

PROPOSED AMENDMENT TO THE TEMPLE ZONING ORDINANCE

AMENDMENT #1 Amend Article IV: General Provisions of the Temple Zoning Ordinance by adding the following new Section 31 – Commercial and Industrial Noise.

31: COMMERCIAL AND INDUSTRIAL NOISE

1. **PURPOSE:** This ordinance is enacted to preserve quality of life, peace and tranquility, and protect the natural environment. Residents shall be protected from adverse health effects from exposure to excessive noises emitted from commercial and industrial development by regulating noise levels and sound quality. This ordinance establishes the acoustic baseline, background sound levels for project design purposes, and limits the maximum noise level emissions for commercial and industrial developments.
2. **APPLICABILITY AND LIMITATIONS:**
 - a. This section applies to all commercial and industrial development noise(s) generated by operating equipment and devices that can be detected by the human ear on another property. Commercial and industrial development includes all facilities used for: commerce, manufacturing of goods, transportation of goods or materials (including all means of transportation), office use, generation and bulk transmission of energy resources and provision of services.
 - b. The following noise sources are specifically excluded from this ordinance.
 - Residential properties including a home business on the residential property
 - Agricultural use
 - Forestry use
 - Vehicle backup alarms & safety alarms, emergency equipment
 - Short term incidental noise (e.g. lawn mowing or snow removal)
 - Excavation or mining at licensed gravel pits
 - Residential construction (when constructed at the permanent site of the residence)
3. **METHOD:** This ordinance adopts International Standards Organization (ISO 1996-1:2003) as summarized in Table 1. This standard estimates community response by the increase in the dBA noise level. This ordinance also applies dBA response corrections for objectionable sound level and quality.

Table 1 – ISO 1996-1:2003

dBA Above Noise Level Criterion	Estimated Community Response	
	Category (ISO) ¹	Description (EPA) ²
0	None	No Observed Reaction
5	Little	Sporadic Complaints
10	Medium	Widespread Complaints
15	Strong	Threats of Community Action
20	Very Strong	Vigorous Community Action

¹ ISO 1996-1:2003, Acoustics -- Description, measurement and assessment of environmental noise -- Part 1: Basic quantities and assessment procedures

² United States Environmental Protection Agency's document "Information on Levels of Environmental Noise Requisite To Protect Public Health and Welfare With An Adequate Margin of Safety", 550/9-74-004, March 1974

4. **BACKGROUND BASELINE:** The Town of Temple is situated in a rural area and is therefore a quiet community, which has defined the acoustic baseline as follows.

Table 2 – Town of Temple Background Sound Levels Criterion

Zoning District	Day (from 7:00 AM to 7:00 PM)	Night (from 7:00 PM to 7:00 AM)
Village and Historic Preservation District	35 dBA (10-min L90)	25 dBA (10-min L90)
Rural and Agricultural District	35 dBA (10-min L90)	25 dBA (10-min L90)
Mountain District	40 dBA (10-min L90)	30 dBA (10-min L90)

Note: L90 is sound level exceeded 90% of the time

5. **NOISE LIMITS:** All commercial and industrial noise emissions shall not exceed the following noise limits anywhere at any time on another property unless the owner of that property has granted a noise easement to the facility. As part of the application the developer shall provide modeling of the anticipated noise emissions.

Table 3 – Town of Temple Operational Noise Limits

Zoning District	Maximum Noise Limit Day (from 7:00 AM to 7:00 PM)	Maximum Noise Limit Night (from 7:00 PM to 7:00 AM)
Village and Historic Preservation District	45 dBA (10-min L10)	35 dBA (10-min L10)

Rural and Agricultural District	45 dBA (10-min L10)	35 dBA (10-min L10)
Mountain District	50 dBA (10-min L10)	40 dBA (10-min L10)

Note: L10 is sound level exceeded 10% of the time

6. **SOUND QUALITY CORRECTIONS:** When objectionable sound quality is present, or may become present as a result of the developments, maximum noise level limits on Table 3 shall be reduced as shown in Table 4. These penalties are cumulative up to a maximum of -10 dB.

Table 4– Town of Temple Sound Quality Corrections

Sound Category		Specific	Method	Reduction
a	Tone(s)	1 Steady Tone	ANSI S1.13; 1/3 Octave Band	-5 dBA
		Fluctuating	ANSI S1.13; Narrow Band	
		Multiple Tones	ANSI S1.13; Narrow Band	
b	Low Frequency	20 Hz to 10000 Hz	dBC minus dBA >15 dB	-5 dBA
c	Infrasound [1]	≤1.0 Hz to 20 Hz	dBL minus dBC >15 dB	-5 dBA

[1] e.g. Wind Turbine

7. **PLANNING BOARD RESPONSIBILITY:** The maximum noise level (L10) increase is 10 dB based on the zoning district baseline background L90. The Planning Board shall have discretion to reduce the 10 dB increase to 7 dB when there is potential for project future expansion or for another nearby development.
8. **NOISE COMPLIANCE:** Pre-construction modeling estimates and post-construction compliance noise measurements are the financial responsibility of the project owner and shall be independently performed by a qualified professional chosen by the Selectmen when directed by Code Enforcement, Planning Board, or Zoning Board. Compliance noise measurements shall not exceed the stipulated noise limits and shall include Project Sound Quality Corrections when warranted.
9. **NOISE MEASUREMENTS:** All noise measurements shall (must) exclude contributions from wind on microphone, tree/leaf rustle, flowing water, and natural sounds such as tree frogs and insects. The latter two can be excluded by calculating the dBA by excluding octave band measurements above the 1000 Hz band.
- a. All acoustic terminology, noise predictions and sound measurements shall comply with recognized international standards (ANSI, IEC & ISO).