

Section 125-58. PERFORMANCE STANDARDS

A. Purpose and intent. The purposes of this chapter are to:

- (1) Establish permissible limits and permit objective measurement of nuisances, hazards, and objectionable conditions;
- (2) Ensure that all uses will provide necessary control measures to protect the community from nuisances, hazards, and objectionable conditions;
- (3) Protect industry from arbitrary exclusion from areas of the City; and
- (4) Protect and sustain the natural environment by promoting conservation of energy and natural resources, improving waste stream management, and reducing emission of greenhouse gases.

B. Applicability. The minimum requirements in this chapter apply only to uses permitted as part of a Rural Life Special Permit (§125-57).

C. General standard. Land or buildings shall not be used or occupied in a manner creating any dangerous, injurious, or noxious fire, explosive or other hazard that would adversely affect the surrounding area.

D. Location of measurement for determining compliance. Measurements necessary for determining compliance with the standards of this chapter shall be taken at the lot line of the establishment or use that is the source of a potentially objectionable condition, hazard, or nuisance.

E. Noise.

- (1) Noise Limits. No use or activity shall create noise levels that exceed the following standards. The maximum allowable noise levels specified in Table 125-58-A, Noise Limits, do not apply to noise generated by automobile traffic or other mobile noise sources in the public right-of-way.

TABLE 125-58-1: NOISE LIMITS

Land Use Receiving the Noise	Noise-Level Descriptor ¹	Exterior Noise Level Standard in Any Hour (dBA)		Interior Noise-Level Standard in Any Hour (dBA)	
		Daytime (7 am-10 pm)	Nighttime (10 pm-7 am)	Daytime (7 am-10 pm)	Nighttime (10 pm-7 am)
Residential	L ₅₀	45	35	40	30
	L _{MAX}	70	60	55	45

¹ The L₅₀(t) is a statistical descriptor of the sound level exceeded for 50% of the time of the measurement period (t). The L_{MAX}, or Maximum Sound Level, descriptor is the highest sound level measured during a single noise event (such as a vehicle pass by), in which the sound level changes value as time goes on. The maximum sound level is important in judging the interference caused by a noise event with common activities. L_{MAX} ignores the number and duration of these events, and cannot be totaled into a one-hour or a 24-hour cumulative measure of impact.

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Medical, Convalescent	L ₅₀	55	45	45	35
	L _{MAX}	70	60	55	45
Commercial and Industrial	L ₅₀	65	45	70	45
	L _{MAX}	70	50	70	50
Institutional	L ₅₀	55	45	40	40
	L _{MAX}	55	45	55	55
School, library, museum	L ₅₀	55	35	40	35
	L _{MAX}	70	45	55	45

(2) Adjustments to Noise Limits. The maximum allowable noise levels of Table 125-58-A, Noise Limits, shall be adjusted according to the following provisions. No more than one increase in the maximum permissible noise level shall be applied to the noise generated on each property.

(a) Ambient Noise. If the ambient noise level at a noise-sensitive use is ten (10) dBA or more below the standard, the allowable noise standard shall be decreased by five (5) decibels.

(b) Duration. The maximum allowable noise level (L₅₀) shall be increased as follows to account for the effects of duration:

- [1] Noise that is produced for no more than a cumulative period of fifteen (15) minutes in any hour may exceed the noise limit by five (5) decibels; and
- [2] Noise that is produced for no more than a cumulative period of five (5) minutes in any hour may exceed the noise limits by ten (10) decibels;
- [3] Noise that is produced for no more than a cumulative period of one minute in any hour may exceed the noise limits by fifteen (15) decibels.

(c) Character of Sound. If a noise contains a steady audible tone or is a repetitive noise (such as hammering or riveting) or contains music or speech conveying informational content, the maximum allowable noise levels shall be reduced by five decibels.

(d) Prohibited Noise. Noise for a cumulative period of thirty (30) minutes or more in any hour which exceeds the noise standard for the receiving land use.

- (3) Noise Exposure—Land Use Requirements and Limitations. Table 125-58-B, Noise Exposure—Land Requirements and Limitations, describes the requirements and limitations of various land uses within the listed day/night average sound level (Ldn)² ranges.

TABLE 125-58-B: NOISE EXPOSURE—LAND USE REQUIREMENTS AND LIMITATIONS

Land Use	Day/Night Average Sound Level (Ldn) ²	Requirements and Limitations
Residential (1) and Other Noise-Sensitive Uses (e.g., Schools, Hospitals, and Churches)	Less than 60	Satisfactory
	60 to 75	Acoustic study and noise attenuation measures required
	Over 75	Acoustic study and noise attenuation measures required
Auditoriums, Concert Halls, Amphitheaters	Less than 70	Acoustic study and noise attenuation measures required
	Over 70	Not allowed
Commercial and Industrial	Less than 70	Satisfactory
	70 to 80	Acoustic study and noise attenuation measures required
	Over 80	Airport-related development only; noise attenuation measures required
Outdoor Events, Sports and Recreation, & Parks	Less than 65	Satisfactory
	65 to 80	Acoustic study and noise attenuation measures required; avoid uses involving concentrations of people or animals
	Over 80	Limited to open space; avoid uses involving concentrations of people or animals

Notes:

- A. New residential development in noise impacted areas are subject to the following noise levels:

² The Ldn is the average equivalent sound level over a 24-hour period, with a penalty added for noise during the nighttime hours of 22:00 to 07:00. During the nighttime period 10 dB is added to reflect the impact of the noise. Ldn measurements are useful for assessing the impact that road, rail, air and general industry has on the local population. The noisemeters Ldn calculator accepts hourly Leq measurements and calculates the Ldn accordingly.

- 1) For new single-unit residential development, maintain a standard of 60 Ldn for exterior noise in private use areas.
 - 2) For new multi-unit residential development, maintain a standard of 65 Ldn in community outdoor recreation areas. Noise standards are not applied to private decks and balconies and shall be considered on a case-by-case basis in the MU-DC District.
 - 3) Where new residential units (single and multifamily) would be exposed to intermittent noise levels generated during train operations, maximum railroad noise levels inside homes shall not exceed forty-five dBA in bedrooms or fifty-five dBA in other occupied spaces. These single-event limits are only applicable where there are normally four or more train operations per day.
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- (4) Acoustic Study. The Planning Board may require an acoustic study for any proposed project that could cause any of the following:
 - (a) Cause noise levels to exceed the limits in Table 125-58-A;
 - (b) Create a noise exposure that would require an acoustic study and noise attenuation measures listed in Table 125-58-B, Noise Exposure—Land Use Requirements and Limitations; or
 - (c) Cause the Ldn at noise-sensitive uses to increase three (3) dBA or more.
- (5) Establishing Ambient Noise. When the Planning Board has determined that there could be cause to make adjustments to the standards, an acoustical study shall be performed to establish ambient noise levels. In order to determine if adjustments to the standards should be made either upwards or downwards, a minimum twenty-four (24) hour duration noise measurement shall be conducted. The noise measurements shall collect data utilizing noise metrics that are consistent with the noise limits presented in 125-58-A, e.g., L_{MAX} (zero minutes), L_{02} (one minute), L_{08} (five minutes), L_{25} (fifteen minutes) and L_{50} (thirty minutes). An arithmetic average of these ambient noise levels during the three (3) quietest hours shall be made to demonstrate that the ambient noise levels are regularly ten (10) or more decibels below the respective noise standards. Similarly, an arithmetic average of ambient noise levels during the three (3) loudest hours should be made to demonstrate that ambient noise levels regularly exceed the noise standards.
- (6) Noise Attenuation Measures. Any project subject to the acoustic study requirements of subsection (4) of this section may be required as a condition of approval to incorporate noise attenuation measures deemed necessary to ensure that noise standards are not exceeded.
 - (a) New noise-sensitive uses (e.g., schools, hospitals, churches, and residences) shall incorporate noise attenuation measures to achieve and maintain an interior noise level of (45) forty-five dBA.
 - (b) Noise attenuation measures identified in an acoustic study shall be incorporated into the project to reduce noise impacts to satisfactory levels.
 - (c) Emphasis shall be placed upon site planning and project design measures. The use of noise barriers shall be considered and may be required only after all feasible design-related noise measures have been incorporated into the project.

- F. Vibration.** No vibration shall be produced that is transmitted through the ground and is discernible without the aid of instruments by a reasonable person at the lot lines of the site. Vibrations from temporary construction, demolition, and vehicles that enter and leave the subject parcel (e.g., construction equipment, trains, trucks, etc.) are exempt from this standard.
- G. Odors.** No use, process, or activity shall produce objectionable odors that are perceptible without instruments by a reasonable person at the lot lines of a site. Odors from temporary construction, demolition, and vehicles that enter and leave the site (e.g., construction equipment, trains, trucks, etc.) are exempt from this standard.
- H. Heat and humidity.** Uses, activities, and processes shall not produce any emissions of heat or humidity that cause distress, physical discomfort, or injury to a reasonable person, or interfere with ability to perform work tasks or conduct other customary activities. In no case shall heat emitted by a use cause a temperature increase in excess of five degrees Fahrenheit on another property.
- I. Air contaminants.**
- (1) General Standards. Uses, activities, and processes shall not operate in a manner that emits excessive dust, fumes, smoke, or particulate matter, excluding standards set under State and Federal law.
 - (2) Compliance. Sources of air pollution shall comply with all rules established by the Environmental Protection Agency (Code of Federal Regulations, Title 40) and the Massachusetts Department of Environmental Protection (DEP).
- J. Liquid or solid waste.**
- (1) Discharges to Water or Sewers. Liquids and solids of any kind shall not be discharged, either directly or indirectly, into a public or private body of water, sewage system, watercourse, or into the ground, except in compliance with applicable regulations of the Massachusetts Department of Environmental Protection (DEP).
 - (2) Solid Wastes. Solid wastes shall be handled and stored so as to prevent nuisances, health, safety and fire hazards, and to facilitate recycling. There shall be no accumulation outdoors of solid wastes conducive to the breeding of rodents or insects, unless stored in closed containers.
- K. Fire and explosive hazards.** All activities, processes and uses involving the use of, or storage of, flammable and explosive materials shall be provided with adequate safety devices against the hazard of fire and explosion. Firefighting and fire suppression equipment and devices standard in industry shall be approved by the Fire Department. All incineration is prohibited with the exception of those substances such as, but not limited to, chemicals, insecticides, hospital materials and waste products, required by law to be disposed of by burning, and those instances wherein the Fire Department deems it a practical necessity.

- L. Hazardous and extremely hazardous materials.** The use, handling, storage and transportation of hazardous and extremely hazardous materials shall comply with the provisions of the California Hazardous Materials Regulations and the California Fire and Building Codes, as well as the laws and regulations of the California Department of Toxic Substances Control and the County Environmental Health Agency. Activities, processes, and uses shall not generate or emit any fissionable or radioactive materials into the atmosphere, a sewage system or onto the ground.
- M. Electromagnetic interference.** No use, activity or process shall cause electromagnetic interference with normal radio and television reception in any residential district, or with the function of other electronic equipment beyond the lot line of the site in which it is situated. All uses, activities and processes shall comply with applicable Federal Communications Commission regulations.
- N. Radioactivity.** No artificial radiation of any kind shall be emitted that is dangerous to humans.