

CHAPTER ELEVEN: NOISE

11.1	INTRODUCTION	11.1
11.2	MOBILE SOURCE NOISE IMPACTS	11.1
11.2.1	Overall Mobile Noise Impacts	11.1
11.2.2	Arterial Roadways	11.3
11.2.3	Railroad	11.4
11.2.4	Byron Airport	11.4
11.2.5	Agricultural Equipment	11.4
11.2.6	Existing Residences	11.5
11.3	STATIONARY SOURCE NOISE IMPACTS	11.6

LIST OF TABLES

TABLE 11.1:	Exterior Noise Standards for Noise-Sensitive Uses Affected by Non-Transportation Noise Sources	11.6
--------------------	---	-------------

CHAPTER ELEVEN: NOISE

11.1 INTRODUCTION

This chapter summarizes Master Plan provisions related to noise, and states both the Plan Description and Implementation Measures for SP11.

Mountain House is located adjacent to several identified noise sources, primarily transportation related (roadway traffic and railroad operations). In addition, a new airport is being constructed approximately five miles to the north of the project site, with the main runway aligned with the southwest corner of the community.

Chapter Nine: Transportation and Circulation, provides additional information on roadway traffic and transportation facilities.

The following assumptions about noise impacts are used for this Specific Plan:

- a) The Noise Chapter of the San Joaquin County General Plan establishes a policy to limit exterior noise levels to 65 dB Ldn (a composite 24-hour average noise level descriptor) for residential developments, and 60 dB Ldn for schools, group care facilities, and hospitals, in order to provide an acceptable environment for outdoor activities.
- b) Standard construction practices under the current Uniform Building Code (UBC) are expected to provide an exterior to interior noise level reduction of 20 dB, therefore achieving an interior noise level of 45 dB Ldn with the windows in the closed position.
- c) The Noise Chapter of the San Joaquin County General Plan also requires an acoustical analysis for development of residential or other noise sensitive land uses in areas where the exterior noise level is predicted to exceed 60 dB Ldn.
- d) Noise-sensitive land uses include residential, education, and hospital uses.

11.2 MOBILE SOURCE NOISE IMPACTS

11.2.1 Overall Mobile Noise Impacts

Master Plan Summary

The Master Plan requires a variety of measures to mitigate noise from mobile sources. Berms, barriers, soundwalls, setbacks, landscaping, or some combination of these measures will be used adjacent to transportation noise sources to reduce indoor and outdoor noise exposure to acceptable levels. Where excessive sound wall heights would be necessary, a combination of setbacks and berms or sound walls will be considered. Setbacks will be used in conjunction with noise barriers where necessary to achieve acceptable levels of noise.

On school sites and other noise-sensitive land uses, any outdoor instructional areas or areas which require speech audibility will be located outside the 60 dB Ldn noise contour or shielded from mobile noise in excess of 60 dB Ldn.

Noise levels in primary outdoor use areas of new residential development will not exceed an Ldn of 60 dB unless the project design includes reasonable mitigation measures to reduce noise in outdoor activity areas to as close to an Ldn of 60 dB as possible. Where it is not possible to reduce noise in outdoor activity areas to an Ldn of 60 dB or less using practical application of the best available noise reduction measures, an exterior noise level

of up to an Ldn of 65 dB may be allowed. Under no circumstances will interior noise levels exceed an Ldn of 45 dB.

The Master Plan noise analysis will be reviewed as part of each Specific Plan to determine if an update is required due to land use and circulation layouts proposed by the Specific Plan. These noise analysis reviews will:

- Be the responsibility of the Specific Plan applicant.
- Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics.
- Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions and the predominant noise sources where development has occurred or existing noise is already significant.
- Estimate existing and projected (20-years) noise levels in terms of Ldn or CNEL and/or the standards of Master Plan Table 11.1: Future Traffic Noise Levels Due to Buildout of the Master Plan, and compare those levels to the adopted policies of the General Plan.
- Recommend appropriate mitigation to achieve compliance with the adopted policies and standards of the General Plan and Development Title. Where the noise source in question consists of intermittent single events, the report must address the effects of maximum noise levels in sleeping rooms in terms of possible sleep disturbance.
- Recommend generalized changes to Specific Plan land use and circulation layout, including location of noise-sensitive uses and locations for sound walls, and provide more detailed requirements for noise mitigation to be addressed in development plans when pad elevations, final grading, and building locations are available.

Plan Description

As required by the Master Plan, the Master Plan noise analysis was reviewed as part of this Specific Plan to determine if an update is required due to proposed SPII land use and circulation layouts. In addition, a new analysis was conducted as part of the Initial Study for this Specific Plan Results of this study will be provided as part of environmental review.

The Master Plan concluded that if sound walls are constructed in accordance with Figure 4.1 of the Master Plan, along with other mitigation measures as necessary along non-sound wall frontages, outdoor noise levels would be controlled to no more than 65 Ldn and interior noise levels would be controlled to less than an Ldn of 45 dB.

In accordance with community approval policies, Specific Plan II and the related tentative maps propose to incorporate the sound wall recommendations in the Master Plan; namely, the construction of sound walls along residential frontages adjacent to community arterial roads incorporating the right-of-way, landscape treatments, and grading recommendations of the Master Plan. These measures, as well as possible residential construction requirements (for the residential units facing Central Parkway), should mitigate any anticipated noise from local sources.

SPII Implementation Measures

1. **County Noise Requirements.** All implementing projects shall comply with the applicable provisions of the San Joaquin County Development Title, as amended (see Section 9-1025.9: Noise).
2. **Noise Studies.** Additional noise studies and conditions may be required prior to approval of Development Permits if within noise sensitive areas identified in this Master Plan and/or Specific Plans.
3. **Noise-Sensitive Land Uses.** Noise studies prepared for noise-sensitive land uses including care facilities, schools, hospitals, and parks shall address how noise levels in outdoor areas could be maintained at or below an Ldn of 60 dB.
4. **Residential Land Uses, Interior Noise.** Interior noise levels for housing proposed to be located in areas exposed to an exterior noise level of an Ldn above 60 dB shall be maintained at or below an Ldn of 45 dB. Compliance shall be verified prior to the issuance of building permits.

11.2.2 Arterial Roadways

Master Plan Summary

To adequately consider noise impacts from Arterial roadways within the Master Plan area, the Master Plan requires that Major and Minor Arterial be considered as a source of noise that possibly could require mitigation.

Noise studies prepared at the Specific Plan stage will identify noise-reducing barriers sufficient to meet the needed mitigation for noise generated from major and minor Arterials.

Plan Description

On all major arterials other than Byron Road, SP II will incorporate sound walls of no greater than seven feet in height as necessary to provide for exterior noise levels generally below an Ldn of 60 dB but, in no case, greater than an Ldn of 65 dB.

Figure 4.7: Railroad/Byron Road Sections illustrate the conditions proposed for neighborhoods adjacent to this corridor, where noise levels high enough to warrant additional measures. On the north side of Byron Road in Neighborhood J, houses will be set back an increased distance from Byron Road and a berm will be interposed between the homes and the railroad tracks and Byron Road. The berm will be generally eight feet tall relative to the rear yards of the adjacent homes, which will generally be located six feet below the elevation of the rail line, creating a two-foot high berm relative to the railway. A wall or fence may be constructed between the railroad right of way and the berm.

On the south side of Byron Road in Neighborhood H, a sound wall may be necessary to achieve noise levels not in excess of 65 Ldn in the nearest yards. The height of the sound wall will be in compliance with the Noise Study for SPII.

SPII Implementation Measures

1. **County Noise Requirements.** All implementing projects shall comply with the applicable provisions of the San Joaquin County Development Title, as amended (see Section 9-1025.9: Noise).

2. **Sound Barriers.** Noise studies required at the environmental review stage for Development Permits shall identify specific noise-reducing barriers sufficient to meet the needed mitigation for noise generated from roadways.

11.2.3 Railroad

Master Plan Summary

To adequately consider noise impacts from the rail line, the Master Plan requires that land uses near the rail line be protected from noise impacts from rail line use. Noise mitigation structures will be required along the edges of the railroad right of way abutting residential development. Specific Plan II will include noise analyses addressing the potential noise impacts from trains and appropriate noise mitigation.

Plan Description

At this time, there are no plans to increase operations on the railroad beyond the one or so trains per year that currently operate in this area. Specific Plan II assumes that there would be up to 4 trains per day and that noise levels will be mitigated accordingly by the incorporation of a berm between the homes and the railroad tracks.

See Section 11.2.2 above for further discussion of the Byron Road corridor.

11.2.4 Byron Airport

Master Plan Summary

The Master Plan requires consideration of noise impacts from Byron (East Contra Costa County) Airport, located approximately five miles northwest of the community, and directs that the community be protected from significant noise impacts due to air traffic. Each Specific Plan will review increased traffic at Byron Airport to determine if noise mitigation studies are warranted. If so, appropriate noise mitigation will be developed.

Plan Description

The Contra Costa County Airport Land Use Compatibility Plan (December 13, 2000) includes projected noise contours for Byron Airport. The "worst case" noise contours show that no portion of the Mountain House community will be exposed to an Ldn of greater than 55 dB, well below the 60 Ldn level allowed by the Master Plan. No mitigation of aircraft noise is required for SP II land uses.

SPII Implementation Measures

None required.

11.2.5 Agricultural Equipment

Master Plan Summary

To adequately consider noise impacts from agricultural activities west of the community, the Master Plan requires that noise sources resulting from adjacent agricultural operations be considered and mitigated if within unacceptable standards.

Plan Description

SPII will comply with edge conditions and setbacks as required by the Master Plan and the MHCSD Design Manual.

SPII Implementation Measures

1. **MHCSD Community Edge Requirements. All implementing public improvement projects shall comply with the applicable provisions of the MHCSD Design Manual (Chapter Ten: Community Edges and Windbreaks).**

11.2.6 Existing Residences

Master Plan Summary

The Master Plan requires that noise impacts on existing residences located along the roads to the Mountain House community be minimized. Outdoor use areas of existing residences that are projected to be impacted (i.e., would experience an increase of five dB in the Ldn) by project-generated traffic noise at buildout will be protected from excessive noise. Noise mitigation for individual residences could take the form of constructing soundwalls along the roadways, soundproofing homes, or building barriers around specific portions of yards to provide shielded outdoor spaces.

The MHCSD will develop a plan for mitigating noise impacts at existing residences along Grant Line Road within the new community of Mountain House. Each Specific Plan, other than Specific Plan I, will identify mitigation to ensure that exterior noise levels at existing residences do not exceed an Ldn of 65 dB at the property line and an Ldn of 45 dB inside the residence.

Plan Description

As required by the Master Plan, the MHCSD will develop a plan for mitigation of noise impacts at existing residences along Grant Line Road, Mountain House Parkway, and Byron Road as part of the improvement plan review and approval for these roadways. The MHCSD will utilize the results of the noise analysis prepared as part of environmental review for SPII, and may conduct additional studies to confirm specific attenuation recommendations as part of implementing projects and improvement plan approval.

SPII Implementation Measures

1. **Noise Attenuation for Existing Residences on Grant Line Road, Mountain House Parkway and Byron Road. The MHCSD shall develop a plan for attenuating noise impacts at existing residences along Grant Line Road, Mountain House Parkway and Byron Road within the new community of Mountain House. Implementing projects within Specific Plan II, if applicable, shall identify attenuation measures to ensure that exterior noise levels do not exceed an Ldn of 65 dB for primary outdoor use areas and an Ldn of 45 dB inside the residence.**

11.3 STATIONARY SOURCE NOISE IMPACTS

Master Plan Summary

To control stationary noise sources (such as industrial, commercial, or utilities that create a constant or periodic noise in a fixed location), the Master Plan requires that daytime and nighttime hourly Leq standard will be used to evaluate stationary noise sources at receiving residential land uses. To provide noise level standards that account for stationary noise sources, new development of noise sensitive uses will not be allowed where the noise levels due to stationary noise sources will exceed the community’s noise level standards as set forth in Table 11.1: Exterior Noise Standards for Noise-Sensitive Uses Affected by Non-Transportation Noise Sources.

Plan Description

Specific Plan II takes into account stationary noise impacts by the siting of the general land use types and the separation of noise-producing uses, such as industry, from noise-sensitive uses. Actual control of noise from individual stationary sources will be the responsibility of the developer.

SPII Implementation Measures

- a) **Lowering of Noise Levels. Each of the noise levels specified in Table 11.1 below shall be lowered by five dB for simple tone noises or for noises consisting primarily of speech or music.**

TABLE 11.1: Exterior Noise Standards for Noise-Sensitive Uses Affected by Non-Transportation Noise Sources		
Noise Level Descriptor	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly Leg	55 dB	50 dB

Notes:

1. Stationary noise sources include equipment, utilities, or processes associated with industrial, commercial or public facilities which create a constant or periodic noise in a fixed location.
2. Noise-sensitive uses include residential, educational, and hospital uses.
3. See Section 11.2: Assumptions, for explanation of measurement units and relationship to Development Title.