

Zoning Board

From: Tim Entwistle <tentwistle55@gmail.com>
Sent: Monday, March 24, 2025 6:44 PM
To: Zoning Board; Land Use Administrator
Subject: 141 NewRd Decision Appeal
Attachments: Acoustic Impact Study 141 New Road, Canterbury, NH.pages; Appeal of 141 New Rd Decision.docx

Hi Lisa and Jan,

Reaching out to request an appeal for the decision made 2/26/2025 on the proposed use of 141 New Rd. as allowed within 30 days. I have attached my appeal request reasons (based on the application questions) and an attachment of supporting documents regarding acoustic impacts.

Thank you!

Tim Entwistle
603-230-0006

Acoustic Impact Study - Proposed Alternative School at 141 New Road, Canterbury, NH

Overview

The purpose of this document is to address noise pollution concerns with neighboring properties near 141 New Road, the proposed site of the alternative school. There are two noise sources of particular concern - road noise and human factor noise resulting from daily operations of the school. Both issues have been identified in previous planning meetings and dismissed as non-issues. From an acoustics engineering perspective, however, these issues are real and pose significant concern for neighboring homeowners. My professional observations and conclusions are provided herein for consideration.

Background:

Noise exists in two basic forms - transient and steady state. Simply put, transient noise is defined as an acoustic event of short duration, less than a few seconds, such as a car horn or gun shot. The frequency and amplitude, notwithstanding, transient noises are short-lived, often non-recurring, and are most often considered tolerable to the human ear.

Steady state noise, on the other hand, is a recurring acoustic event lasting more than a few seconds to minutes, hours, even days. In this case, frequency and amplitude are critical components in determining whether the event is tolerable or disruptive to the human ear and hence, neighboring homeowners.

Unobstructed sound can travel long distances in air. Natural and man-made obstructions such as buildings, forests and topography can alter the frequency and amplitude of airborne noise. Dense forests with an abundance of soft, leafy growth can absorb certain frequencies while reflecting others. This reflection can propagate back to the source and beyond. Stands of primarily hardwoods, on the other hand, do not absorb but rather reflect and refract noise from the source. This creates both constructive and destructive acoustic interference resulting in a noticeable increase in amplitude of the original noise in the audible frequency ranges.

Observations:

Road noise:

New Road is a non-paved gravel and hardpan rural road with average vehicle speeds under 30 mph. Excluding occasional heavy equipment, large trucks, etc., the primary noise source is a steady state tires-to-road vibration induced acoustic event. Even in the best of conditions, dirt and gravel roads contribute far greater to adverse noise propagation than do paved roads at similar traffic speeds. Given current traffic volume, New Road is noisy, but tolerable. Significant increases in traffic volume anticipated with the daily operations of the proposed school will most certainly add to the existing noise levels.

Human Factor Noise:

The property at 141 New Road consists of a single family home with fairly dense forest to the rear of the property. The land between the home and the road has been cleared of underbrush and smaller trees with the canopy of the remaining mature hardwoods raised approximately 15 to 20 feet. There is no argument that groups of children will create steady state noise, equally high in frequency and amplitude. The physical conditions of the property will do very little, if nothing, to absorb human factor noise and may very well make it worse.

Conclusions:

In my professional opinion, the noises that will be created from the proposed alternative school will be clearly heard by the neighbors and will adversely impact the quality of life for these residents. In addition, the existing layout of this property, both natural and man-made has significant potential to create a natural "amphitheater", thereby further exacerbating noise pollution for nearby residents.

Road noise on New Road exists today. Given the proposed school attendance, an estimated increase in traffic volume upwards of 120 - 150 vehicles transits per day will most certainly have an adverse affect on the quality of life for not only adjacent neighbors, but the majority of homeowners on the entire expanse of New Road.

Qualifications:

The information and opinions I respectfully submit herein are based on my education, knowledge and experience of over 35 years in acoustics engineering and noise control. Having worked with private, commercial and department of defense clients throughout the United States and aboard, I have direct experience in design, development, test and evaluation of numerous engineering programs as well as private and public sector noise pollution projects.

Appeal of 141 New Rd, Canterbury NH Zoning Board of Adjustment Decision from 2/26/25

1. Describe how proposed use would not adversely affect the property values in the district:

The proposed use will be a detriment to property values in the range of 5-12%, which is higher than the prior peer reviewed study provided during the prior meeting of 8% (traffic based). This is supported by inquiry to the following local realtors and appraisers.

“Alternative schools are not value neutral or value improvements to neighboring properties like a well-established and reputable public or private school, since alternative schools serve less than 4% of school age students. The alternative school must be disclosed to a potential buyer, which for the other 96% of school age families can be a deal breaker. Especially in Canterbury, where the median age is 46 and growing, and the average household size is 2.6, the potential buyer who may find this type of school attractive is few and far between.”

Bailey Claremont (Today Realty)

George Brooks (Brooks NH realty appraisal) – supported but with no specific data available

2. That the proposed use would not adversely affect the health and safety of residents and others in the area and would not be detrimental to the use or development of adjacent or neighboring properties:

Three of the abutting neighbors' properties are used for firearms recreation and hunting with a firearm, which will be limited by the following:

- **Mike Dumas of the Canterbury Police Department** stated on 2/20/2025 that NH enforces RSA 644:13, which prohibits the discharge of a firearm within **300 feet of any school designated property line.**
- At 169', 243' and 386' to the neighboring houses, 300' restriction would limit existing use of property.



- U.S. gun control legislation signed into law by Pres. George H.W. Bush on November 29, 1990. The law makes it a crime to possess or discharge a firearm in a school zone, with some exceptions (e.g., police officers).

- The Gun-Free School Zones Act forbids the knowing possession of a firearm in a school zone. In this case, “school zone” refers to the property of any public, **parochial, or private school** and anywhere within 1,000 feet of that property. “School” is defined as any institution providing an elementary or secondary education. The penalty for violating the act is a fine of up to \$5,000 and/or imprisonment for up to five years.

3. *That the proposed use would not constitute a nuisance because of offensive noise, vibration, smoke, dust, odors, heat, glare or unsightliness:*

The proposed use will be a nuisance to neighbors and abutters due to outdoor classroom noise and noise generated from increased road use.

The abutting neighbors and I are very conscientious of making excessive noise, since we can clearly hear each other’s outside conversations through the woods. This is often audible to a clarity of understanding the conversation, despite wooded distances 300-800 feet between houses.

To support this, beyond the testimony of neighbors and abutters during the prior board meeting, I have provided a professional acoustic study from a colleague in the defense industry with over 35 years of naval acoustics engineering experience. **(Please see attached)**

4. *That the proposed use would not constitute a hazard because of traffic, hazardous materials, or other conditions:*

Many of New Roads residents value the low traffic on New Road for multiple recreational uses (walking, running, walking dogs, biking, and horseback riding. I’ve even seen sled dog training.) This becomes unappealing and even unsafe with increased traffic (potentially speeding) of non-neighborhood residents that will result from approval of this use. (can confirm no neighbors will benefit from school, as all neighbors with kids signed petition)

Reason for Travel on New Road	Number of Cars (at proposed max)
Employees Commuting to work	4
Students (drop off)	30
Students (pick up)	30
After school program students (drop off)	30 (qty wasn’t clear in documents)
After school program students (pick up)	30 (qty wasn’t clear in documents)
Employees commuting home	4
Services (janitorial etc.)	unknown

5. I’m aware the road agent says this will handle the road traffic. These photos were taken after the road was repaired with grading and gravel the week of 3/17/2025, before the frost has released. I took the photos right after the large diameter gravel added to the road blew a tire on my truck (Wrangler Territory MT light truck tires <1yr old). I am surprised a small 2wd car would be ‘fine’ on this road.

3/20/25

