

For the most noise-sensitive time window (9pm-7am), these unweighted sound pressure levels equate to 53 dB(A) as shown below in Table 2.

Table 2. Sound Pressure Levels and dB(A) Per Town Ordinance

Rating/Broadband/Input		Octave Band Centre Frequency, Hz									
Rating	dB	dB(A)	31.5	63	125	250	500	1k	2k	4k	8k
NC 48	72.4	53.0 (A)	69.0 dB	69.0 dB	60.0 dB	56.0 dB	51.0 dB	42.0 dB	40.0 dB	38.0 dB	35.0 dB

Noise control measures include individual 70 dB(A) rated generator enclosures and an acoustic fence to deal with residual noise and emissions from the load bank.

Simulations indicate that the applicable noise limits will be met as shown in Figure 1 and Figure 2 below. The large gray rectangle represents the location of the nearest residence to the generator installation.



Figure 1. Birdseye view of generator yard equipment (bottom right gray rectangles) and nearest residence (upper left large gray rectangle).



Figure 2. Enlarged view of generator yard equipment, nearest residence, and noise simulation results.

Vibration

Section 18-548 Use Limitations determines that no vibration shall be produced which is transmitted through the ground and is discernible without the aid of instruments at or at any point beyond the lot line; nor shall any vibration produced exceed 0.002g peak measured at or beyond the lot line.

Each generator includes vibration isolation for the engine block. In addition, each generator frame is isolated from the enclosure. While peak vibration levels at each generator location can exceed 0.002 G (or 19.6mm/s²), loss with distance is sufficient to ensure compliance with the required limits.