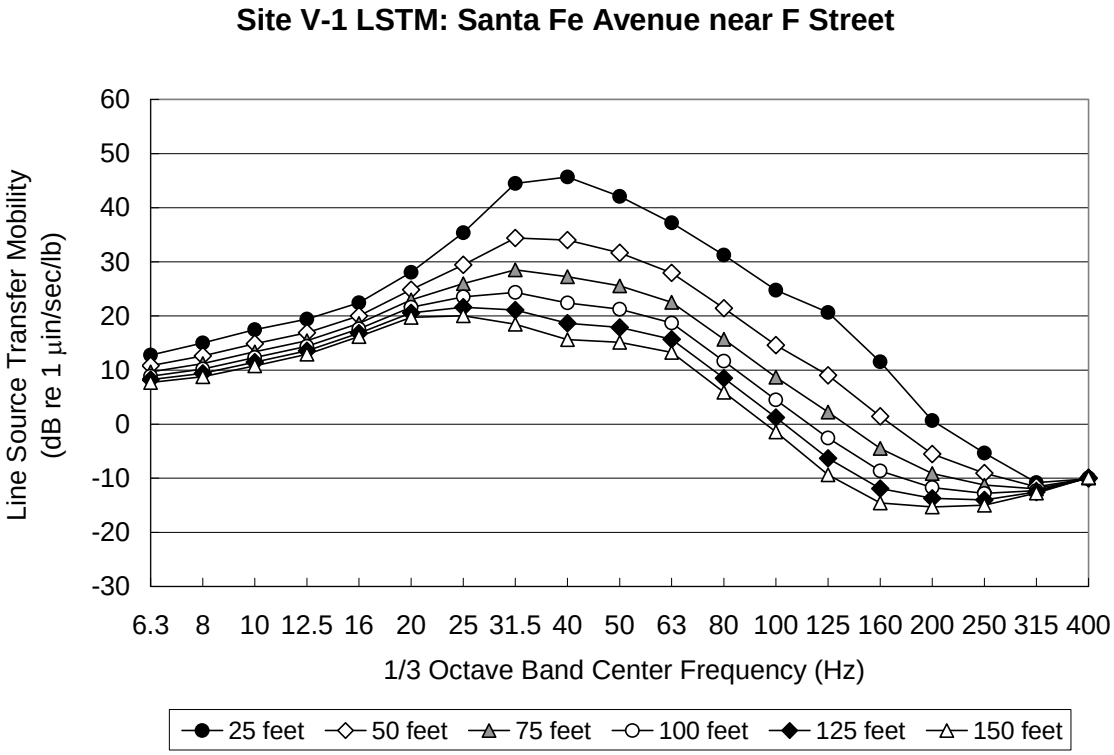


Table D-1
Line Source Transfer Mobility Coefficients, Site V-1

Frequency (Hz)	A	B	C
6.3	21.8	-6.5	0.0
8	26.2	-8.0	0.0
10	29.4	-8.5	0.0
12.5	31.0	-8.3	0.0
16	33.7	-8.1	0.0
20	43.0	-10.7	0.0
25	63.0	-19.7	0.0
31.5	91.2	-33.4	0.0
40	99.7	-38.6	0.0
50	90.5	-34.7	0.0
63	80.2	-30.8	0.0
80	76.8	-32.6	0.0
100	71.8	-33.7	0.0
125	74.5	-38.5	0.0
160	58.4	-33.5	0.0
200	29.3	-20.5	0.0
250	12.0	-12.4	0.0
315	-7.3	-2.5	0.0
400	-10.4	0.3	0.0

$$TM = A + B*\log(d) + C*(\log(d))^2$$

Where:

TM = Transfer Mobility in dB re 1µin/sec/lb/(ft)^1/2

d = Distance in feet

Figure D-2
Representative Transfer Mobility Functions, Site V-4

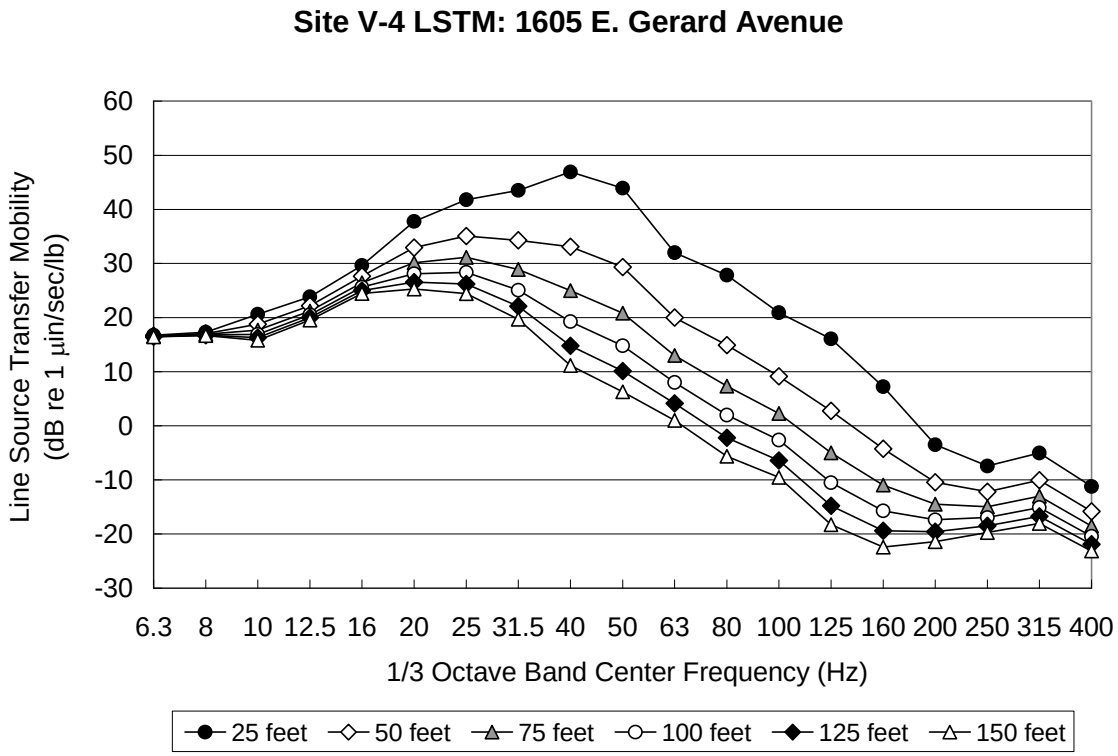


Table D-2
Line Source Transfer Mobility Coefficients, Site V-4

Frequency (Hz)	A	B	C
6.3	17.3	-0.4	0.0
8	18.4	-0.8	0.0
10	29.2	-6.1	0.0
12.5	31.5	-5.5	0.0
16	39.0	-6.7	0.0
20	60.3	-16.1	0.0
25	72.9	-22.3	0.0
31.5	86.2	-30.6	0.0
40	111.2	-46.0	0.0
50	111.5	-48.4	0.0
63	87.7	-39.8	0.0
80	88.0	-43.0	0.0
100	75.6	-39.1	0.0
125	77.7	-44.1	0.0
160	60.5	-38.1	0.0
200	28.7	-23.0	0.0
250	14.7	-15.8	0.0
315	18.4	-16.7	0.0
400	10.2	-15.3	0.0

TM = A + B*log (d) + C*(log (d))^2

Where:

TM = Transfer Mobility in dB re 1µin/sec/lb/(ft)^1/2

d = Distance in feet

Figure D-3
Representative Transfer Mobility Functions, Site V-5

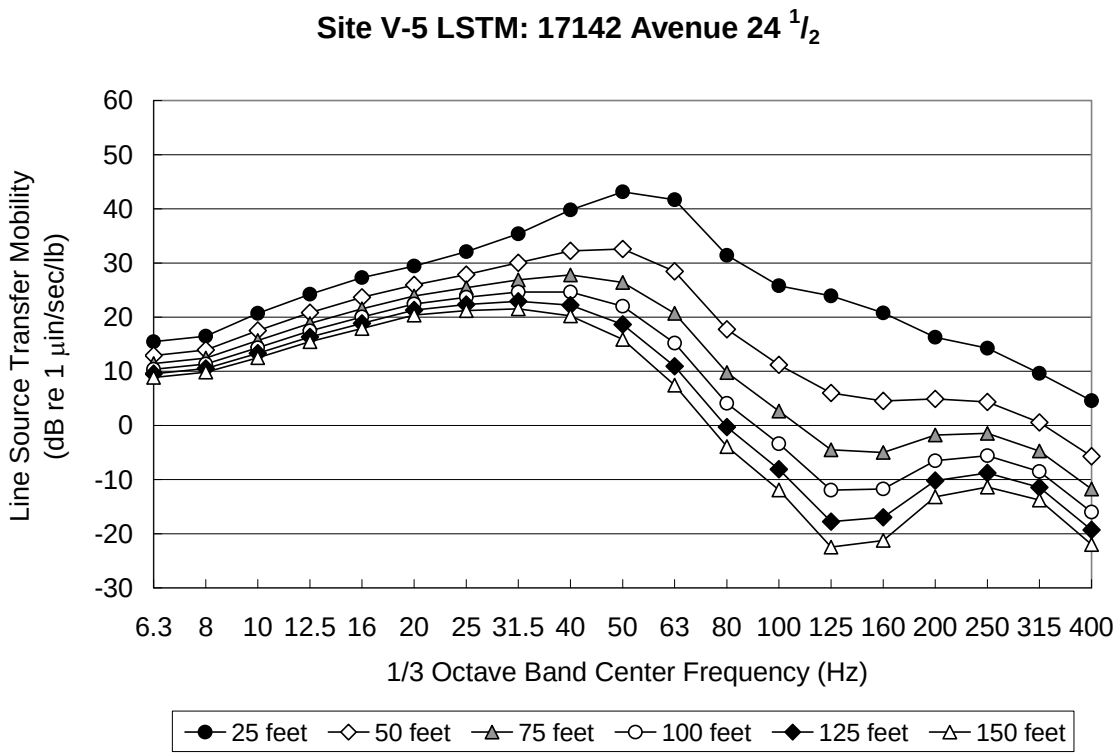


Table D-3
Line Source Transfer Mobility Coefficients, Site V-5

Frequency (Hz)	A	B	C
6.3	27.3	-8.5	0.0
8	28.4	-8.5	0.0
10	35.4	-10.5	0.0
12.5	40.0	-11.3	0.0
16	44.2	-12.1	0.0
20	45.7	-11.6	0.0
25	51.6	-14.0	0.0
31.5	60.3	-17.8	0.0
40	75.1	-25.2	0.0
50	92.1	-35.1	0.0
63	103.2	-44.0	0.0
80	94.9	-45.4	0.0
100	93.6	-48.5	0.0
125	107.3	-59.6	0.0
160	96.3	-54.0	0.0
200	69.3	-37.9	0.0
250	60.4	-33.0	0.0
315	51.8	-30.1	0.0
400	52.3	-34.1	0.0

$$TM = A + B*\log(d) + C*(\log(d))^2$$

Where:

TM = Transfer Mobility in dB re 1µin/sec/lb/(ft)^1/2

d = Distance in feet

Figure D-4
Representative Transfer Mobility Functions, Site V-7

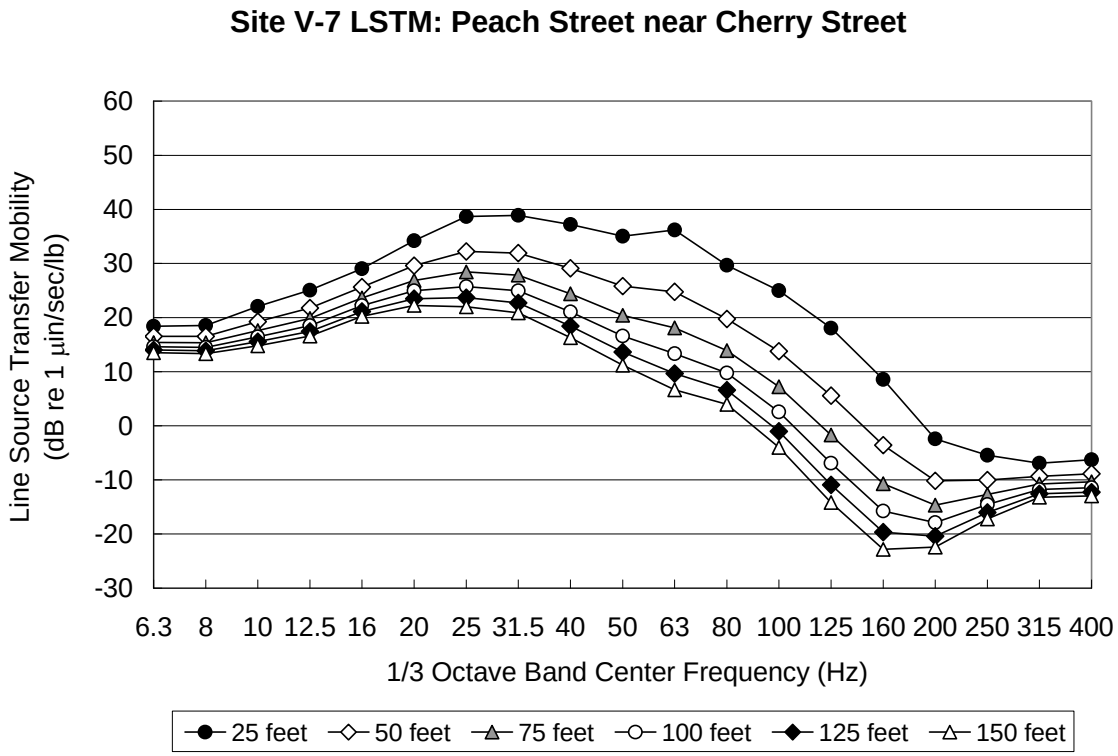


Table D-4
Line Source Transfer Mobility Coefficients, Site V-7

Frequency (Hz)	A	B	C
6.3	27.2	-6.3	0.0
8	27.9	-6.7	0.0
10	35.1	-9.3	0.0
12.5	40.3	-10.9	0.0
16	44.8	-11.3	0.0
20	55.6	-15.3	0.0
25	68.6	-21.4	0.0
31.5	71.2	-23.2	0.0
40	74.7	-26.8	0.0
50	77.8	-30.6	0.0
63	89.2	-37.9	0.0
80	75.9	-33.0	0.0
100	77.1	-37.3	0.0
125	76.0	-41.5	0.0
160	65.0	-40.4	0.0
200	33.5	-25.7	0.0
250	15.7	-15.1	0.0
315	4.4	-8.1	0.0
400	5.8	-8.6	0.0

$$TM = A + B*\log(d) + C*(\log(d))^2$$

Where:

TM = Transfer Mobility in dB re 1µin/sec/lb/(ft)^1/2

d = Distance in feet

Figure D-5
Representative Transfer Mobility Functions, Site V-10

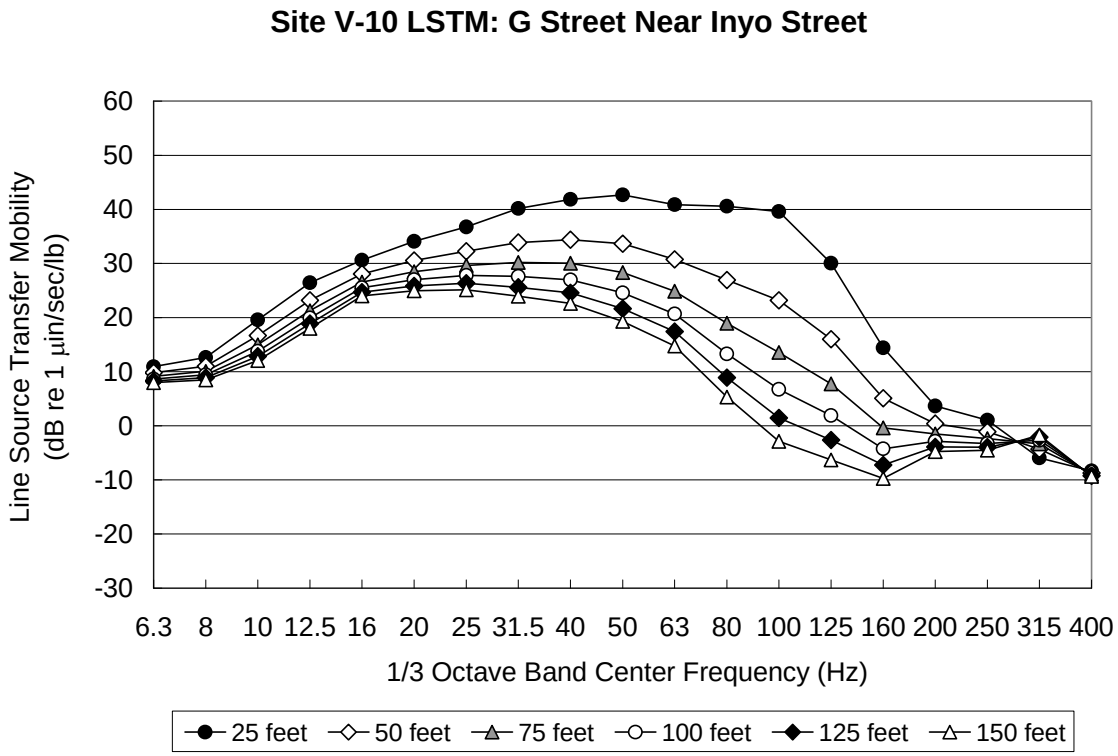


Table D-5
Line Source Transfer Mobility Coefficients, Site V-10

Frequency (Hz)	A	B	C
6.3	16.3	-3.8	0.0
8	20.1	-5.3	0.0
10	33.2	-9.7	0.0
12.5	41.6	-10.8	0.0
16	42.4	-8.5	0.0
20	50.6	-11.8	0.0
25	57.6	-14.9	0.0
31.5	69.4	-20.9	0.0
40	76.4	-24.7	0.0
50	84.7	-30.1	0.0
63	87.8	-33.6	0.0
80	103.9	-45.3	0.0
100	115.9	-54.6	0.0
125	95.4	-46.7	0.0
160	57.8	-31.0	0.0
200	18.8	-10.8	0.0
250	11.1	-7.2	0.0
315	-13.6	5.5	0.0
400	-6.5	-1.3	0.0

$$TM = A + B*\log(d) + C*(\log(d))^2$$

Where:

TM = Transfer Mobility in dB re 1µin/sec/lb/(ft)^1/2

d = Distance in feet

Figure D-6
Representative Transfer Mobility Functions, Site V-11

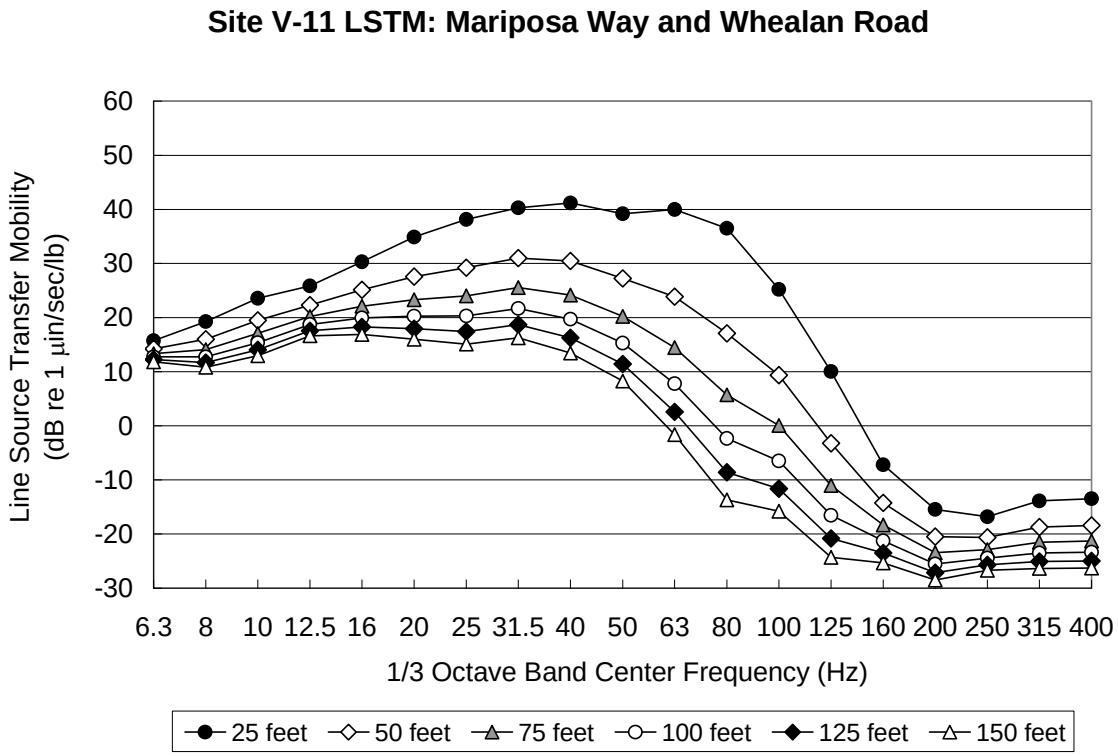


Table D-6
Line Source Transfer Mobility Coefficients, Site V-11

Frequency (Hz)	A	B	C
6.3	22.7	-5.0	0.0
8	34.4	-10.8	0.0
10	42.6	-13.6	0.0
12.5	42.5	-11.9	0.0
16	54.4	-17.2	0.0
20	68.8	-24.2	0.0
25	79.5	-29.6	0.0
31.5	83.5	-30.9	0.0
40	91.1	-35.7	0.0
50	94.8	-39.7	0.0
63	114.7	-53.5	0.0
80	126.6	-64.5	0.0
100	98.9	-52.7	0.0
125	71.7	-44.1	0.0
160	25.4	-23.3	0.0
200	8.0	-16.8	0.0
250	0.9	-12.7	0.0
315	8.5	-16.0	0.0
400	9.6	-16.5	0.0

TM = A + B*log (d) + C*(log (d))^2

Where:

TM = Transfer Mobility in dB re 1µin/sec/lb/(ft)^1/2

d = Distance in feet

Figure D-7
Representative Transfer Mobility Functions, Site V-12

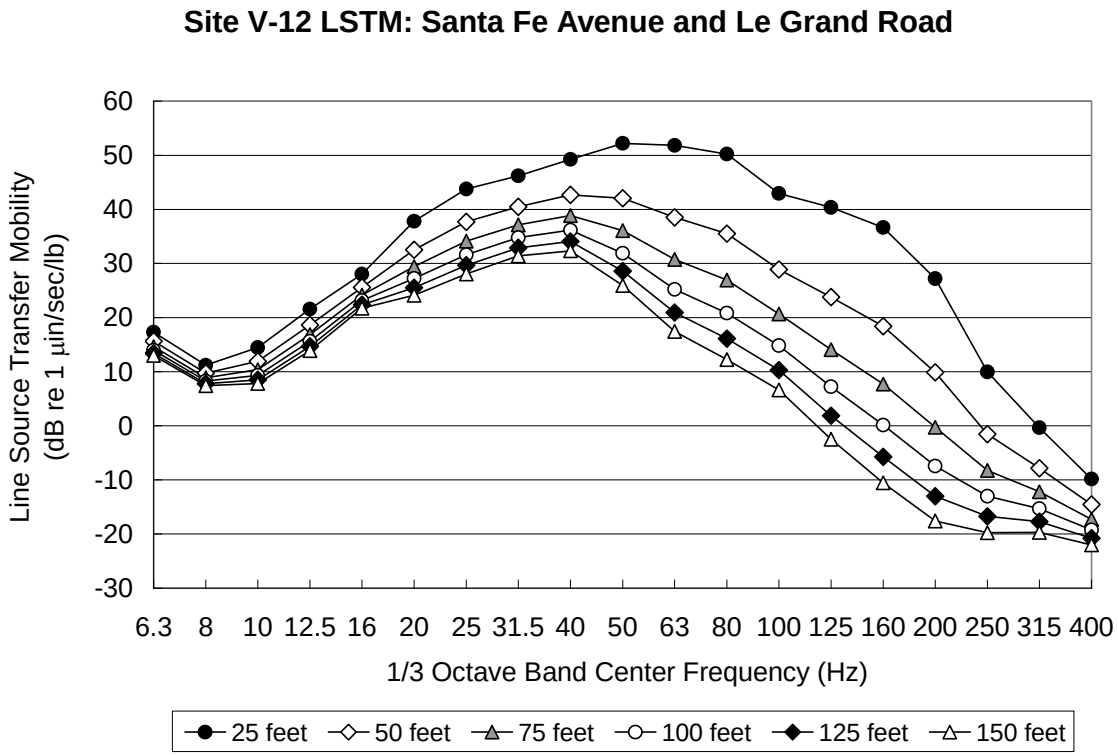


Table D-7
Line Source Transfer Mobility Coefficients, Site V-12

Frequency (Hz)	A	B	C
6.3	25.1	-5.6	0.0
8	18.0	-4.9	0.0
10	26.4	-8.5	0.0
12.5	35.5	-9.9	0.0
16	39.3	-8.1	0.0
20	62.4	-17.6	0.0
25	72.0	-20.2	0.0
31.5	72.8	-19.0	0.0
40	79.6	-21.7	0.0
50	99.4	-33.8	0.0
63	113.6	-44.2	0.0
80	118.5	-48.8	0.0
100	108.2	-46.7	0.0
125	117.3	-55.1	0.0
160	121.4	-60.7	0.0
200	107.7	-57.6	0.0
250	63.4	-38.2	0.0
315	34.4	-24.8	0.0
400	12.0	-15.6	0.0

$$TM = A + B*\log(d) + C*(\log(d))^2$$

Where:

TM = Transfer Mobility in dB re 1µin/sec/lb/(ft)^1/2

d = Distance in feet

Figure D-8
Representative Transfer Mobility Functions, Site V-14

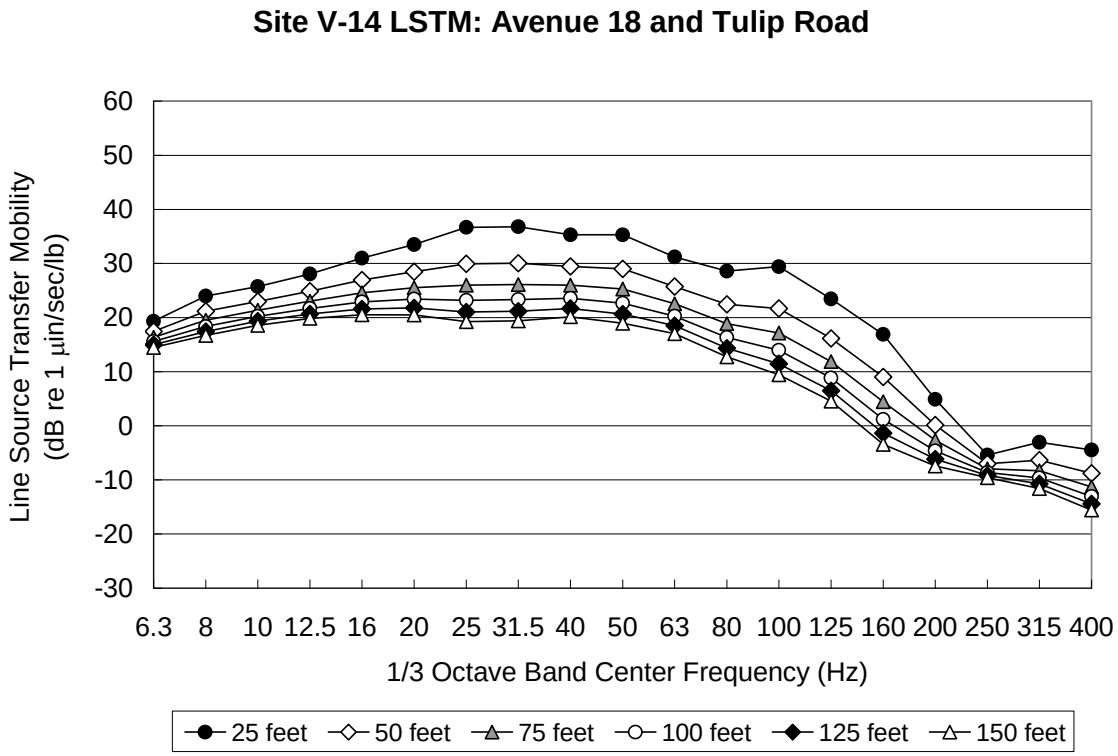


Table D-8
Line Source Transfer Mobility Coefficients, Site V-14

Frequency (Hz)	A	B	C
6.3	28.0	-6.2	0.0
8	37.1	-9.4	0.0
10	38.6	-9.2	0.0
12.5	42.8	-10.6	0.0
16	49.8	-13.4	0.0
20	56.9	-16.7	0.0
25	68.0	-22.4	0.0
31.5	68.0	-22.3	0.0
40	62.5	-19.5	0.0
50	64.7	-21.0	0.0
63	56.7	-18.2	0.0
80	57.0	-20.3	0.0
100	65.3	-25.7	0.0
125	57.4	-24.3	0.0
160	53.4	-26.1	0.0
200	27.0	-15.8	0.0
250	2.1	-5.3	0.0
315	12.3	-11.0	0.0
400	15.4	-14.2	0.0

$$TM = A + B*\log(d) + C*(\log(d))^2$$

Where:

TM = Transfer Mobility in dB re 1µin/sec/lb/(ft)^1/2

d = Distance in feet

Figure D-9
Representative Transfer Mobility Functions, Site V-15

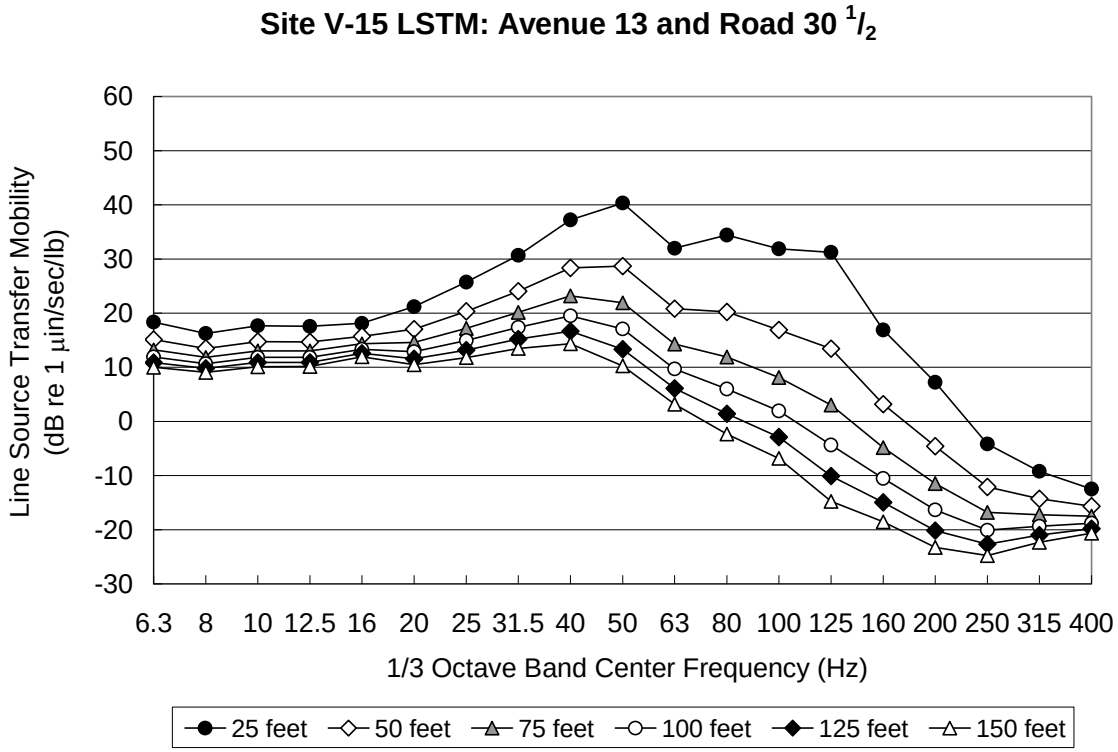


Table D-9
Line Source Transfer Mobility Coefficients, Site V-15

Frequency (Hz)	A	B	C
6.3	33.3	-10.7	0.0
8	29.1	-9.2	0.0
10	31.3	-9.7	0.0
12.5	30.8	-9.5	0.0
16	29.2	-8.0	0.0
20	40.5	-13.8	0.0
25	50.8	-17.9	0.0
31.5	61.6	-22.1	0.0
40	78.4	-29.4	0.0
50	94.4	-38.7	0.0
63	83.7	-37.0	0.0
80	100.5	-47.2	0.0
100	101.4	-49.7	0.0
125	113.8	-59.1	0.0
160	80.5	-45.5	0.0
200	62.0	-39.2	0.0
250	32.9	-26.5	0.0
315	14.3	-16.8	0.0
400	2.2	-10.5	0.0

$$TM = A + B*\log(d) + C*(\log(d))^2$$

Where:

TM = Transfer Mobility in dB re 1µin/sec/lb/(ft)^1/2

d = Distance in feet