**5-1507 Noise Standards:**

(A) **Purpose**. The purpose of these standards is to protect citizens from excessive sound (noise), which is detrimental to the health and peaceful enjoyment of property. No use shall be operated or permitted to be operated in such a manner as to create a sound which exceeds the maximum A-weighted sound levels set forth in Table 5-1507(E). Examples of sounds regulated by this Ordinance include, but are not limited to amplified music or voice, or barking dogs at kennels.

(B) **Applicability**. The maximum A-weighted sound levels of this Section shall apply unless a different decibel level is specified for a use under Section 5-600 et seq., Additional Regulations for Specific Uses.

These standards shall not apply to extraction and mining special exception operations otherwise regulated herein or between multiple uses located within the same building or on the same lot, unless the receiving property is Mixed-Use residential.

(C) **Definitions**. For the purposes of this section only, the below terms are defined as follows:

(1) A-Weighted Sound Level is the sound pressure level in decibels as measured on a sound level meter (SLM) using the A-weighting network.

(2) Emergency is any occurrence or set of circumstances involving actual or imminent physical trauma, property damage or loss of electric or phone services, which require immediate action.

(3) L Equivalent (Leq) is the constant sound level that, in a given situation and time period, conveys the same sound energy as the actual time-varying A-weighted sound level.

(4) Mixed-Use Residential is any dwelling unit located in a Planned Development zoning district listed in Article 4, Division A or Division D that permits residential uses, excluding the Planned Development – Housing (PD-H) zoning district.

(5) Residential is any dwelling unit located in a zoning district listed in Article 2 or 3, or the PD-H zoning district, and any other dwelling unit that does not meet the definition of mixed-use residential.

(6) Receiving property is the lot or parcel, or for mixed-use residential, the affected dwelling unit, that is the recipient of the subject sound.

(7) Sound is an oscillation in pressure, particle displacement, particle velocity, or other physical parameter, in a medium with internal forces that causes compression and rarefaction of that medium.

(D) **Methods of Measurement.**

(1) A-weighted sound levels shall be measured with an integrating SLM that meets or exceeds American National Standard Institute S1.43-1997 for Type 1 SLMs. The response of such SLM shall be set to FAST, and a time period of fifteen (15) seconds shall be used. The operator may select another time period between a minimum of ten (10) seconds and maximum of one (1) minute if a fifteen (15) second time period cannot adequately capture the A-weighted sound level.

(2) Samples shall be taken only when the subject sound can be clearly heard and identified by the operator without any extraneous sounds such as passing traffic, bird songs, etc.

(3) The operator shall take a minimum of three (3) samples that demonstrate the repeatability and consistency of the subject sound. When possible, the operator should also take at least one (1) sample when the subject sound is not heard for the purpose of comparison.

(4) The arithmetic average of all samples that demonstrate the repeatability and consistency of the subject sound shall comply with the maximum A-weighted sound levels in Table 5-1507(E).

(5) For residential, rural economy, commercial, civic, institutional, and industrial uses, samples of the subject sound shall be taken from the point on the receiving property line that is located the closest to the source of the subject sound. The microphone of the SLM shall be aimed toward the source of the subject sound, and a standard microphone height of five feet (5') above grade shall be used.

(6) For mixed-use residential, samples of the subject sound shall be taken from the receiving property at an open window, door, or other aperture that faces in the direction of the source of the subject sound. The window, door, or other aperture that is the closest to the source of the subject sound shall be used. The microphone of the SLM shall use a windscreen, shall be located at the center, and shall extend approximately 0.5 inch beyond the outer plane of said open window, door, or other aperture, and shall be aimed towards the source of the subject sound.

(E) **Maximum A-Weighted Sound Levels (decibels).** The maximum A-weighted sound level is provided in Table 5-1507 (E) and shall apply any time of day or night.

| Table 5-1507(E) | | | | |
|---|---|---|---|---|
| **Receiving Development Type** | **Mixed - Use Residential** | **Residential and Rural Economy Uses** | **Commercial, Civic, and Institutional Uses** | **Industrial Uses** |
| **Maximum A-Weighted Sound Level (decibels)** | 60 | 55 | 65 | 70 |

(F) **Exemptions.** The maximum A-weighted sound levels in Table 5-1507(E) shall not apply to the following:

(1) All aircraft sound.

(2) Sounds produced by activities listed in Chapter 654.02(e) of the Codified Ordinances of Loudoun County, however, sounds produced by outdoor public address systems at public schools shall be regulated pursuant to Section 5-666, and sounds produced by commercial indoor firearm ranges shall be subject to the maximum A-weighted sound levels in Table 5-1507(E).

(3) Sounds created by the operation of power equipment, such as power lawn mowers, chain saws, and similar equipment, and construction, demolition and/or maintenance activities.

(4) Sounds created by generators and accessory equipment operating during an emergency or at the request of a utility, and the testing of said generators and associated equipment.

(5) Sounds created by air conditioner condensers for single-family attached dwellings and single-family detached dwellings.

(6) Sounds created by utilities and public uses, including, but not limited to utility substations, utility transmission lines, sanitary landfills, public sewer, and public water.