



Cross-Spectrum Acoustics Inc.

Massachusetts

Utah

California

September 8, 2025

Dr. Michael Klemens
Chair, Planning & Zoning Commission
Town of Salisbury
P.O. Box 548
27 Main Street
Salisbury, CT 06068

Project Reference: J2025-1540 – Wake Robin Inn Noise Study / Response to Commissioner Cockerline September 5 Questions

Dear Dr. Klemens:

This letter provides responses to a set of questions submitted to Cross-Spectrum Acoustics (CSA) by Commissioner Cockerline in an email dated September 5, 2025. The Commissioner's questions and our responses are listed below. Questions are shown in italics.

Question: *Would there be advantage to further sound control through the use of sound panels throughout the event venue?*

Response: Adding absorptive panels would reduce interior sound levels but a detailed analysis would be required to determine the amount of reduction. The event space as proposed by the applicant would have some baseline of absorption due to the (slight) absorption of the interior wall facings, furnishings, and attendees. A back-of-the-envelope calculation suggests that applying 2-inch-thick absorptive panels on approximately 20% of the available interior event space surface area would reduce interior noise levels by about 2-5 decibels in the low (bass) frequencies and 5 to 6 decibels in the mid (vocal, guitars) frequencies. However, these reductions apply to sound levels inside the room, not necessarily to sound transmitted through the exterior walls. For example, if the drum kit were positioned against a wall, and the drum shield position between the drum kit and the interior, sound will still transmit directly from drums through the wall.

Question: *With percussion as a major driver in the elevation of sound levels with live band functions would the use of drum shields reduce overall dB. ratings?*

Response: Properly deployed drum shields will noticeably reduce sound levels from cymbals and snare drums and have little effects on bass/kick drums. Drum shields (as opposed to drum booths) are generally intended for sound quality/monitoring reasons rather than noise control. Also, drum shields will have no effect on amplified drum levels.

While we have expressed concern about low-frequency bass/thumps being audible at abutting residences, note that drums are not necessarily the only or even primary generators of these sounds. Music from amplified bass guitar and electronically generated bass from DJ music may also produce low frequency sounds, sometimes at lower frequencies than those generated by drums.

These two questions involve reductions of interior noise levels. While interior noise levels can be reduced as described above, note that there will not necessarily be a corresponding one-to-one reduction in outdoor sound levels. In other words, a five-decibel reduction in interior sound levels may only result in one or two decibel reduction in outdoor levels. A detailed analysis would be required to determine the actual benefit.

If you have any questions or comments, please feel free to call me at (413) 315-5770 ext. 701, or email hsingleton@csacoustics.com.

Sincerely,



Herbert Singleton Jr, PE (Massachusetts), INCE Bd. Cert.
President, Cross-Spectrum Acoustics, Inc.