

## HMMH

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### TECHNICAL MEMORANDUM

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**To:** Adam Kaufman, Director of Planning, Town of North Castle, NY  
**From:** Christopher Menge, INCE  
**Date:** July 7, 2022  
**Subject:** Preliminary Peer Review of Sound Study for PODS Warehouse facility, North Castle, NY  
**Reference:** HMMH Project Number 310910

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On behalf of the Town of North Castle, NY, Harris Miller Miller & Hanson Inc. (HMMH) has performed a preliminary peer review of the noise analysis performed for a proposed PODS warehouse facility at 95 Business Park Drive, North Castle, NY.

HMMH reviewed the “Acoustical Analysis – Short Form Sound Study” report prepared by Ostergaard Acoustical Associates (OAA) dated 29 June 2022. Here, we provide comments on that report, and we request further analysis and documentation in a revised report.



1. On page 3, the report states that the Town of North Castle’s daytime octave band noise limits are equivalent to 55 dBA, and Sunday and nighttime (9 PM to 7 AM) limits are 6 dBA lower at 49 dBA.

The report further addresses the NYS Department of Environmental Conservation (DEC) noise criteria, which state that existing sound levels should not be increased significantly. The guidelines suggest less than 3 dBA increase is likely to be acceptable, a 3 to 6 dBA increase may have potential for adverse noise impact on the most sensitive receptors, increases of more than 6 dBA may require a closer analysis of impact potential depending on conditions, and increases of 10 dBA deserves consideration of avoidance and mitigation measures in most cases. The DEC guidelines also address tonal sound as being more audible and intrusive than broadband sound. They suggest that predicted tonal sound levels should be increased somewhat to account for their intrusiveness. ANSI standards for community noise assessment suggest a 5 decibel increase for tonal sound.

On page 4, the report states that OAA recommends that a project noise goal be set so that a sound level of 65 dBA is not be exceeded at the assisted living facility outdoor recreation area. The argument given for suggesting this value is based on an estimate that the noise levels from nearby I-684 are likely in the range of 55 to 65 dBA.

We disagree with the recommendation for a higher noise goal absent any quantitative justification for it. We would like to see ambient background noise measurements at a location about the same distance from I-684 as the assisted living facility outdoor recreation area, and not far from it. We suggest continuous monitoring be conducted for two full days, one weekday and one Saturday, during the expected operating hours of the facility. Based on the proposed operating hours shown in the report, this would be from 6 AM to 7 PM on a weekday and 8 AM to 6 PM on a Saturday. At a minimum, we would like to see hourly Leq and L90 metrics collected at the site, to reflect the average levels as well as those during the quieter periods of each hour. We recommend that the lowest hourly Leq and L90 values measured be used for the weekday and weekend noise impact evaluations. These will be reasonably conservative estimates of existing conditions, given the small samples of only one day of measurements each.

These measurement data will provide appropriate background noise levels to support conclusions about the intrusiveness of noise from the proposed facility. They will also form the basis for ambient background levels, needed for the evaluation of expected increases in noise levels per the NYS DEC guidelines.

2. Given the expectation that the forklift trucks will get heavy use at the facility, backup alarms could be sounding regularly. Adding 5 decibels to the predicted maximums of 57 dBA from tonal backup alarms would yield 62 dBA, which could be clearly audible at the assisted living facility. At a minimum, we suggest that all forklift trucks be equipped with the broadband “shusher” type of alarm, as mentioned in the OAA report, instead of a tonal “beeper” type.
3. Predicted noise levels from truck activity are 4 to 8 decibels higher than the town’s maximum daytime noise level limit of 55 dBA and 10 to 14 dBA higher during the nighttime period. It is appropriate to point out that the facility is expected to operate during the Town’s designated nighttime period, from 6 AM to 7 AM, so the nighttime limits will need to be met during that time period.
4. The predicted noise levels from the forklift and trucking activity at the proposed facility are clearly expected to exceed the Town’s noise limits, and levels will likely exceed the DEC suggested maximum sound level increases as well. The noise measurement program may show that background noise levels are sufficiently high to result in modest increases in noise levels, but we do expect that noise abatement measures are likely to be necessary. To avoid increasing the existing background sound levels by 3 decibels or more at the assisted living facility recreation area per DEC guidance, the projected noise levels from the forklift and truck operations should not exceed the lowest measured existing hourly sound levels. Also, such levels would likely be minimally intrusive at the assisted living facility.
5. The OAA report suggests that a noise analysis of the HVAC equipment was not conducted, but that such noise will easily meet the nighttime noise limit of 49 dBA. To support this contention, we would like to see an analysis of the expected noise level increases at the assisted living facility from the planned HVAC equipment at the proposed warehouse.
6. We would like to see more thorough documentation of the noise study in a revised noise study report. Specifically, we would like to see the following elements added to the report:
  - a. Graphs showing the measured hourly L90 and Leq sound levels at the noise measurement site, and a table listing the lowest hourly Leq and L90 values for each day during the planned facility’s operating hours.
  - b. An appendix with the certificates of calibration for the noise meters, microphones and field calibrators.
  - c. Tables showing the octave band sound power spectra of all the exterior stationary equipment planned for the facility, and a graphic showing their locations on and around the proposed building.
  - d. 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.
  - e. A table showing the noise emissions of all mobile equipment on the site including forklifts and trucks, and the references with the data to support for those assumed noise emissions.
  - f. A graphic showing the measurement site locations and the noise prediction locations with identification numbers tied to the tables of results.

