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F. SENSITIVE RECEPTOR ASSESSMENT

Existing L_{10} noise levels at the four monitoring sites and the future noise levels at the proposed residential site would exceed 70 dBA and existing L_{dn} levels at the proposed residential site are estimated to range between 67 and 71. The procedure for estimating the Ldn from measured hourly Leq noise levels is provided in the FTA's "Transit Noise and Vibration Impact Assessment" Manual (May 2006) Appendix D Option 4.

Following both CEQR (Table 10-1) and HUD guidelines, existing noise levels are in the "Marginally Unacceptable" range at the proposed residential sites. The Proposed Action would introduce new sensitive receptors into an area with high existing ambient noise levels.

According to the CEQR guidance, the Proposed Development Site would be suitable for residential uses with window-wall attenuation of 30 dBA for the exterior facades of the affected residences on St. Nicholas Avenue and 35 dBA for the exterior faces of the affected buildings on West 155th Street. Wall attenuation required to satisfy the requirements of HUD guidance would be lower -- 25 dBA for the exterior facades of the affected residences on St. Nicholas Aveneue and 30 dBA for the exterior facades of the affected buildings facing West 155th Street. Window attenuation as indicated in Table 10-3 would be required to achieve a 45 dBA interior noise level. As such, an (E) designation for the Proposed Development Site was developed to preclude the potential for significant adverse noise impacts.

TABLE 10-3
Required Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Acceptable	Marginally Unacceptable		Clearly Unacceptable		
Noise level with the Proposed Action	$65 < L_{10} \leq 70$	$70 < L_{10} \leq 75$	$75 < L_{10} \leq 80$	$80 < L_{10} \leq 85$	$85 < L_{10} \leq 90$	$90 < L_{10} \leq 95$
Attenuation	25 dBA	30 dBA	35 dBA	40 dBA	45 dBA	50 dBA

Source: CEQR Technical Manual; NYCDEP.

Window attenuation requirements for the four noise monitoring sites are shown in the following bulleted items. The required closed window condition at these sites can be maintained by providing an alternate means of ventilation for the interior spaces.

- To satisfy the requirements of the HUD guidelines sound attenuation of 25 dBA would be needed for sites in the area of noise monitoring sites 1 and 4, where future Ldn levels are estimated to be 67 L_{dn}. The required window attenuation can be achieved through installing standard ¼ inch thick single glazed window.
- To satisfy the requirements of the HUD guidelines sound attenuation of 30 dBA would be needed for sites in the area of noise monitoring sites 2 and 3, where future Ldn levels are estimated to be 71 L_{dn}. The required window attenuation can be achieved through installing

¼ inch laminated single glazed window or double-glazed windows with 1/8 inch glass panes with ¼ inch air space between them mounted in a heavy frame.

- To satisfy the CEQR requirements sound attenuation of 30 dBA would be needed for sites in the area of noise monitoring Sites 1 and 4, where future L10 noise levels would be between 70 and 75 dBA. The required window attenuation can be achieved through installing ¼ inch laminated single glazed window or double-glazed windows with 1/8 inch glass panes with ¼ inch air space between them mounted in a heavy frame.
- To satisfy the CEQR requirements sound attenuation of 35 dBA would be required for sites in the area of noise monitoring Sites 2 and 3, where future L10 noise levels would be between 75 and 80 dBA. This can be achieved through installing double glazed windows on a heavy frame in masonry structures or windows consisting of laminated glass

Therefore, the proposed zoning map change would be accompanied by the mapping of an (E) designation on the Proposed Development Site, which following the CEQR requirements would mandate that required noise attenuation of up to 35 dBA be incorporated into the Proposed Development. The (E) designation would require that windows on the front facade of the Proposed Development facing West 155th Street should be provided with window attenuation of 35 dBA; whereas windows on the facade of the Proposed Development facing St. Nicholas Avenue should be provided with window attenuation of 30 dBA.

The text for the (E) designation for sites requiring 30 dBA is as follows:

> **In order to ensure an acceptable interior noise environment, future residential/ commercial uses must provide a closed window condition with a minimum of 30 dBA window/wall attenuation on all façades in order to maintain an interior noise level of 45 dBA. In order to maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning sleeves or HUD approved fans.**

The text for the (E) designation for sites requiring 35 dBA is as follows:

> **In order to ensure an acceptable interior noise environment, future residential/ commercial uses must provide a closed window condition with a minimum of 35 dBA window/wall attenuation on all façades in order to maintain an interior noise level of 45 dBA. In order to maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, central air conditioning.**

With the attenuation measures specified above and summarized in Table 10-4, the proposed rezoning would not result in any significant adverse noise impacts, and would meet *CEQR Technical Manual* guidelines.

TABLE 10-4
CEQR Required Attenuation Values for the Proposed Development Site

Address (Monitoring Site Number)	Block Number	Lot Number	Build L_{10} (dBA)	Attenuation Required
Proposed Development Site				
886 St. Nicholas Avenue (1)	2069	21	72.5	30 dBA
North Side of 414 West 155th Street (western end) (2)	2069	21	75.5	35 dBA

TABLE 10-5
HUD Required Attenuation Values for the Proposed Development Site

Address (Monitoring Site Number)	Block Number	Lot Number	Build L_{dn} (dBA)	Attenuation Required
Proposed Development Site				
886 St. Nicholas Avenue (1)	2069	21	67	25 dBA
North Side of 414 West 155th Street (western end) (2)	2069	21	71	30 dBA

G. CONCLUSION

There would be no perceptible increases in traffic noise levels at the Proposed Development Site as a result of increases in traffic associated with the Proposed Action. Also, the addition of a 114-space below grade accessory parking garage would not result in any increase in noise levels. Any change in the noise levels from the No-Action conditions would be insignificant and imperceptible.

Based on the measured existing noise levels and judged by the CEQR internal noise level requirements, the buildings within the proposed rezoning area would require 30 to 35 dBA attenuation of external noise exposure on all facades facing the adjacent roadways to maintain interior noise levels of 45 dBA (Table 10-4). Based on the estimated existing noise levels and judged by the HUD external and internal noise level requirements, the buildings within the proposed rezoning area would require 25 to 30 dBA attenuation of external noise exposure on all facades facing the adjacent roadways to maintain interior noise levels of L_{dn} 45 (Table 10-5). As such, the window attenuation required to satisfy CEQR will be more than sufficient to satisfy HUD requirements.

Therefore, the proposed zoning map change would be accompanied by the mapping of an (E) designation on the Proposed Development Site, which would mandate that required noise attenuation of up to 35 dBA be incorporated into the Proposed Development. The noise attenuation required under the Proposed Action would provide the needed attenuation, and preclude the potential for significant adverse noise impacts.