

# Memo

**To:** Maureen O'Meara, Town Planner  
**From:** Matthew E Sturgis, Town Manager  
**CC:**  
**Date:** October 30, 2019  
**Re:** Generator sound level

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## **Discussion of sound level of generator at property line**

This memorandum is submitted in the desire to assist the Planning Board in its consideration of the proposed generator installation at the Cape Elizabeth Middle School.

In the proposal for the installation of the electric generator at the Cape Elizabeth Middle School a discussion of the anticipated noise impact is required.

The current standards require the noise level not to exceed 45 dB(A) at the closest property line. The manufacturer guidelines indicate the average decibel level under full load, at 7 meters, or 23 feet is measured at 75 dB(A). The distance to the closest property line is estimated at 360 feet based on the submitted site plan, scaled at 1 inch equals 40 feet. In estimating the decrease in decibel level at the closest property line, I employed two separate sound level estimators found online. The first estimate performed by omni calculator (attached) indicated that the noise level at the property line would reduce from 75 dB(A) to 51.1 dB(A). The second estimate was performed by sengpielaudio.com arrived at the identical result.

In the proposal as shown, there is also a planned installation of fencing surrounding the planned generator. The installation of wooden fencing has an estimated noise level reduction of 6 to 10 dB(A). With the planned installation of the fence it is estimated the decibel level at the property line will be at a maximum of 45.1 and a minimum of 41.1 dB(A). If the sound level at the property line exceeds 45dB(A), then additional noise dampening measures will be installed within the fenced area to further decrease sound levels at the property line.

The final point to consider is that the proposed generator installation would not generate sound load outside of scheduled automatic testing and in the case of power outages. The noise level generated is anticipated to be sporadic and short lived in nature, outside of significant power outage events.



Point 1

Distance from the source

Sound pressure level

Point 2

Distance from the source

Sound pressure level

Sound level difference

Difference in SPL

Wavelength

Speed of Sound

# Distance Attenuation Calculator

By Bogna Hapornik


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- [What is the SPL \(sound pressure level\)?](#)
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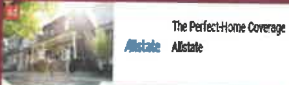
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**Point 1**  
Distance from the source: 23 ft.  
Sound pressure level: 69 dB

**Point 2**  
Distance from the source: 360 ft.  
Sound pressure level: 45.11 dB

**Sound level difference**  
Difference in SPL: 23.89 dB

Reset defaults Send this result

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