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14 January 2025

Atlantic Health System, Inc.
c/o Karen Martinez
100 Madison Avenue
Morristown, New Jersey 07960
karen.martinez@atlantichealth.org

Re: Acoustical Evaluation of Proposed Helipad Relocation
Morristown Medical Center
100 Madison Avenue, Morristown, New Jersey
LSG&A File 2024146

Dear Ms. Martinez:

Lewis S. Goodfriend & Associates (LSG&A) has completed an evaluation of the expected sound level changes due to the proposed helipad relocation at the Morristown Medical Center in Morristown, New Jersey. This letter summarizes the results of our evaluation.

1.0 SITE LAYOUT

The proposed West Pavilion building is to be located on the west side of the Morristown Medical Center campus, south of the employee parking garage. The Route 287 highway is located to the west of the campus, with residential properties located on the opposite side of the highway. The helipad for the campus is proposed to be relocated from the roof of the Kahn building to the roof of the new West Pavilion building. Figure 1, at the end of this letter, shows an aerial view of the West Pavilion and surrounding areas.

2.0 ACOUSTICAL EVALUATION

While aircraft noise is not subject to the limits of the State or local noise regulations, LSG&A understands that the community has expressed concerns regarding the change in sound levels due to the relocation of the helipad from the existing location on the roof of the Kahn building to the roof of the proposed West Pavilion building. The new location will be approximately 90 feet higher in elevation and approximately 480 feet west of the existing location.

To calculate the potential sound level impact at the adjacent properties, an acoustical model was developed that considered the propagation of sound over distance, the shielding and reflection of sound due to buildings and barriers, the effect of topography, and the effect of air and ground absorption. The modeling was performed using SoundPLAN software and the calculation methodology outlined in ISO Standard 9613-2, which assumes favorable conditions for sound propagation in all directions. The helicopter was modeled based on sound level measurements performed by LSG&A of Atlantic Health System's Air Three helicopter, which is an Airbus H135 (formerly Eurocopter EC135).

For Iteration 1, the helicopter was modeled as a moving object along a flight path extending from overhead of Route 287 to the existing location without the proposed West Pavilion building present, and with a flight path extending from overhead of Route 287 to the proposed location with the West Pavilion building present. The difference in sound level between the two models shows the expected change in flight path sound levels due to the helipad relocation. Figure 2, at the end of this letter, shows the expected overall A-weighted sound level changes. These results indicate increases of up to 6 dB(A) at the residential properties to the west, and decreases of up to 8 dB(A) and 6 dB(A) at the residential properties to the north and east, respectively.

For Iteration 2, the helicopter was modeled as a stationary object situated on the existing helipad without the proposed West Pavilion building present, and situated on the proposed helipad location with the West Pavilion building present. The difference in sound level between the two models shows the expected change in helipad sound levels due to the helipad relocation. Figure 3, at the end of this letter, shows the expected overall A-weighted sound level changes. These results are more varied in each direction than Iteration 1 due to building shielding of the stationary source by the existing and proposed buildings on the campus. Reductions of up to 14 dB(A) are shown at residences directly west of the proposed helipad location, as well as changes of -2 to +8 dB(A) to the north, and -4 to +2 dB(A) to the east.

In general, a 3 dB(A) change is typically barely perceptible, a 5 dB(A) change is typically readily perceptible, and a 10 dB(A) change is typically perceived as half (-10) or twice (+10) as loud.[1] From a community aspect, more residences will experience reductions in helicopter sound levels than increases with the proposed relocation. In addition, the sound level of the loudest residential receptor with the proposed helipad location is approximately 4 dB(A) lower than the loudest residential receptor with the existing helipad location.

I trust that this information is sufficient for your present needs. Please call if you have any questions regarding this letter.

Very truly yours,

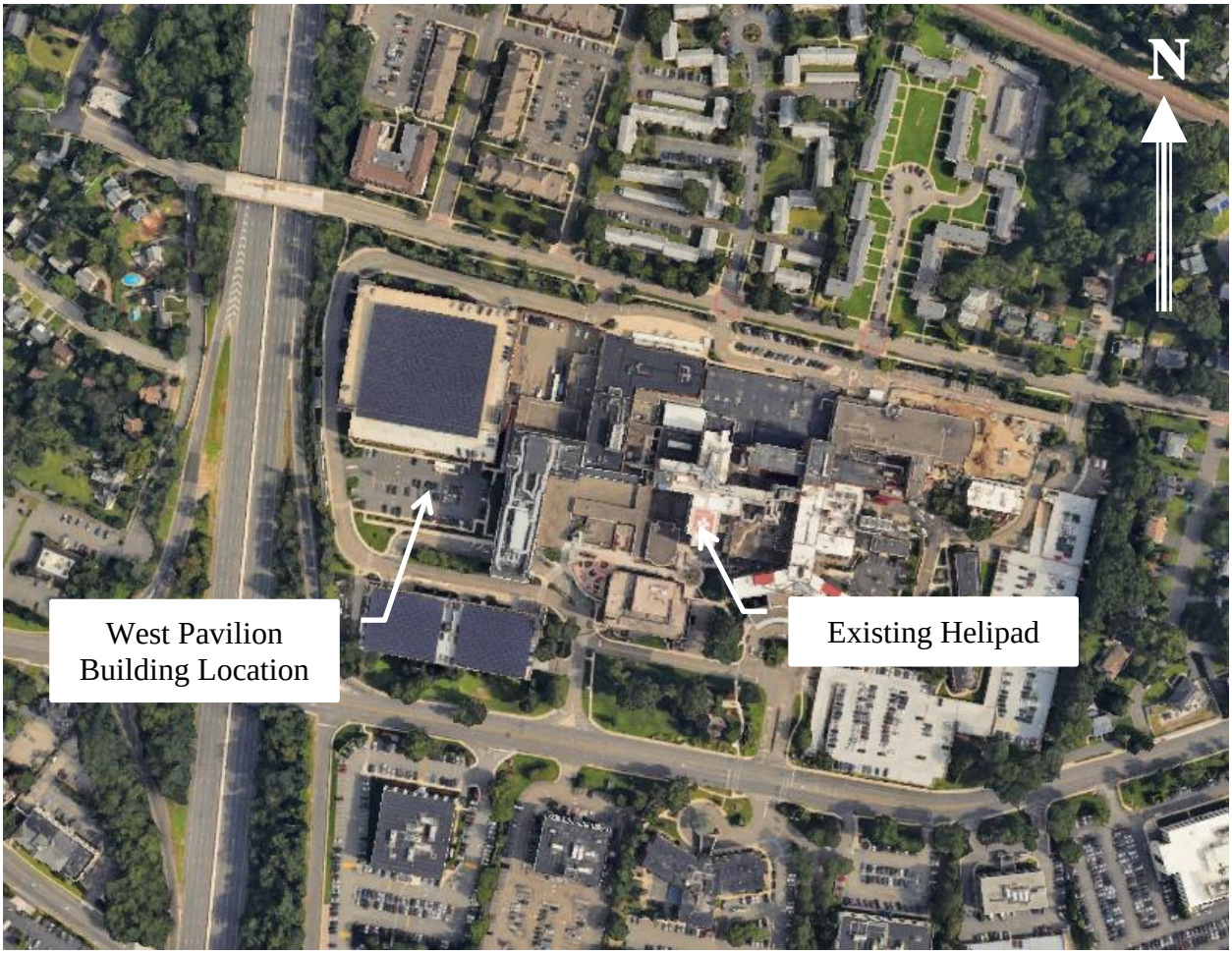
LEWIS S. GOODFRIEND & ASSOCIATES

Jack A. Zybura, P.E., INCE Bd. Cert.
Associate Principal

JAZ:jaz
Enclosures F:\JOB_DIR\2024\2024146\Documents\L2024146C.docx

[1] Highway Traffic Noise Analysis and Abatement Policy and Guidance, U.S. Department of Transportation, Federal Highway Administration.

Figure 1 – Aerial View Showing the Site and Surrounding Areas, Morristown Medical Center, Morristown, New Jersey.



NOTES: All Locations Approximate
Not to Scale
Not for Construction

Figure 2 – Expected Change in Helicopter Path Noise due to Helipad Relocation, Morristown Medical Center, Morristown, New Jersey.

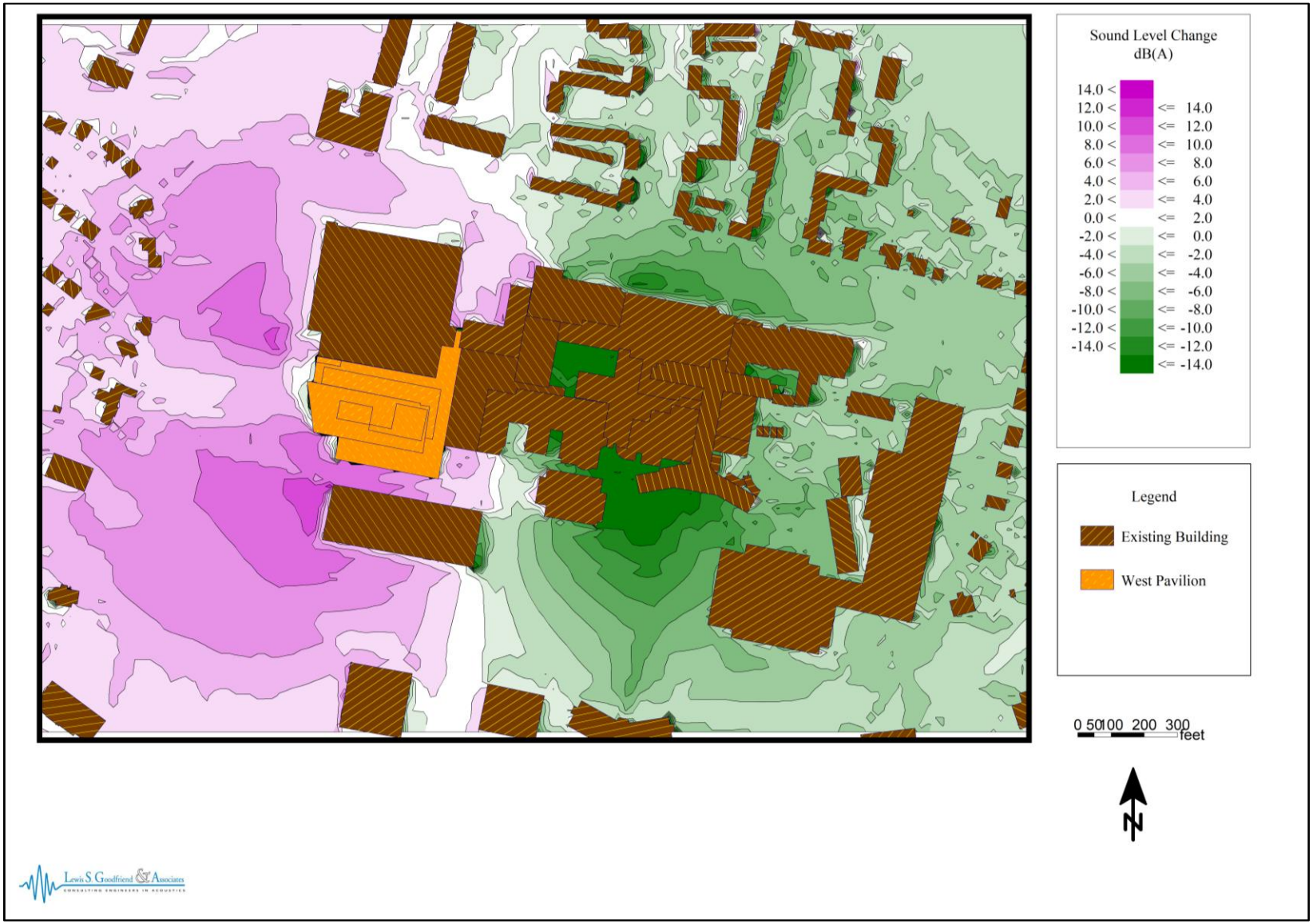


Figure 3 – Expected Change in Helicopter Stationary Noise due to Helipad Relocation, Morristown Medical Center, Morristown, New Jersey.