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**To:** [Doug Hartnett](#); [Jeffrey Walsh](#); [PlanningBoard@hopedale-ma.gov](mailto:PlanningBoard@hopedale-ma.gov)  
**Cc:** [William Buckley](#); [mWallace@TechEnv.com](mailto:mWallace@TechEnv.com); [Hilde Karpawich](#)  
**Subject:** RE: 75 Plain Street Sound Study Peer Review  
**Date:** Thursday, February 17, 2022 11:32:40 AM  
**Attachments:** [image001.png](#)

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Hello All,

I have read the Sound Study of 75 Plain Street, Hopedale, MA prepared by Tech Environmental, dated November 22, 2021. The report does not demonstrate compliance with the requirements of the Massachusetts Department of Environmental Protection (MassDEP), which is required for proposed commercial and industrial facilities in Massachusetts. The requirements are spelled out in two documents, the policy and an interpretation. These are links to both:

<https://www.mass.gov/doc/massdep-noise-policy/download>  
<https://www.mass.gov/files/documents/2018/01/31/noise-interpretation.pdf>

I outline here the standard approach used by acoustical consultants for Massachusetts commercial and industrial development projects to establish compliance with MassDEP noise policy.

1. The ambient sound level exceeded 90% of the time (L90) against which the noise emissions from the facility is compared is determined through a noise monitoring program. Usually two sites at property-line locations adjacent to the residential properties nearest the proposed noise sources at the facility are chosen for continuous noise monitoring for a 7-day period. The noise monitors are programmed to collect hourly statistical descriptors of the A-weighted sound level including the L90, but also commonly the Leq and Lmax, at a minimum.
2. The ambient L90 value that is chosen for comparison with the facility-generated noise levels is the lowest hourly L90 measured over the 7-day period during the planned hours of operation at the facility, when the noise-making equipment will be running.
3. This ambient L90 value is compared with the maximum expected noise emissions from the facility with all planned noise sources operating, computed at the locations of nearest residential property line and residence. If the maximum noise levels are more than 10 dBA above the ambient, then noise abatement measures must be incorporated in the facility's design to demonstrate compliance. Noise levels from the facility are commonly computed with software such as Cadna-A with the ISO 9613-2 propagation model, which was used by Tech Environmental. Intermittent noise sources, such as truck pass-by movements, trucks idling at the loading docks, and emergency generators, must be added to the continuous sources, such as HVAC units, for a worst-case noise impact assessment.
4. The analysis should demonstrate that the facility will not create a pure tone condition as defined by MassDEP on a continuous basis. This should be accomplished by providing tables of octave band noise results for the combined continuous noise sources from the facility at all the nearest residential locations.

In addition to the above additional analyses, I would also like to see more details about the analysis in the report. These include the following:

1. Graphs showing the measured hourly L90, Leq and Lmax sound levels at the noise measurement sites, and a table listing the lowest hourly L90 values for each day at each site during the planned facility's operating hours.
2. An appendix with the certificates of calibration for the noise meters, microphones and field calibrators.

3. Tables showing the octave band sound power spectra of all the exterior stationary equipment planned for the equipment, and a graphic showing their locations on and around the proposed building.
4. An appendix with the manufacturer's data sheets showing the sound power levels of each planned stationary noise source, including A-level and octave bands.
5. Tables showing the noise emissions of all mobile equipment on the site, such as itinerant trucks and terminal tractors if they are to be used, and the references for those assumed noise emissions.
6. A graphic showing the measurement site locations and the noise prediction locations with identification numbers tied to the tables of results.
7. Finally, while not required, noise consultants will also often include a color noise contour map of the facility's noise emissions. Such maps are readily produced by the software and are useful for communicating facility noise generation to planning departments and interested stakeholders.

Please let me know if you have any questions or comments about these requests.

Sincerely,

**Christopher Menge**

Sr. Vice President/Principal Consultant



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