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TECHNICAL MEMORANDUM

To: Jeffrey Walsh, Graves Engineering
Steve Chaplin, Hopedale Planning Board Chair
From: Christopher Menge, INCE
Date: March 9, 2022
Subject: Peer Review of Sound Study for 75 Plain Street, Hopedale, MA
Reference: HMMH Project Number 313210

Harris Miller Miller & Hanson Inc. (HMMH) has completed our peer review of the noise analysis performed for the proposed warehouse facility at 75 Plain Street, Hopedale, MA.

We reviewed an initial Sound Study report prepared by Tech Environmental dated November 22, 2021 in February. We provided comments on that report requesting additional analysis and documentation in a revised report. We have reviewed the revised report, titled *Sound Study of 75 Plain Street, Hopedale, MA*, and dated March 1, 2022.



HMMH has found the noise study to be comprehensively and conservatively prepared, addressing all pertinent state noise regulations. The background ambient noise monitoring program was conducted properly, including one week of continuous monitoring at one site and several short-term noise measurements late at night to confirm the representativeness of the long-term data. The noise prediction model and the modeling approach were sufficiently detailed, and they appear to account for all significant noise sources and sound propagation paths to all the nearest homes. The report appropriately documents the noise levels produced by the various continuous sources.

The proposed project incorporates several noise shielding and abatement elements including a berm/wall southwest of the facility, berms near the entrance driveway, and an existing concrete wall in the east along Plain Street. These barriers will reduce noise at the closest residences from heavy trucks traveling around the warehouse and idling at the loading docks. The projected noise levels from the continuous noise sources such as rooftop heaters and air handling equipment, are expected to be up to 4 decibels (dBA) above a quiet nighttime ambient background sound level of 27 dBA. (The ambient background sound is defined as the “L90”, which is the sound level exceeded 90 percent of the time.) This level of 31 dBA is 6 decibels below the Massachusetts Department of Environmental Protection limits of 37 dBA. At all the nearest homes in all directions surrounding the facility, continuous sound levels from the facility alone are predicted to range from 17 dBA to 31 dBA. This is a reasonable design margin for the continuous noise sources. The continuous sound from the facility likely will be audible at some of the closest homes at times during the quietest periods of the night, but will not be intrusive. Fourteen of the 22 closest homes modeled are projected to have facility generated continuous sound levels at the quietest background level of 27 dBA or lower. Further, the facility will not create a “pure tone condition” as defined and required by the MassDEP noise policy.

While Massachusetts law prohibits unnecessary idling of trucks at a warehouse for longer than 5 minutes and truck noise is not subject to the MassDEP regulations, the noise study also addressed an assumption of continuous idling trucks at the loading docks. Including the idling trucks, projected sound levels from the facility would range from 20 dBA to 33 dBA at all 22 homes modeled, still well below the MassDEP limit of 37 dBA. Total sound levels with transient truck-pass-by events are not

expected to exceed 37 dBA at any of the homes and are not expected to be intrusive or even audible much of the time.