Chapter 13: Noise

A. INTRODUCTION

The noise analysis for the proposed project consists of two components—a screening analysis to determine whether traffic generated by the proposed project would have a potential to result in significant noise impacts, and an analysis to determine the level of building attenuation necessary to ensure that the proposed project's interior noise levels satisfy applicable interior noise criteria.

PRINCIPAL CONCLUSIONS

The analysis finds that the maximum predicted noise level increase when comparing the Future With the Proposed Project to the Future Without the Proposed Project would be 1.0 dBA or less at all receptor sites. Noise level increases would be considered imperceptible, and they would be below the CEQR threshold for a significant adverse impact.

The building attenuation analysis concludes that there are no attenuation requirements for the Proposed Project. The worst case façade near the loading docks was predicted to have L_{10} noise levels of 68.5 dBA and the *CEQR Technical Manual* guidance prescribes no minimum attenuation requirement for L_{10} noise levels less than 70 dBA.

B. ACOUSTICAL FUNDAMENTALS

Sound is a fluctuation in air pressure. Sound pressure levels are measured in units called "decibels" ("dB"). The particular character of the sound that we hear (a whistle compared with a French horn, for example) is determined by the speed, or "frequency," at which the air pressure fluctuates, or "oscillates." Frequency defines the oscillation of sound pressure in terms of cycles per second. One cycle per second is known as 1 Hertz ("Hz"). People can hear over a relatively limited range of sound frequencies, generally between 20 Hz and 20,000 Hz, and the human ear does not perceive all frequencies equally well. High frequencies (e.g., a whistle) are more easily discernable and therefore more intrusive than many of the lower frequencies (e.g., the lower notes on the French horn).

"A"-WEIGHTED SOUND LEVEL (DBA)

In order to establish a uniform noise measurement that simulates people's perception of loudness and annoyance, the decibel measurement is weighted to account for those frequencies most audible to the human ear. This is known as the A-weighted sound level, or "dBA," and it is the descriptor of noise levels most often used for community noise. As shown in **Table 13-1**, the threshold of human hearing is defined as 0 dBA; very quiet conditions (as in a library, for example) are approximately 40 dBA; levels between 50 dBA and 70 dBA define the range of noise levels generated by normal daily activity; levels above 70 dBA would be considered noisy, and then loud, intrusive, and deafening as the scale approaches 130 dBA.

In considering these values, it is important to note that the dBA scale is logarithmic, meaning that each increase of 10 dBA describes a doubling of perceived loudness. Thus, background noise at 50 dBA is perceived as twice as loud as at 40 dBA. For most people to perceive an increase in noise, it must be at least 3 dBA. At 5 dBA, the change will be readily noticeable.

Table 13-1
Common Noise Levels

Sound Source	(dBA)
Military jet, air raid siren	130
Amplified rock music	110
Jet takeoff at 500 meters	100
Freight train at 30 meters	95
Train horn at 30 meters	90
Heavy truck at 15 meters	80–90
Busy city street, loud shout	80
Busy traffic intersection	70–80
Highway traffic at 15 meters, train	70
Predominantly industrial area	60
Light car traffic at 15 meters, city or commercial areas, or residential areas close to industry	50–60
Background noise in an office	50
Suburban areas with medium-density transportation	40–50
Public library	40
Soft whisper at 5 meters	30
Threshold of hearing	0

Note: A 10 dBA increase in level appears to double the loudness, and a 10 dBA decrease halves the apparent loudness.
Sources: Cowan, James P. *Handbook of Environmental Acoustics,* Van Nostrand Reinhold, New York, 1994. Egan, M. David, Architectural Acoustics. McGraw-Hill Book Company, 1988.

ABILITY TO PERCEIVE CHANGES IN NOISE LEVELS

The average ability of an individual to perceive changes in noise levels is well-documented (see **Table 13-2**). Generally, changes in noise levels of less than 3 dBA are barely perceptible to most listeners, whereas changes in noise levels of 10 dBA are normally perceived as doubling (or halving) of noise loudness. These guidelines permit direct estimation of an individual's probable perception of changes in noise levels.

Table 13-2
Average Ability to Perceive Changes in Noise Levels

Change (dBA)	Human Perception of Sound
2–3	Barely perceptible
5	Readily noticeable
10	A doubling or halving of the loudness of sound
20	A "dramatic change"
40	Difference between a faintly audible sound and a very loud sound

Source: Bolt Beranek and Neuman, Inc., *Fundamentals and Abatement of Highway Traffic Noise*, Report No. PB-222-703. Prepared for Federal Highway Administration, June 1973.

EFFECTS OF DISTANCE ON SOUND

Sound varies with distance. For example, highway traffic 50 feet away from a receptor (such as a person listening to the noise) typically produces sound levels of approximately 70 dBA. The same highway noise measures 66 dBA at a distance of 100 feet, assuming soft ground conditions. This decrease is known as "drop-off." The outdoor drop-off rate for line sources, such as traffic, is a decrease of approximately 4.5 dBA (for soft ground) for every doubling of distance between the

noise source and receiver (for hard ground the outdoor drop-off rate is 3 dBA for line sources). Assuming soft ground, for point sources, such as amplified rock music, the outdoor drop-off rate is a decrease of approximately 7.5 dBA for every doubling of distance between the noise source and receiver (for hard ground the outdoor drop-off rate is 6 dBA for point sources).

SOUND LEVEL DESCRIPTORS

Because the sound pressure level unit of dBA describes a noise level at just one moment and very few noises are constant, other ways of describing noise that fluctuates over extended periods have been developed. One way is to describe the fluctuating sound heard over a specific time period as if it had been a steady, unchanging sound. For this condition, a descriptor called the "equivalent sound level," L_{eq}, can be computed. L_{eq} is the constant sound level that, in a given situation and time period (e.g., 1 hour, denoted by $L_{eq(1)}$, or 24 hours, denoted by $L_{eq(24)}$), conveys the same sound energy as the actual time-varying sound. Statistical sound level descriptors such as L_1, L_{10}, L_{50}, L_{90}, and L_x, are used to indicate noise levels that are exceeded 1, 10, 50, 90, and x percent of the time, respectively.

The relationship between L_{eq} and levels of exceedance is worth noting. Because L_{eq} is defined in energy rather than straight numerical terms, it is not simply related to the levels of exceedance. If the noise fluctuates very little, L_{eq} will approximate L_{50} or the median level. If the noise fluctuates broadly, the L_{eq} will be approximately equal to the L_{10} value. If extreme fluctuations are present, the L_{eq} will exceed L_{90} or the background level by 10 or more decibels. Thus, the relationship between L_{eq} and the levels of exceedance will depend on the character of the noise. In community noise measurements, it has been observed that the L_{eq} is generally between L_{10} and L_{50}.

For purposes of the proposed project, the maximum 1-hour equivalent sound level ($L_{eq(1)}$) has been selected as the noise descriptor to be used in this noise impact evaluation. $L_{eq(1)}$ is the noise descriptor recommended for use in the *CEQR Technical Manual* for vehicular traffic and construction noise impact evaluation, and is used to provide an indication of highest expected sound levels. The 1-hour L_{10} is the noise descriptor used in the *CEQR Technical Manual* noise exposure guidelines for City environmental impact review classification.

C. NOISE STANDARDS AND CRITERIA

NEW YORK CEQR NOISE CRITERIA

The *CEQR Technical Manual* sets external noise exposure standards; these standards are shown in **Table 13-3**. Noise exposure is classified into four categories: acceptable, marginally acceptable, marginally unacceptable, and clearly unacceptable.

The *CEQR Technical Manual* also defines attenuation requirements for buildings based on exterior noise level (see **Table 13-4**). Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 45 dBA or lower for noise sensitive uses and 50 dBA or lower for retail uses and are determined based on exterior $L_{10(1)}$ noise levels.

In addition, the *CEQR Technical Manual* compares the proposed project's With Action condition $L_{eq(1)}$ noise levels to those calculated for the No Action condition, for receptors potentially affected by the project using the following criteria to determine whether a proposed project would result in a significant adverse noise impact:

- An increase of 5 dBA, or more, in With Action $L_{eq(1)}$ noise levels at sensitive receptors (including residences, play areas, parks, schools, libraries, and houses of worship) over those

calculated for the No Action condition, if the No Action levels are less than or equal to 60 dBA $L_{eq(1)}$ and the analysis period is not a nighttime period.

- An increase in With Action $L_{eq(1)}$ noise levels at sensitive receptors of such that the total Build $L_{eq(1)}$ noise levels would be 65 dBA or greater, if the No Action levels are between 60 and 62 dBA $L_{eq(1)}$ and the analysis period is not a nighttime period.
- An increase of 3 dBA, or more, in With Action $L_{eq(1)}$ noise levels at sensitive receptors over those calculated for the No Action condition, if the No Action levels are greater than or equal to 62 dBA $L_{eq(1)}$ and the analysis period is not a nighttime period.
- An increase of 3 dBA, or more, in With Action $L_{eq(1)}$ noise levels at sensitive receptors over those calculated for the No Action condition, if the analysis period is a nighttime period (defined by the *CEQR Technical Manual* criteria as being between 10 PM and 7 AM).

Table 13-3

Noise Exposure Guidelines For Use in City Environmental Impact Review

Receptor Type	Time Period	Acceptable General External Exposure	Airport[3] Exposure	Marginally Acceptable General External Exposure	Airport[3] Exposure	Marginally Unacceptable General External Exposure	Airport[3] Exposure	Clearly Unacceptable General External Exposure	Airport[3] Exposure
Outdoor area requiring serenity and quiet[2]		$L_{10} \leq 55$ dBA	---------- Ldn ≤ 60 dBA ----------	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Hospital, nursing home		$L_{10} \leq 55$ dBA		55 < $L_{10} \leq 65$ dBA	---------- 60 < Ldn ≤ 65 dBA ----------	65 < $L_{10} \leq 80$ dBA	(i) 65 < Ldn ≤ 70 dBA, (II) 70 ≤ Ldn	$L_{10} > 80$ dBA	---------- Ldn ≤ 75 dBA ----------
Residence, residential hotel, or motel	7 AM to 10 PM	$L_{10} \leq 65$ dBA		65 < $L_{10} \leq 70$ dBA		70 < $L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
	10 PM to 7 AM	$L_{10} \leq 55$ dBA		55 < $L_{10} \leq 70$ dBA		70 < $L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
School, museum, library, court, house of worship, transient hotel or motel, public meeting room, auditorium, outpatient public health facility		Same as Residential Day (7 AM-11 PM)		Same as Residential Day (7 AM-11 PM)		Same as Residential Day (7 AM-11 PM)		Same as Residential Day (7 AM-11 PM)	
Commercial or office		Same as Residential Day (7 AM-11 PM)		Same as Residential Day (7 AM-11 PM)		Same as Residential Day (7 AM-11 PM)		Same as Residential Day (7 AM-11 PM)	
Industrial, public areas only[4]	Note 4	Note 4		Note 4		Note 4		Note 4	

Notes:

(i) In addition, any new activity shall not increase the ambient noise level by 3 dBA or more; (ii) *CEQR Technical Manual* noise criteria for train noise are similar to the above aircraft noise standards: the noise category for train noise is found by taking the L_{dn} value for such train noise to be an L^{y}_{dn} (L_{dn} contour) value.

Table Notes:

[1] Measurements and projections of noise exposures are to be made at appropriate heights above site boundaries as given by American National Standards Institute (ANSI) Standards; all values are for the worst hour in the time period.

[2] Tracts of land where serenity and quiet are extraordinarily important and serve an important public need, and where the preservation of these qualities is essential for the area to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks, or open spaces dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet.

[3] One may use FAA-approved L_{dn} contours supplied by the Port Authority, or the noise contours may be computed from the federally approved INM Computer Model using flight data supplied by the Port Authority of New York and New Jersey.

[4] External Noise Exposure standards for industrial areas of sounds produced by industrial operations other than operating motor vehicles or other transportation facilities are spelled out in the New York City Zoning Resolution, Sections 42-20 and 42-21. The referenced standards apply to M1, M2, and M3 manufacturing districts and to adjoining residence districts (performance standards are octave band standards).

Source: New York City Department of Environmental Protection (adopted policy 1983).

Table 13-4
Required Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Unacceptable				Clearly Unacceptable
Noise Level With the proposed project	$70 < L_{10} \leq 73$	$73 < L_{10} \leq 76$	$76 < L_{10} \leq 78$	$78 < L_{10} \leq 80$	$80 < L_{10}$
Attenuation[A]	(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 and community facility development. Commercial office spaces, retail, 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. NOISE PREDICTION METHODOLOGY

Proportional modeling was used to determine locations which had the potential for having significant noise impacts and to quantify the magnitude of those potential impacts. Proportional modeling is one of the techniques recommended in the *CEQR Technical Manual* for mobile source analysis.

Using this technique, the prediction of future noise levels, where traffic is the dominant noise source, is based on a calculation using measured existing noise levels and predicted changes in traffic volumes to determine No Action and With Action levels. Using this methodology, vehicular traffic volumes were converted into passenger car equivalent (PCE) values, for which one medium-duty truck (having a gross weight between 9,900 and 26,400 pounds) is assumed to generate the noise equivalent of 13 cars; one heavy-duty truck (having a gross weight of more than 26,400 pounds) is assumed to generate the noise equivalent of 47 cars; and one bus (vehicles designed to carry more than nine passengers) is assumed to generate the noise equivalent of 18 cars. Future noise levels are calculated using the following equation:

$$F\ NL - E\ NL = 10 * \log_{10} (F\ PCE / E\ PCE)$$

where:

F NL = Future Noise Level

E NL = Existing Noise Level

F PCE = Future PCEs

E PCE = Existing PCEs

With this methodology, assuming traffic is the dominant noise source at a particular location if the existing traffic volume on a street is 100 PCE and if the future traffic volume were increased by 50 PCE to a total of 150 PCE, the noise level would increase by 1.8 dBA. Similarly, if the future traffic were increased by 100 PCE, or doubled to a total of 200 PCE, the noise level would increase by 3.0 dBA.

E. EXISTING NOISE LEVELS

Four (4) receptor sites were selected for the noise analysis. Existing noise levels were measured at three (3) locations near the project site and one (1) location in the project site (see **Figure**

13-1). **Table 13-5** lists the receptor site locations and their representative land uses. Receptor sites 1 through 3 were used to evaluate potential noise impacts due to the project-generated traffic, and Site 4 was used to determine the CEQR building attenuation requirements for the project's buildings. These four receptors, due to their proximity to the project sites, represent the nearby sensitive noise receptors with the greatest potential to experience significant noise increases as a result of the proposed project. Sensitive receptors further from the project sites would be less likely to experience significant noise increases as a result of the proposed project.

Table 13-5
Noise Receptor Locations

Receptor	Location	Land Use
1	Richmond Hill Rd between Country Drive W. and Country Drive E.	Residential
2	Richmond Avenue at the Mall's West Main Entrance	Commercial
3	Marsh Avenue between Ring Road and Elmwood Park Drive	Residential/Institution
4	Mall's Loading Dock near JCPenney	Commercial

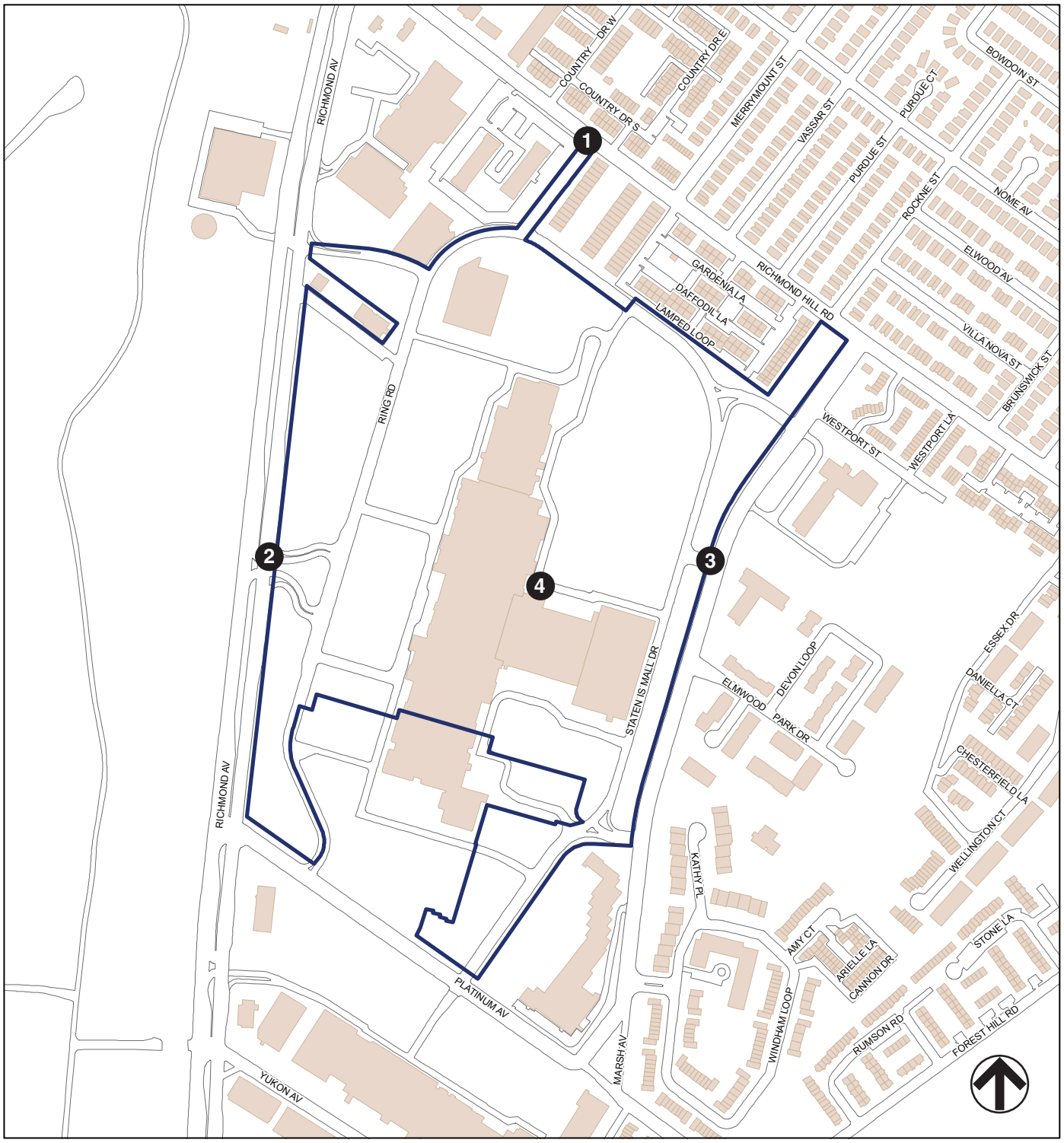
At these receptor sites, existing noise levels were measured for 20-minute periods for weekday midday (1:00 PM to 3:00 PM), weekday PM (4:00 PM to 7:00 PM), Saturday MD (1:30 PM to 3:30 PM) and Saturday PM (3:30 PM to 5:00 PM). Measurements were taken on June 7 and 18, 2014 and January 31, 2015. The selected time periods are when the proposed project would have maximum traffic generation and/or the maximum potential for significant adverse noise impacts based on the traffic studies presented in Chapter 10, "Transportation."

EQUIPMENT USED DURING NOISE MONITORING

Measurements were performed using a Brüel & Kjær Sound Level Meter (SLM) Type 2260, a Brüel & Kjær ½-inch microphone Type 4189 and a Brüel & Kjær Sound Level Calibrator Type 4231. The SLM had a laboratory calibration date within one year of the time of use, as is standard practice. The Brüel & Kjær SLM is a Type 1 instrument according to ANSI Standard S1.4-1983 (R2006). For all receptor sites the instrument/microphone was mounted on a tripod at a height of approximately 5 feet above the ground. Microphones were mounted at least approximately 5 feet away from any large reflecting surfaces. The SLM was calibrated before and after readings with a Brüel & Kjær Type 4231 Sound Level Calibrator using the appropriate adaptor. Measurements at each location were made on the A-scale (dBA). The data were digitally recorded by the sound level meter and displayed at the end of the measurement period in units of dBA. Measured quantities included L_{eq}, L_1, L_{10}, L_{50}, L_{90}, and 1/3 octave band levels. A windscreen was used during all sound measurements except for calibration. All measurement procedures were based on the guidelines outlined in ANSI Standard S1.13-2005.

RESULTS

The results of the existing noise level measurements are summarized in **Table 13-6**. At all receptor sites, vehicular traffic noise on adjacent roadways was the dominant noise source. Measured levels were moderate to relatively high and reflect the level of vehicular activity on the adjacent roadways. In terms of the CEQR criteria, the existing noise levels are in the "marginally unacceptable" category at sites 1 through 3, and the existing noise levels are in the "marginally acceptable" category at Site 4.



STATEN ISLAND MALL ENLARGEMENT

Noise Receptor Locations

Figure 13-1

Table 13-6
Existing Noise Levels (in dBA)

Site	Measurement Location	Date	Time	L_{eq}	L_1	L_{10}	L_{50}	L_{90}
1	Richmond Hill Road between Country Drive W. and Country Drive E.	Weekday	MD	69.0	79.6	71.8	65.4	59.8
			PM	71.5	83.5	72.2	63.5	58.3
		Saturday	MD	68.3	76.3	71.8	65.8	58.8
			PM	67.8	76.5	71.0	65.2	59.5
2	Richmond Avenue at the Mall's West Main Entrance	Weekday	MD	71.5	79.7	75.4	67.1	55.9
			PM	71.6	80.9	75.3	68.8	56.8
		Saturday	MD	74.4	82.6	78.4	70.3	58.5
			PM	72.7	80.1	76.3	68.4	57.4
3	Marsh Avenue between Ring Road and Elmwood Park Drive	Weekday	MD	66.1	76.7	69.8	61.8	56.2
			PM	68.4	78.9	72.1	63.8	56.6
		Saturday	MD	66.9	75.7	71.4	62.0	55.8
			PM	67.8	76.9	72.2	63.9	55.6
4	Mall's Loading Dock near JCPenney	Weekday	MD	60.0	66.6	60.7	59.1	58.1
			PM	66.8	69.3	68.5	67.7	55.8
		Saturday	MD	59.6	64.8	59.8	56.9	55.1
			PM	58.2	63.9	59.5	57.6	56.7

Note: Field measurements were performed by AKRF, Inc. on June 7 and 18, 2014 and January 31, 2015.

F. FUTURE WITHOUT THE PROPOSED PROJECT

Using the methodology previously described, future noise levels without the proposed project were calculated for the three analysis receptors for the 2019 analysis year. These No Action values are shown in **Table 13-7**.

Table 13-7
The Future without the Proposed Project Noise Levels (in dBA)

Receptor	Location	Date	Time	Existing Noise Levels		No Action Noise Levels		
				$L_{eq(1)}$	$L_{10(1)}$	$L_{eq(1)}$	$L_{10(1)}$	Change
1	Richmond Hill Road	Weekday	MD	69.0	71.8	69.3	72.1	0.3
			PM	71.5	72.2	71.8	72.5	0.3
		Saturday	MD	68.3	71.8	68.6	72.1	0.3
			PM	67.8	71.0	68.1	71.3	0.3
2	Richmond Avenue	Weekday	MD	71.5	75.4	71.9	75.8	0.4
			PM	71.6	75.3	71.9	75.6	0.3
		Saturday	MD	74.4	78.4	74.8	78.8	0.4
			PM	72.7	76.3	73.1	76.7	0.4
3	Marsh Avenue	Weekday	MD	66.1	69.8	66.4	70.1	0.3
			PM	68.4	72.1	68.7	72.4	0.3
		Saturday	MD	66.9	71.4	67.2	71.7	0.3
			PM	67.8	72.2	68.1	72.5	0.3

In 2019, the increase in $L_{eq(1)}$ noise levels without the proposed project would be less than 1 dBA at all three receptor sites. Changes of these magnitudes would be considered imperceptible, and they would be below the CEQR threshold for a significant adverse impact. In terms of CEQR Noise Exposure Guidelines, noise levels at all three receptor sites would remain in the "marginally unacceptable" category. These values are based on the predicted $L_{10(1)}$ values.

G. FUTURE WITH THE PROPOSED PROJECT

Using the methodology previously described, future noise levels with the proposed project were calculated for the three analysis receptors for the 2019 analysis year. These With Action values are shown in **Table 13-8**.

Table 13-8
The Future with the Proposed Project Noise Levels (in dBA)

Receptor	Location	Date	Time	No Action Noise Levels		With Action Noise Levels		
				$L_{eq(1)}$	$L_{10(1)}$	$L_{eq(1)}$	$L_{10(1)}$	Change
1	Richmond Hill Road	Weekday	MD	69.3	72.1	70.3	73.1	1.0
			PM	71.8	72.5	72.4	73.1	0.6
		Saturday	MD	68.6	72.1	69.3	72.8	0.7
			PM	68.1	71.3	68.9	72.1	0.8
2	Richmond Avenue	Weekday	MD	71.9	75.8	72.1	76.0	0.2
			PM	71.9	75.6	72.1	75.8	0.2
		Saturday	MD	74.8	78.8	75.0	79.0	0.2
			PM	73.1	76.7	73.4	77.0	0.3
3	Marsh Avenue	Weekday	MD	66.4	70.1	67.3	71.0	0.9
			PM	68.7	72.4	69.2	72.9	0.5
		Saturday	MD	67.2	71.7	68.1	72.6	0.9
			PM	68.1	72.5	69.0	73.4	0.9

In 2019, the maximum increase in $L_{eq(1)}$ noise levels with the proposed project would be up to 1 dBA at all three receptor sites. Changes of these magnitudes would be considered imperceptible, and they would be below the CEQR threshold for a significant adverse impact. In terms of CEQR Noise Exposure Guidelines, noise levels at all three receptor sites would remain in the "marginally unacceptable" category. These values are based on the predicted $L_{10(1)}$ values.

NOISE ATTENUATION MEASURES

As shown in **Table 13-4**, the *CEQR Technical Manual* has set noise attenuation quantities for buildings, based on exterior $L_{10(1)}$ noise levels, and in order to maintain interior noise levels of 45 dBA $L_{10(1)}$ or lower for noise sensitive uses and 50 dBA or lower for retail uses. The proposed renovation of the project building would be conducted using standard construction methods, and provide acoustically-rated windows and air conditioning as an alternate means of ventilation. The building façade, including these elements, would be expected to provide a composite Outdoor-Indoor Transmission Class[1] ("OITC") such that interior noise levels would be less than 50 dBA for retail uses. Furthermore, because the exterior $L_{10(1h)}$ noise levels at the Project Site, represented by receptor Site 4, would be less than 70 dBA, the *CEQR Technical Manual* does not provide a specific requirement for the level of window/wall attenuation.

The project's buildings would be separated from adjacent roadways by parking areas, landscaped areas, and the existing Mall buildings. The measured noise levels at receptor Site 4, located at the Mall's loading dock near JCPenney, conservatively represents worst-case ambient noise levels at project buildings due to truck traffic being highest at this location. As a result of the maximum measured $L_{10(1h)}$ noise level of 68.5 dBA at Site 4, *CEQR Technical* Manual guidance prescribes no minimum attenuation requirement for the project buildings.

[1] 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. A building façade generally consists of wall, glazing, and any vents or louvers associated with building mechanical systems. The OITC classification is defined by the American Society of Testing and Materials ("ASTM") E1332-10 and is used in the acoustical design of building façades.

MECHANICAL SYSTEMS

The building mechanical system (i.e., heating, ventilation, and air conditioning 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 the New York City Department of Buildings Code) and to avoid producing levels that would result in any significant increase in ambient noise levels. ✷