Appendix 5: Noise

Appendix 5A: **[RESERVED]**

Appendix 5B: **Sample Noise Attenuation Guidelines [2020 GENERAL PLAN MITIGATION MEASURE, MM-NOISE-03]**

Appendix 5C: **Draft Noise Attenuation Approach for New Construction along SR 4 and SR 49 – Sensitive Receptors [2020 GENERAL PLAN MITIGATION MEASURE, MM-NOISE-03]**

Appendix 5D: **Future with *Angels Camp 2020 General Plan* Noise Contours [2020 GENERAL PLAN MITIGATION MEASURE, MM-NOISE-03]**

Appendix 5A (RESERVED)

2020 General Plan Appendix 5B
Sample Noise Attenuation Guidelines

Prior to Grading Permit issuance or issuance of other discretionary permits (whichever ground disturbing action occurs first), future development projects shall demonstrate, to the satisfaction of the Angels Camp Planning Department, that the project complies with the following:

- All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers;

- Construction noise reduction methods such as shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources, maximizing the distance between construction equipment staging areas and occupied residential areas, and use of electric air compressors and similar power tools, rather than diesel equipment, shall be used where feasible;

- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers;

- During construction, stockpiling and vehicle staging areas shall be located as far as practical from noise sensitive receptors;

- Operate earthmoving equipment on the construction site, as far away from vibration sensitive sites as possible; and

- Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow for surrounding owners and residents to contact the job superintendent. If the City or the job superintendent receives a complaint, the superintendent shall investigate, take appropriate corrective action, and report the action taken to the reporting party.

- Appropriate limitations on construction activities during the day. Typically, construction activities are limited to Monday through Friday between the hours of 7:00 A.M. to sunset and on Saturdays from 8:00 A.M. to sunset, excluding Sundays and legal holidays.

- HVAC
  Electrical and mechanical equipment (i.e., ventilation and air conditioning units) shall be located as far away as is feasible from receptor areas. Additionally, the following shall be considered prior to installation: proper selection and sizing of equipment, installation of equipment with proper acoustical shielding, and incorporating the use of parapets into the building design.

- Commercial and Industrial
  Loading docks within at commercial or industrial land located within 100 feet of residential dwelling units or other sensitive receptors shall be designed to have either a depressed (i.e., below grade) loading dock area; an internal bay; or a wall to break the line of sight between noise sensitive uses and loading operations. Consideration should be given to restricting deliveries to daylight hours or establishing truck routes that avoid residential neighborhoods, as necessary. An acoustical analysis shall be performed to demonstrate that operation of the loading docks does not result in noise levels that exceed City standards at exterior on-site residences living areas or off-site sensitive uses. These components shall be incorporated into the plans to be submitted by future Applicants to the City for review and approval, prior to the issuance of building permits.

2020 General Plan Appendix 5C
Draft Noise Attenuation Approach for New Construction along SR 4 and SR 49 – Sensitive Receptors

The following is a description of noise levels and appropriate noise attenuation methods for each noise contour. The approach is intended to be applicable to new development (i.e., a proposed sensitive receptor or a proposed non□sensitive receptor with the potential to affect a sensitive receptor) along SR 4 and SR 49 within the 60 CNEL, 65 CNEL or 70 CNEL or louder contours per 2020 General Plan Appendix 5D:

60 CNEL
The 60 CNEL contour defines the noise study zone. The noise environment for any proposed Noise sensitive land use (for example, single- or multi-family residences, hospitals, schools, or churches) within this zone should be evaluated on a project-specific basis. The project may require mitigation to meet City and/or state (Title 24) standards. A site and project specific study will be necessary to determine what kinds of mitigation will make the interior building environment acceptable for the given type of land use. Some sites may already be sufficiently protected by existing walls or berms so that no further mitigation would be required.

65 CNEL and 70 CNEL
The 65 CNEL 65 CNEL contours define the noise mitigation zone. Within this contour, new or expanded noise sensitive developments should be permitted only if appropriate mitigation measures, such as barriers or additional sound insulation, are included and City and/or state noise standards are achieved. In some instances it may be possible to show that existing walls, berms, or screening may exist such that required mitigation is already in place.

Noise reduction can be accomplished by the placement of walls, landscaped berms, or a combination of the two. Generally, effective noise shielding requires a solid barrier with a mass of at least four pounds per square foot of surface area, which is large enough to block the line of sight between the source and receiver. Variations may be appropriate in individual cases based on distance, nature and orientation of buildings behind the barrier, and a number of other factors. Garages or other buildings may be used to shield dwelling units and outdoor living areas from traffic noise. Angels Camp does not for the most part does include walls or berms to help attenuate noise.

The City's topography varies along different roadways. For example, along Greenhorn Creek, the residential land uses are located above the roadway. This provides the sensitive land uses with noise attenuation because the line of sight between the roadway and the sensitive land uses.

In addition to site design techniques, noise insulation can be accomplished through proper design of buildings. Sound rated windows (extra thick or multi-paned) and wall insulation are also effective techniques. However, none of these measures can

realize their full potential unless care is taken in actual construction: doors and windows fitted properly; openings sealed; joints caulked; plumbing adequately insulated from structural members. Additionally, insulating noise sensitive uses, such as residences, schools, libraries, hospitals, nursing and care homes and some types of commercial activities can reduce noise impacts. State and Federal statutes have largely preempted local control over vehicular noise emissions. However, commercial, industrial and certain residential activities provide opportunities for local government to assist in noise abatement. This usually takes the form of limiting the level of noise permitted to leave the property where it may impact other uses.

Although vehicular noise emissions standards are established at the State and Federal levels, local agencies can play a significant part in reducing traffic noise by controlling traffic volume and congestion. Traffic noise is greatest at intersections due to acceleration, deceleration and gear shifting. Measures such as signal synchronization can help to minimize this problem. Likewise, reduction of traffic congestion aids in the reduction of noise. This can be accomplished through the application of traffic engineering techniques such as channelization of turning movements, parking restrictions, separation of modes (bus, auto, bicycle, pedestrian) and restrictions on truck traffic.

2020 General Plan Appendix 5D

Future with *Angels Camp 2020 General Plan* Noise Contours (to be amended per 2020 General Plan Adopting Resolution to Reflect Alternative 3B – *City of Angels State Route 49 Bypass East/West Alignment Alternative Study*, May 2000 (Weber, Ghio & Associates, Inc.; Calaveras County Council of Governments OWP 99/00-7))