Chapter 13: Noise

A. INTRODUCTION

This analysis updates changes in the background conditions since the 2001 *FEIS* and assesses whether any changed background conditions and the differences in program elements between the proposed development program and those assessed in the 2001 *FEIS* for the project block would result in any significant adverse noise impacts that were not previously identified in the 2001 *FEIS.*

PRINCIPAL CONCLUSIONS

Based on the analysis presented in the 2001 *FEIS*, an (E) designation requiring 35 dBA of window/wall attenuation was placed on Block 1105, Lot 5. However, the noise measurements that established (E) designation E-103 are now 10 years old and there has been development in the area since that time. Consequently, an updated building attenuation analysis based on new site-specific measurements was performed. The proposed project would not generate sufficient traffic to have the potential to cause a significant noise impact (i.e., it would not result in a doubling of Noise passenger car equivalents [Noise PCEs] which would be necessary to cause a 3 dBA increase in noise levels) and will be designed to provide the window/wall attenuation levels shown in **Table 13-3**, which will result in acceptable interior noise levels according to CEQR criteria. Consequently, the proposed project would not result in any significant adverse noise impacts.

B. SUMMARY OF 2001 FEIS FINDINGS

Based on the analysis presented in the 2001 *FEIS*, an (E) designation requiring 35 dBA of window/wall attenuation was placed on Block 1105, Lot 5. However, the noise measurements that established (E) designation E-103 are now 10 years old and there has been development in the area since that time. Consequently, an updated building attenuation analysis based on new site-specific measurements was performed and is presented below.

C. NEW YORK CEQR NOISE STANDARDS

The 2012 *CEQR Technical Manual* defines attenuation requirements for buildings based on exterior noise level (see **Table 13-1**). Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 45 dBA or lower for residential uses and 50 dBA or lower for commercial uses and are determined based on exterior $L_{10(1)}$ noise levels.

Table 13-1
Required Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Acceptable				Clearly Unacceptable
Noise Level With Proposed Action	$70 < L_{10} \leq 73$	$73 < L_{10} \leq 76$	$76 < L_{10} \leq 78$	$78 < L_{10} \leq 80$	$L_{10} < 80$
Attenuation*	(I) 28 dB(A)	(II) 31 dB(A)	(III) 33 dB(A)	(IV) 35 dB(A)	$36 + (L_{10} - 80)^B$ dB(A)

Notes: [A] The above composite window-wall attenuation values are for residential dwellings. Attenuation for commercial office spaces and meeting rooms would be 5 dB(A) less in each category. All the above categories require a closed window situation and hence an alternate means of ventilation.
[B] Required attenuation values increase by 1 dB(A) increments for L_{10} values greater than 80 dBA.
Source: New York City Department of Environmental Protection

D. EXISTING NOISE LEVELS

Continuous 24-hour noise measurements were performed at six locations around the project site by Cerami & Associates on May 10, 11, 24, 25, and 26, 2011. **Table 13-2** lists the measurement locations and the highest measured $L_{10(1)}$ values reported by Cerami & Associates.

Table 13-2
Existing Noise Levels (in dBA)

Site	Location	Highest Measured $L_{10(1)}$ Value
1	West Side Highway between West 57th and West 58th Streets	79.1
2	West 57th Street 100 feet east of the West Side Highway	74.6
3	West 57th Street 200 feet east of the West Side Highway	73.9
4	West 57th Street 400 feet east of the West Side Highway	74.7
5	Eastern edge of projected development site 1 between West 57th and West 58th Streets	68.4
6	West 58th Street 200 feet east of the West Side Highway	72.0

Note: Field measurements were performed by Cerami & Associates on May 10, 11, 24, 25, and 26, 2011.
Source: 625 West 57th Street Acoustical Analysis for DCP memorandum from Cerami & Associates to AKRF, dated October 30, 2011, revised November 15, 2011.

E. THE FUTURE WITHOUT THE PROPOSED PROJECT

In the future without the proposed project, traffic on roadways near the proposed project site, which is the dominant source of noise at the project site, would increase only slightly due to natural growth, and consequently noise levels at and adjacent to the project site would be comparable to those in the existing conditions.

F. PROBABLE IMPACTS OF THE PROPOSED PROJECT

In the future with the proposed project, traffic on roadways near the proposed project site, which is the dominant source of noise at the project site, would increase only slightly due to natural growth. The proposed project itself would not generate sufficient traffic to have the potential to cause a significant noise impact (i.e., it would not result in a doubling of noise passenger car equivalents [Noise PCEs], which would be necessary to cause a 3 dBA increase in noise levels which is considered significant in the 2012 *CEQR Technical Manual*). However, noise level increments ranging from 0.6 dBA to 0.9 dBA (calculated by proportional scaling of Noise PCEs,

see **Appendix B, "Noise"**) over the existing noise levels were included in the $L_{10(1)}$ noise levels with the proposed project, on which the attenuation requirements for the project were based.

In addition, the building mechanical systems would be designed to meet all applicable noise regulations (i.e., Subchapter 5, §24-227 of the New York City Noise Control Code and Section MC 926 of the New York City Department of Buildings Mechanical Code) and to avoid producing levels that would result in any significant increase in ambient noise levels.

NOISE ATTENUATION MEASURES

As shown in **Table 13-1**, the 2012 *CEQR Technical Manual* has set noise attenuation requirements for buildings based on exterior $L_{10(1)}$ noise levels to maintain interior noise levels of 45 dBA or lower for residential uses and 50 dBA or lower for commercial uses. The attenuation levels recommended by Cerami & Associates' report (included in **Appendix B, "Noise"**) are summarized in **Table 13-3**. The table below has been revised to clarify attenuation requirements for the eastern façade of the mixed-use building and the community facility building on projected development site 1 and the proposed conversion of the existing building on projected development site 2.

Table 13-3
Building Attenuation Requirements

Location	Façade	Elevation	Governing Noise Measurement Location/Source	Maximum Measured $L_{10(1)}$ Value(s) (in dBA)	Attenuation Required (in OITC)[2]
Projected Development Site 1: Mixed Use Building	North	Up to 100 feet	1[1], 2	79.7[3], 75.3[3]	35 within 100 feet of West Side Highway, 31 elsewhere
		Greater than 100 feet			28
	East	Up to 100 feet	4, 5	75.4[3], 69.3~~68.6~~[3]	31 within 120 feet of West 57th Street, 30[4] elsewhere
		Greater than 100 feet			28 within 120 feet of West 57th Street, 30[4] elsewhere
	South	Up to 100 feet	1, 2, 3	79.7[3], 75.3[3], 74.6[3]	35 within 100 feet of West Side Highway, 31 elsewhere
		Greater than 100 feet			28
	West	Up to 100 feet	1, 2	79.7[3], 75.3[3]	35 within 100 feet of West Side Highway, 31 elsewhere
		Greater than 100 feet			28
Projected Development Site 1: Community Facility Building	North	All	2	75.3[3]	31
	East, South, West	All	5	68.6[3]	30[4]
Projected Development Site 2	North	All	2	75.3[3]	31
	East	All	Existing (E) Designation	n/a	35
	South, West	All	5	68.6[3]	30[4]

Notes:
[1] Because no measurement was performed along the north façade of the project site within 100 feet of the West Side Highway, the measurement at site 1 along the south façade of the project site within 100 feet of the West Side Highway was used to represent the north façade as well.
[2] Required attenuation values shown are for residential uses. Attenuation for commercial or cultural uses would be 5 dBA less.
[3] Noise levels adjusted based on build traffic increments.
[4] The maximum measured L_{10} is below 70 dBA, and the *CEQR Technical Manual* does not specify minimum attenuation guidance for exterior L_{10} values below this level, however the applicant has committed to 30 dBA of attenuation for residential uses or 25 dBA of attenuation for commercial/non-residential uses along the mid-block drive greater than 120 feet from West 57th Street.

Source: 625 West 57th Street Acoustical Analysis for DCP memorandum from Cerami & Associates to AKRF, dated October 30, 2011, revised November 15, 2011.

The attenuation of a composite structure is a function of the attenuation provided by each of its component parts and how much of the area is made up of each part. Normally, a building façade comprises the wall, glazing, and any vents or louvers for HVAC/air conditioning units in various ratios of area. The proposed design for the project building includes the use of acoustically rated windows for all facades and air conditioning (a means of alternate ventilation). The proposed project's building facades, including these elements, would be designed to provide a composite Outdoor-Indoor Transmission Class (OITC) rating greater than or equal to the attenuation requirements listed in **Table 13-3**. The OITC classification is defined by the American Society of Testing and Materials (ASTM E1332-10) and provides a single-number rating that is used for designing a building façade including walls, doors, glazing, and combinations thereof. The OITC rating is designed to evaluate building elements by their ability to reduce the overall loudness of ground and air transportation noise. By adhering to these design requirements, the project building will thus provide sufficient attenuation to achieve the CEQR interior noise level guideline of 45 dBA L_{10} for residential uses and 50 dBA L_{10} for commercial uses. The results of this building attenuation analysis will be used to revise the requirements of the existing noise (E) designation at the project site. The applicant will coordinate with the Mayor's Office of Environmental Remediation (OER) to demonstrate compliance with the revised noise (E) designation requirements. Consequently, the proposed project would not result in any significant adverse noise impacts that were not identified in the 2001 *FEIS*. ✷