

# **NOISE REGULATIONS**

**November, 2008**

## **SECTION 1: AUTHORITY**

These regulations are issued by the Board of Health pursuant to its authority under Chapter 111, Sections 31 and 122, of the Massachusetts General Laws as reasonable and necessary for the protection of the health and welfare of the citizens of the Town of Spencer.

## **SECTION 2: PURPOSE**

Chronic or repeated exposure to excessive noise is recognized by public health experts as a hazard to both physical and mental health. It can cause a number of ailments including emotional stress, fatigue, high blood pressure and hearing loss. Damage to hearing from excessive noise can be permanent; hearing loss cannot be restored with therapy. The Spencer Board of Health declares excessive noise a nuisance.

Recognizing that people have a right to and should be ensured an environment free from excessive sound and vibration capable of jeopardizing their health or safety or welfare or of degrading their quality of life, this regulation is enacted to protect, preserve and promote the health, safety, welfare and quality of life for the citizens of Spencer, Massachusetts, through the reduction, control and prevention of noise by establishing maximum noise levels upon and between premises, prohibiting certain noise-producing activities, providing for inspection, and defining of offenses and penalties.

## **SECTION 3: DEFINITIONS**

As used in this chapter, the following terms shall have the meanings indicated:

**BACKGROUND NOISE** - Noise from all sources other than a particular sound that is of interest, e.g. other than the sound being measured.

**BUSINESS USE** - Includes the Commercial-Town Center- Zoning District, as identified on the Zoning Map of the Town of Spencer, Massachusetts, and as defined in the Zoning Bylaws of the Town of Spencer, Massachusetts.

**COMMERCIAL POWER EQUIPMENT** - All engine- or motor-powered equipment intended for infrequent service work in inhabited areas, typically requiring commercial or skilled operators. (Examples of "commercial power equipment" are log chippers, paving rollers, etc.).

**CONSTRUCTION AND DEMOLITION** - Any and all physical activity necessary or incidental to site preparation, assembly, demolition, erection, substantial repair, alteration, cleaning, destruction, installation or similar action for public or private rights-of-way, roads, highways, structures, premises, parks, utilities, utility lines or other similar property development and shall include land clearing, grading, excavating, filling and paving.

**CONSTRUCTION DEVICE** - Any electrical, battery or generator powered device or equipment designed and intended for use in construction.

**DAYTIME HOURS**- The period between the hours of 7:00 a.m. and 6:00 p.m. Monday to Friday, except legally observed holidays. The period between the hours of 9:00 A.M. and 5:00 P.M. on Saturdays and 11:00 A.M. and 5:00 P.M. on Sunday.

**dba** - The A-weighted sound-pressure level in decibels, as measured by a general purpose sound-level meter complying with the provisions of the American National Standards Institute in Specifications for Sound Level Meters (ANSI S1.4 1983), properly calibrated and operated in accordance with this and other applicable standards and in accordance with manufacturer's instructions.

**DECIBEL** (abbreviated as dB) - A logarithmic unit used in measuring the sound pressure level relative to a reference pressure of 20 micro-pascals.

**DOMESTIC POWER EQUIPMENT** - Electrical, battery or generator powered equipment intended for use in residential areas by a homeowner. (Examples include but are not limited to chain saws, log splitters, power saws, drills, grinders, lawn and garden tools.)

**EMERGENCY** - Any occurrence or set of circumstances involving actual or imminent physical trauma or property damage which demands immediate action.

**EMERGENCY WORK** - Any work performed for the purpose of preventing or alleviating the physical trauma or property damage threatened or caused by an emergency.

**EMERGENCY VEHICLE** - A vehicle used by police or fire departments, public safety and emergency medical personnel to respond to an emergency.

**GROSS VEHICLE WEIGHT RATING (GVWR)** - The value specified by the manufacturers as the recommended maximum loaded weight of a single motor vehicle. In cases where trailers and tractors are separate, the gross combination weight ratings (GCWR), which is the value specified by the manufacturer as the recommended maximum loaded weight of the combination vehicle, shall be used.

**Hz** - The abbreviation for hertz, a measurement of frequency, equivalent to cycles per second.

**IMPULSE NOISE** - A repeatedly applied sound of short duration [usually less than one (1) second] characterized by an abrupt onset and rapid decay and occurring at the rate of less than one (1) per second.

**INDUSTRIAL USE** - Includes Commercial-Industrial Zoning Districts, as identified on the Zoning Map of the Town of Spencer, Massachusetts, and as defined in the Zoning Bylaws of the Town of Spencer, Massachusetts.

**INLAND WATERS** - All waters other than coastal waters.

INTERNAL COMBUSTION ENGINE – is an engine in which combustion, or rapid oxidation, of gas and air occurs in a confined space called a combustion chamber.

LOT- An area or parcel of land in the same ownership or any part thereof designated by its owner or owners as a separate lot, with definite boundaries ascertainable through a recorded plan or deed recorded with the Worcester County Registry of Deeds.

MOTOR VEHICLE – Any vehicle which is propelled by machinery which is permitted to operate on a public way including, but not limited to, passenger cars, trucks, buses, truck-trailers, semi trailers, campers, or racing vehicles, including motorcycles.

MUFFLER – A device for abating sounds such as those caused by escaping or in taking gases.

NIGHTTIME HOURS – The hours between 6:00 p.m. (six post meridian) and 7:00 am. (seven ante meridian) of the following day on weekdays ( except Friday night 6:00 P.M. to Saturday morning at 9:00 A.M.), Saturday night from 5:00 P.M. until 11:00A.M. on Sunday, and from 5:00 P.M. Sunday until 6:00 A.M. Monday, and all legally observed holidays.

NOISE LEVEL – The A-weighted sound-pressure level.

NOISE POLLUTION – The presence of that amount of acoustic energy for that amount of time necessary to cause one (1) or more of the following effects:

- (1) Temporary or permanent hearing loss in persons exposed.
- (2) Injury to or tendency to injure, on the basis of current information, the public health or welfare.
- (3) Nuisance.
- (4) Interference with the comfortable and reasonable enjoyment of life and property, or interference with the conduct of business.
- (5) Exceeding the limits or restrictions established herein or in any permit issued by the town.

PERSON – An individual, partnership, association, firm, syndicate, company, trust, corporation, department, bureau or agency or any other entity recognized by law as the subject of rights and duties.

PREMISES – Any building, structure, lot or portion thereof, including all appurtenances, and includes yards, courts, inner yards and lots without buildings or improvements.

PROPERTY LINE – That real or imaginary line along the ground surface and its vertical extension which separates real property owned or controlled by any person from contiguous real property owned or controlled by another person and separates real property from a public right-of-way.

**PUBLIC RIGHT-OF-WAY** - Any street, way, highway, sidewalk, alley, park, waterway, railroad, or similar places owned or controlled by a governmental entity, including non-traveled portions.

**PURE TONE** - Any sound which can be distinctly heard as a single pitch or a set of single pitches. For the purposes of this chapter, a "pure tone" shall exist if an octave-band analysis indicates one (1) octave band three (3) dB or more over both the band above and below.

**RECREATIONAL VEHICLE** - Any motor vehicle designed or modified for use over unimproved terrain used for recreation or pleasure, whether or not requiring motor vehicle registration, including, without limitation, all-terrain vehicles, motorized dirt bikes, dune buggies, and go-carts; all legally registered motor vehicles when used off a public way, including, without limitation, mopeds, motorcycles, and four-wheel drive vehicles; all motor vehicles designed to travel over ice or snow supported in whole or in part by skis, belts, or cleats, including, without limitation, snowmobiles; and all vessels propelled by machinery and designed to travel over water, including, without limitation, jet skis, surf jets, wetbikes, and motorboats as those terms are defined in General Laws Chapter 90B, § 20.

**RESIDENTIAL USE**-- Includes the SR (Suburban Residential), RR (Rural Residential), VR (Village Residential) and LR (Lake Residential) Residential Districts, as identified on the Zoning Map of the Town of Spencer, Massachusetts, and as defined in the Zoning Bylaws of the Town of Spencer, Massachusetts.

**SOUND**--A transmission of energy through solid, liquid or gaseous media in the form of vibrations which constitute alterations in pressure or position of the particles in the medium and which evoke physiological sensations, including but not limited to an auditory response when impinging on the ear.

**SOUND-LEVEL METER**--Any instrument used to measure sound-pressure level, conforming, as a minimum, to the specifications of American National Standard (ANSI S1.4--1983) for Type 1 precision or Type 2 general purpose sound-level meters.

**ZONING DISTRICTS**--The zoning districts and land uses therein, as established by the Zoning Bylaws of the Town of Spencer, Massachusetts.

#### **SECTION 4: MEASUREMENT OF NOISE LEVELS**

The Board of Health or its agent(s) will perform, oversee or provide instructions for all noise level measurements. As an option, the Board may require the party responsible for suspected excessive noise to hire a qualified sound engineer to undertake a study to quantify noise emanating from the premises and submit a written report of its study to the Board. Noise level measurements will employ appropriate equipment that is properly calibrated to industry standards, as noted below. Noise levels shall be measured on the A-weighted scale of a noise meter at a distance of fifty (50) feet from its source, or at various distances from the noise source, or from the boundary of a property used for residential purposes, or any combination of these, and shall include measurement of pure tone, if appropriate. The precise location(s) of the measurement site(s), as well as date, time, duration of the noise(s) and noise level(s) measured will be recorded in a manner that is acceptable to the Board of health and will be made a permanent part of the Board of Health records.

For the purposes of determining sound levels as set forth in this section, the following guidelines shall be applicable:

- (1) All persons conducting sound measurements to assess compliance with this section shall be trained in the current techniques and principles of sound measurement equipment and instrumentation.
- (2) Instruments used to measure sound level shall conform, as a minimum, to the specifications of American National Standard ANSI S1-4--1983 for Type 1 precision or Type 2 general purpose sound-level meters.
- (3) The sound-level meter to be used for such measurements shall be capable of measuring and displaying values of the equivalent sound pressure level  $L_{eq}$  and the maximum sound level  $L_{max}$  in A-weighted decibels (dba) for established noise limits.
- (4) The following steps, as listed below, shall be followed when preparing to take sound-level measurements:
  - (A) The instrument manufacturer's specific instructions for the preparation and use of the instrument shall be followed.
  - (B) The sound-level meter shall be calibrated before and after each set of measurements.
  - (C) Ambient background sound levels shall be measured with the sound-level meter set for slow response.
  - (D) Impulsive noise shall be made with the sound-level meter set for fast response.

## **SECTION 5: NOISE THRESHOLDS**

(1) Daytime threshold: During daytime hours, no person or persons owning, leasing or controlling the operations of any source or sources of noise shall willfully, negligently or through failure to provide necessary muffler equipment or facilities or through failure to take necessary precautions make or permit any continuous, intermittent, recurring, scheduled or seasonal activity which generates noise from a building, device, explosive, machine, commercial power equipment, construction device, recreation vehicle or any other man-made source, if that noise, when recorded at the property line of a receiving land use, exceeds levels shown in Table 1 for the applicable land use in the appropriate Zoning District. In addition, no person shall engage in any continuous, intermittent, recurring, scheduled or seasonal activity which generates noise from a building, device, explosive, machine, recreation vehicle or any other man-made source if that noise is exceeds or is likely to exceed normal background noise levels by more than ten (10) dba.

(2) Nighttime threshold: During nighttime hours, no person or persons owning, leasing or controlling the operations of any source or sources of noise shall willfully, negligently or through failure to provide necessary muffler equipment or facilities or through failure to take necessary precautions make or permit any continuous, intermittent, recurring, scheduled or seasonal activity which generates noise from a building, device, explosive, machine, commercial power equipment, construction device, recreation

vehicle or any other man-made source, if that noise, when recorded at the property line of a receiving land use, exceeds levels shown in Table 1 for the applicable land use in the appropriate Zoning District. In addition, no person shall engage in any continuous, intermittent, recurring, scheduled or seasonal activity which generates noise from a building, device, explosive, machine, recreation vehicle or any other man-made source if that noise exceeds or is likely to exceed normal background noise levels by more than ten (10) dba.

(3) Pure tone threshold: For any source of noise which emits a pure tone, the dba intensity set forth in Table 1 shall be reduced by five (5) dB.

(4) High noise-level areas: In areas where the background sound level is already as high as or higher than five (5) dba below the sound-level limits of Table 1, no person shall cause the background sound level in any area to increase by more than five (5) dba. This limit is in lieu of Table 1, but shall not supersede any other noise limit as defined in this regulation.

**TABLE 1**

**Noise thresholds applicable to a particular use and zoning district**

Residential Retail Commercial/

Lot Location Business Industrial

in **Zoning District** ----- **Uses** -----

-----daytime noise limit for the equivalent sound level  $L_{eg}$  in dba\* -----

Residential VR, SR, LR, RR, 60 60 60 60

Town Center TC 60

Commercial/Industrial District C, I 65 70

\* night time limits are 10 dba lower.

**SECTION 6: PROHIBITED ACTIVITIES**

The following activities are prohibited:

(A) Vehicle horns. No person shall at any time unreasonably sound any horn or other audible signal device of a motor vehicle, except authorized emergency vehicles, unless such sounding is necessary as a warning to prevent or avoid a vehicle accident.

(B) Truck idling. No person shall operate an engine of any standing motor vehicle with a weight in excess of ten thousand (10,000) pounds GVW (gross vehicle weight) for a period in excess of five (5) minutes when such vehicle is parked on a residential premises or on a public way abutting a residential premises, except where such vehicle is standing within a completely enclosed structure. This section shall not apply to delivery or pickup vehicles that require the operation of the engine to unload or load their vending loads nor to the operation of refrigeration equipment on trailers or on vehicles carrying products which must be kept refrigerated.

(C) Exhaust discharge. No person shall discharge into the air the blow-down of any steam vent or the exhaust of any stationary internal combustion engine or air compressor equipment, unless such discharge is through a muffler capable of controlling the sound level within the limits stated in Table 1 of this regulation.

(D) Commercial trash collection: No person shall operate commercial trash compactors or collect rubbish from dumpsters or other receptacles using commercial vehicles over ten thousand (10,000) pounds after 7:00 p.m. all days, before 7:00 a.m. on weekdays, and before 10:00 a.m. on weekends and legal holidays. No collection on Sundays except in emergencies and with BOH approval.

(E) Outdoor music: No person owning or having care, custody or possession of any musical instrument, radio set, compact disc player, phonograph, "boom box", television or other machine or device for producing or reproducing sound to operate or use, or permit to be operated or used, such machine or device in such a manner as to disturb the peace and comfort of the neighboring inhabitants. The operation of any such machine or device at any time of the day or night in such manner as to be plainly audible at a distance of twenty-five (25) feet from the building, structure or vehicle in which said machine or device is located, or in the case of a portable sound-producing device being carried or transported and operated in a public way so as to be heard more than twenty-five (25) feet from the machine or device, such described operation shall be prima facie evidence of a violation of this regulation, whether or not such operation conforms to the noise standard(s) elsewhere provided and set forth in this regulation. However, nothing contained in this section shall be construed to prohibit playing by a band or orchestra or use of a public-address system or a sound-producing machine in a hall or building or at an open-air event duly authorized and/or licensed for the purpose of public assembly.

(F) Recreational vehicles: No person shall operate a motorized recreational vehicle, or permit the operation of one (1) or more such recreational vehicles, individually or in a group or in an organized racing event, on any public right-of-way, on public or private property, or upon inland water in such a manner as to create: (1) a condition of noise pollution across a residential property line, the thresholds for noise pollution being in accordance with Table 1; or (2) a maximum sound level  $L_{max}$  exceeding 85 dba at a reference distance of 50 feet.

(G) Motor Vehicles: No person shall operate a motor vehicle in such manner as to exceed the noise limit listed in Table 2 for the category of motor vehicle operating on a roadway. Such noise will be measured in accordance with Section 4 of this regulation.

(H) The altering of or replacing of any exhaust system or muffler not in conformance with the manufacturers original specifications for the intended internal combustion engine, unless this combustion engine is intended for racing or a sporting event, and the specific event is duly allowed and permitted.

(I) Operating an internal combustion engine without a muffler or with a modified exhaust or muffler system, unless the system is designed to further reduce the noise level.

**Table 2**

**Maximum Permitted Noise Level [dba]**

**Speed Limit Speed Limit**

**Vehicle Class 35 mph or less 35 to 45 mph**

All vehicles over 82 86

10,000 pounds GVWR

All motorcycles 82 82

Automobiles and 75 75

light trucks

(a) This section applies to the total noise from a vehicle or combination of vehicles and shall not be construed as limiting or precluding the enforcement of any other provisions of this regulation.

(b) Every motor vehicle shall, at all times, be equipped with a muffler in good working order and in constant operation to prevent noise which exceeds the dba levels indicated in this section.

**SECTION 7: EXEMPTIONS**

Noise limits in Section 5 of this regulation shall not apply to noise emitted by or related to any of the following:

(1) Natural phenomena.

(2) Any bell or chime from any school or church.

(3) Any siren, whistle or bell lawfully used by emergency response vehicles, cleanup or repair work that is necessary to ensure the protection of public health, safety or welfare.

(4) Any siren, whistle or bell or other sound-generating device used by an alarm system relating to an emergency situation; provided, however, that burglar alarms not terminating within thirty (30) minutes after being activated shall be unlawful.

(5) Farming equipment or farming activity.

(6) Any siren, whistle or bell required by law or regulation, which operates at a sound level appropriate to the environment.

(7) Intermittent or occasional use of domestic power equipment operated between the hours of 7:00 am. and 7:00 p.m. weekdays, and on Saturdays, Sundays and legal holidays between the hours of 11:00 am. and 5:00 p.m.

(8) Noise from snow removal equipment.

(9) Noise created by any aircraft flight operations which are specifically preempted by the Federal Aviation Administration.

(10) Noncommercial public speaking and public assembly activities as guaranteed by state and federal constitutions.

(11) Devices used in conjunction with places of religious worship.

(12) Motor vehicles on public roads, provided that individual vehicles comply with the limits in Section 6 (G).

(13) Construction equipment operated between the hours of 7 am. And 6 pm. Weekdays, provided all such equipment is equipped with functioning mufflers and the maximum sound level  $L_{max}$  50 feet from any construction equipment does not exceed 86 dba.

(14) Intermittent or occasional use of commercial power equipment operated between the hours of 7 am. and 6 pm. Weekdays.

(15) Construction or commercial power equipment operated during emergency conditions to restore utility services to an area.

(16) The use of an Internal Combustion generator at any time during a power failure. Generator must be shut off immediately after power is restored.

(17) Any vehicle owned and operating on federal or state property or regulated by the Federal or State Government.

## **SECTION 8: WAIVERS**

The Board of Health may waive the application of any provision of these regulations, unless otherwise prohibited by law, in any case when, in the opinion of the Board of Health, enforcement will do manifest injustice. Every request for a waiver shall be made in writing to the Board of Health and shall be subject to a public hearing before the Board of Health. The requesting party must at his or her sole expense notify all abutters by certified mail at least ten (10) days prior to the public hearing. Any waiver granted by the Board of Health shall be in writing. Any denial of a waiver by the Board of Health shall also be in writing and shall contain a brief statement of the reasons for the denial.

The requesting party has the right to appeal the denial of a waiver by filing a suit in Superior Court.

## **SECTION 9: VIOLATIONS AND PENALTIES**

If the Board of Health determines that a violation of this regulation is occurring or has occurred, it may issue a written notice of violation and order the violator to cease and desist. Each day the violation continues after service of such written notice of violation constitutes a separate violation for which additional notices of violation are not required.

A notice of violation is deemed served on the day it is received, if served in hand or by certified mail, return receipt requested and is deemed served on the third day after mailing if served by first class mail, postage prepaid.

Any person violating this regulation may be fined one hundred dollars (\$100.) for the first offense, two hundred dollars (\$200.) for the second offense and three hundred dollars (\$300.) for each subsequent offense if committed within one (1) year of the first offense.

## **SECTION 10: SEVERABILITY**

If any section of this regulation or the application of such section to any person or circumstances shall be held invalid, the validity of the remainder of this regulation and the applicability of such section to other persons or circumstances shall not be affected thereby.

## **SECTION 11: EFFECTIVE DATE**

These regulations shall take effect in November, 2008, and are intended to apply to all pre-existing noise pollution as of that date.