Chapter 18: Noise

A. INTRODUCTION

The FGEIS concluded that redevelopment of the parcels would not result in significant noise impacts from increased traffic or building mechanical equipment, but could result in significant impacts due to exceedances of interior noise levels within some of the new buildings. Similar to the Rezoning Scenario analyzed in the FGEIS, the development program now being advanced would result in increased activity, particularly traffic, which could affect noise levels in the surrounding neighborhood, as well as the interior noise levels within the proposed buildings. This noise analysis evaluates the proposed development program and the most current background conditions to determine whether the proposed development program would generate increases in noise levels that would be considered significant adverse impacts, and to determine the level of building attenuation necessary to ensure that interior noise levels in new buildings satisfy applicable interior noise criteria.

B. SUMMARY OF FGEIS FINDINGS

The FGEIS concluded that the 12.0 FAR Rezoning Scenario would not result in significant adverse noise impacts from increased traffic or building mechanical equipment. However, the analysis identified the potential for significant adverse impacts within some of the new buildings due to possible exceedances of interior noise levels. These potential impacts could be mitigated through noise attenuation measures in order to meet interior noise standards. Specifically, in order to achieve 40 dB(A) of attenuation, specifically designed window features (i.e., windows with air gaps, windows with thicker glazing, etc.), and additional building insulation would be necessary at portions of the buildings facing the FDR Drive Service Road and East 35th Street.

C. BACKGROUND AND METHODOLOGY

NOISE FUNDAMENTALS

Noise pollution in an urban area comes from many sources. Some are activities essential to the health, safety, and welfare of the city's inhabitants, such as noise from emergency vehicle sirens, garbage collection operations, and construction and maintenance equipment. Other sources, such as traffic, stem from the movement of people and goods, activities that are essential to the viability of the city as a place to live and do business. Although these and other noise-producing activities are necessary to a city, the noise they produce is undesirable. Urban noise detracts from the quality of the living environment and there is increasing evidence that excessive noise represents a threat to public health.

Quantitative information on the effects of airborne noise on people is well documented. If sufficiently loud, noise may adversely affect people in several ways. For example, noise may interfere with human activities, such as sleep, speech communication, and tasks requiring concentration or coordination. It may also cause annoyance, hearing damage, and other physiological problems. Although it is possible to study these effects on people on an average or

statistical basis, it must be remembered that all the stated effects of noise on people vary greatly with the individual. Several noise scales and rating methods are used to quantify the effects of noise on people. These scales and methods consider such factors as loudness, duration, time of occurrence, and changes in noise level with time.

NOISE MEASUREMENT

A number of factors affect sound, as it is perceived by the human ear. These include the actual level of the sound (or noise), the frequencies involved, the period of exposure to the noise, and changes or fluctuations in the noise levels during exposure. Levels of noise are measured in units called decibels (dB). Since the human ear cannot perceive all pitches or frequencies equally well, these measures are adjusted or weighted to correspond to human hearing. A measurement system that simulates the response of the human ear, the "A-weighted sound level" or "dBA," is used in view of its widespread recognition and its close correlation with human judgment of loudness and annoyance. In the current study, all measured levels are reported in dBA or A-weighted decibels. Sound levels for typical daily activities are shown in Table 18-1.

Table 18-1
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	
Busy city street, loud shout	80
Busy traffic intersection	
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	
Background noise in an office	50
Suburban areas with medium density transportation	
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.
Source: Cowan, James P. Handbook of Environmental Acoustics. Van Nostrand Reinhold, New York, 1994. Egan, M. David, Architectural Acoustics. McGraw-Hill Book Company, 1988.

Although sound levels from a sound level meter are generally given in dBA, measurements are sometimes made in octave band format. An octave band is one of a series of bands that cover the normal range of frequencies included in sound measurements. Such octave bands serve to define the sound in term of its pitch components. Octave band levels are "unweighted" levels corresponding to the overall acoustical energy in the corresponding octave band.

RESPONSE TO CHANGES IN NOISE LEVELS

The average ability of an individual to perceive changes in noise levels is well documented (see Table 18-2). Generally, changes in noise levels less than 3 dBA are barely perceptible to most listeners, whereas 10 dBA changes are normally perceived as doublings (or halvings) of noise levels. These guidelines permit direct estimation of an individual's probable perception of changes in noise levels.

Table 18-2
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.

It is also possible to characterize the effects of noise on people by studying the aggregate response of people in communities. The rating method used for this purpose is based on a statistical analysis of the fluctuations in noise levels in a community, and integrates the fluctuating sound energy over a known period of time, most typically during 1 hour or 24 hours. Various government and research institutions have proposed criteria that attempt to relate changes in noise levels to community response. One commonly applied criterion for estimating this response is incorporated into the community response scale proposed by the International Standards Organization (ISO) of the United Nations (see Table 18-3). This scale relates changes in noise level to the degree of community response and permits direct estimation of the probable response of a community to a predicted change in noise level.

Table 18-3
Community Response to Increases in Noise Levels

Change (dBA)	Category	Description
0	None	No observed reaction
5	Little	Sporadic complaints
10	Medium	Widespread complaints
15	Strong	Threats of community action

Source: International Standards Organization, Noise Assessment with Respect to Community Responses, ISO/TC 43 (New York: United Nations, November 1969).

STATISTICAL NOISE LEVELS

Since dBA describes a noise level at just one moment and very few noises are constant, other ways of describing noise over extended periods are needed. One way of describing fluctuating sound is to describe the fluctuating noise 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, $L_{eq(1)}$, or 24 hours, $L_{eq(24)}$, 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 sometimes used to indicate noise levels that are exceeded 1, 10, 50, 90 and x percent of the time, respectively. Discrete event peak levels are given as L_1 levels. L_{eq} is used in the prediction of future noise levels, by adding the contributions from new sources of noise (i.e., increases in traffic volumes) to the existing levels and in relating annoyance to increases in noise levels.

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 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}. The relationship between L_{eq} and exceedance levels has been used in the current studies to characterize the noise sources and to determine the nature and extent of their impact at all receptor locations.

NOISE DESCRIPTORS USED IN IMPACT ASSESSMENT

For the purposes of this project, the maximum 1-hour equivalent sound level ($L_{eq(1)}$) has been selected as the noise descriptor to be used in the noise impact evaluation. $L_{eq(1)}$ is the noise descriptor used in the City Environmental Quality Review (CEQR) standards for vehicular traffic noise and cumulative impact evaluation. Hourly statistical noise levels were used to characterize the relevant noise sources and their relative importance at each receptor location.

NOISE STANDARDS AND CRITERIA

NEW YORK CITY NOISE CODE

In December 2005 the New York City Noise Control Code was amended. The amended noise code contains: prohibitions regarding unreasonable noise; requirements for noise due to construction activities; and specific noise standards, including plainly audible criteria for specific noise sources. In addition, the amended code specifies that no sound source operating in connection with any commercial or business enterprise may exceed the decibel levels in the designated octave bands shown in Table 18-4 at the specified receiving properties.

Table 18-4
New York City Noise Codes

Octave Band Frequency (Hz)	Maximum Sound Pressure Levels (dB) as Measured Within a Receiving Property as Specified Below	
	Residential receiving property for mixed-use building and residential buildings (as measured within any room of the residential portion of the building with windows open, if possible)	*Commercial receiving property (as measured within any room containing offices within the building with windows open, if possible)*
31.5	70	74
63	61	64
125	53	56
250	46	50
500	40	45
1000	36	41
2000	34	39
4000	33	38
8000	32	37

Source: Section 24-232 of the Administrative Code of the City of New York, as amended December 2005.

NEW YORK CEQR NOISE STANDARDS

The New York City Department of Environmental Protection (NYCDEP) has set external noise exposure standards. These standards are shown in Table 18-5. Noise Exposure is classified into four categories: acceptable, marginally acceptable, marginally unacceptable, and clearly unacceptable. The standards shown are based on maintaining an interior noise level for the worst-case hour L_{10} less than or equal to 45 dBA. Mitigation requirements for traffic, rail, and aircraft noise are shown in Table 18-6.

IMPACT DEFINITION

As recommended in the *CEQR Technical Manual*, this study uses the following criteria to define a significant adverse noise impact:

- An increase of 5 dBA, or more, in Build $L_{eq(1)}$ noise levels at sensitive receptors over those calculated for the No Build condition, if the No Build levels are less than 60 dBA $L_{eq(1)}$ and the analysis period is not a nighttime period.
- An increase of 4 dBA, or more, in Build $L_{eq(1)}$ noise levels at sensitive receptors over those calculated for the No Build condition, if the No Build levels are 61 dBA $L_{eq(1)}$ and the analysis period is not a nighttime period.
- An increase of 3 dBA, or more, in Build $L_{eq(1)}$ noise levels at sensitive receptors over those calculated for the No Build condition, if the No Build levels are greater than 62 dBA $L_{eq(1)}$ and the analysis period is not a nighttime period.
- An increase of 3 dBA, or more, in Build $L_{eq(1)}$ noise levels at sensitive receptors over those calculated for the No Build 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 18-5
Noise Exposure Guidelines For Use in City Environmental Impact Review[1]

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
1. Outdoor area requiring serenity and quiet[2]		$L_{10} \leq 55$ dBA	---- Ldn ≤ 60 dBA ----	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
2. 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 ----
3. 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	
4. School, museum, library, court, house of worship, transient hotel or motel, public meeting room, auditorium, out-patient 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)	
5. 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)	
6. 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. Examples are grounds for ambulatory hospital patients and patients and residents of sanitariums and nursing homes.

3 One may use the 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 18-6
Required Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Acceptable	Marginally Unacceptable		Clearly Unacceptable		
Noise level with proposed action	$65<L_{10}\leq70$	$70<L_{10}\leq75$	$75<L_{10}\leq80$	$80<L_{10}\leq85$	$85<L_{10}\leq90$	$90<L_{10}\leq95$
Attenuation[1]	25 dB(A)	30dB(A)	35 dB(A)	40 dB(A)	45 dB(A)	50 dB(A)

Note: [1] The above composite window-wall attenuation values are for residential dwellings. 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.

Source: New York City Department of Environmental Protection (DEP)

NOISE PREDICTION METHODOLOGY

Future noise levels were calculated using either a proportional modeling technique or the Federal Highway Administration (FHWA) Traffic Noise Model (TNM) Version 2.5. Proportional modeling was used as a screening tool to estimate changes in noise levels. At locations where proportional modeling indicated the potential for significant noise impacts the TNM model was used in order to obtain more detailed results. Both proportional modeling and the TNM model are analysis methodologies recommended for analysis purposes in the *CEQR Technical Manual*. The analysis examined the weekday AM, midday, and PM peak hours. These are the time periods when the proposed development would have its maximum traffic generation and would be most likely to have a significant noise impact. Peak hour traffic conditions for existing conditions, future No Build condition, and Build condition) conditions were based on the traffic analysis as presented in Chapter 15, "Traffic and Parking" of this final SEIS. The key finding of the traffic analyses in the Draft SEIS was that projected conditions with the UNDC project included were not appreciably different than projected conditions without the UNDC project. These Draft SEIS findings confirmed the findings of the FGEIS, namely that traffic conditions with and without the potential UNDC project were not appreciably different. Therefore, detailed traffic analyses were not re-conducted for this Final SEIS, and the mobile source noise analysis focused on projected conditions without the UNDC project.

The proportional modeling technique assumes that traffic on the immediately adjacent street or roadway is the dominant noise source. Using this technique, typically, future noise levels are estimated based upon the changes in traffic volumes between two conditions (i.e., between existing and No Build, and No Build and Build). Vehicular traffic volumes are 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 bus (carrying more than nine passengers) is assumed to generate the noise equivalent of 18 cars, and one heavy-duty truck (having a gross weight of more than 26,400 pounds) is assumed to generate the noise equivalent of 47 cars. The change in future noise levels is calculated using the following equation:

$$FNL = E\,NL + 10 * \log_{10} (FPCE / EPCE)$$

where:

FNL = Future Noise Level
ENL = Existing Noise Level
FPCE = Future PCEs
EPCE = Existing PCEs

Because sound levels are characterized by a logarithmic scale, this model calculates change in sound levels logarithmically, with traffic change ratios. For example, assume that traffic is the dominant noise source at a particular location. If the existing traffic volume on a street is 100 PCEs and if the future traffic volume were increased by 50 PCEs to a total of 150 PCEs, the noise level would increase by 1.8 dBA. If the future traffic were increased by 100 PCEs, or doubled to a total of 200 PCEs, the noise level would increase by 3.0 dBA.

At receptors located on East 36th, East 38th, and East 41st Streets between First Avenue and the FDR Drive, preliminary modeling studies using proportional modeling techniques indicated that project-generated traffic could have the potential to cause significant increases in noise levels. At this location, a refined analysis was performed using the TNM to calculate noise levels. The TNM was also used for the receptor located on First Avenue between East 39th and East 40th Streets to obtain estimates of noise levels both at this receptor location and at new open space areas. The TNM takes into account various factors that influence ambient sound levels due to traffic flow, including traffic volumes; vehicle mix (i.e., percentage of autos, light duty trucks, heavy duty trucks, buses, etc.); source/receptor geometry;

shielding, including buildings and terrain, ground attenuation, etc. Noise levels were assumed to be a combination of noise from two sources—noise from the street immediately adjacent to the receptor site, and noise from other sources including roadways in the area. The TNM was used to calculate the noise due to traffic on the streets cited above, and based upon the monitored existing noise levels, the noise component from other sources was calculated as the difference between the measured existing noise levels and the TNM calculated value due to traffic on the immediately adjacent streets. Future noise levels for the No Build and Build conditions were calculated using the TNM to determine noise levels from traffic on the immediately adjacent street, which were added to this calculated noise level from other sources to obtain the total ambient noise levels. The TNM model provided more accurate results than proportional modeling for these locations, particularly on the east/west cross streets, because a significant amount of noise at the East 36th, East 38th, and East 41st Street receptor sites is due to traffic using nearby north/south roadways (i.e., the FDR Drive and First Avenue). The less refined proportional modeling technique could not account for the noise contributions from these more distant roadways, and thus, over predicts the projected traffic-generated noise levels by attributing all of the noise to traffic and traffic changes on those east/west cross streets.

D. EXISTING CONDITIONS

SITE DESCRIPTION

The four development parcels (i.e., 616 First Avenue, 685 First Avenue, 700 First Avenue, and 708 First Avenue) are located in the Midtown East neighborhood, in an area with heavily trafficked, congested streets. It is an area with commercial uses along with a variety of residential and other noise-sensitive uses. Three of the parcels, located on the east side of First Avenue, are zoned M3-2 and M1-5, and the fourth, located on the west side of First Avenue, is zoned C1-9.

SELECTION OF NOISE RECEPTOR LOCATIONS

Ten receptor sites were selected. The selected receptor sites are located adjacent to the development parcels and are the locations where the maximum increases in program-generated traffic would be expected to occur. These locations have the highest potential for noise impacts from program-generated traffic, and thus represent those locations where the highest potential window-wall attention may be required. The locations of the 10 receptor sites are shown in Figure 18-1. Site 1 is located on First Avenue between East 35th and 36th Streets; Site 2 is located on East 36th Street between FDR Drive and First Avenue; Site 3 is located on the FDR Drive service road between East 35th and 36th Streets; Site 4 is located on East 35th Street between the FDR Drive and First Avenue; Site 5 is located on First Avenue between East 39th and 40th Streets; Site 6 is located on East 40th Street between First Avenue and Tunnel Entrance Street; Site 7 is located on East 39th Street between First Avenue and Tunnel Entrance Street; Site 8 is located on East 38th Street between FDR Drive and First Avenue; Site 9 is located on the FDR Drive service road between East 39th and 40th Streets; and Site 10 is located on East 41st Street between the FDR Drive and First Avenue.

All 10 sites are adjacent to the development parcels and therefore were used both to determine potential noise impacts and the level of attenuation that would be necessary to comply with CEQR interior noise standards.

NOISE MONITORING

Noise monitoring at the 10 noise receptor sites was performed in November 2004. At each of these sites, 20-minute measurements were made during dry weather conditions for the three weekday peak periods—AM (8:00 to 9:30 AM), midday (12:00 noon to 1:30 PM), and PM (5:00 to 6:30 PM).

Noise Receptor Locations
Figure 18-1

FIRST AVENUE PROPERTIES REZONING

Weather conditions were noted to ensure a true reading as follows: wind speed under 12 mph; relative humidity under 90 percent; and temperature above 14°F and below 122°F. All measurement procedures conformed to the requirements of ANSI Standard S1.13-1971 (R1976).

EQUIPMENT USED

Measurements were performed using Brüel & Kjær Noise Level Meters Type 2260, Brüel & Kjær Sound Level Calibrators Type 4231, and Brüel & Kjær ½-inch microphones Type 4189. The Brüel & Kjær meters are Type 1 noise meters. The instruments were mounted on a tripod at a height of 5 feet above the ground. The meters were calibrated before and after readings using Brüel & Kjær Type 4231 sound level calibrators with the appropriate adaptors. The data were digitally recorded by the sound meters and displayed at the end of the measurement period in units of dBA. Measured quantities included L_{eq}, L_1, L_{10}, L_{50}, and L_{90}. Windscreens were used during all sound measurements except for calibration. All measurement procedures conformed to the requirements of ANSI Standard S1.13-1971 (R1976).

RESULTS OF MEASUREMENTS

Existing L_{eq}, L_1, L_{10}, L_{50}, and L_{90} measured noise levels at the 10 sites are shown in Table 18-7. At all 10 sites, traffic on the adjacent street was the dominant noise source and was the primary generator of the high noise levels. Noise levels at sites 3 and 9, which are located immediately adjacent to the FDR Drive, were very high due to the high level of traffic using that roadway. Computer modeling indicated that noise levels at elevated locations adjacent to the FDR Drive would be within approximately 1 dBA of street-level noise values.

Table 18-7
Measured Existing Noise Levels (in dBA)

Receptor	Location	Time	$L_{eq(1)}$	L_1	L_{10}	L_{50}	L_{90}
1	First Avenue between East 35th Street and East 36th Street	AM	72.4	80.0	75.8	70.0	65.6
		MD	71.8	79.6	74.4	70.8	63.6
		PM	71.4	79.8	74.0	69.6	62.6
2	East 36th Street between First Avenue and FDR Drive (New Street)	AM	68.3	73.0	70.0	67.6	66.2
		MD	64.3	69.2	65.6	63.4	62.0
		PM	65.4	68.4	66.8	65.0	63.4
3	FDR Drive between East 35th Street and East 36th Street	AM	77.8	87.0	80.4	75.0	71.4
		MD	74.5	83.6	76.4	72.6	69.0
		PM	73.6	80.2	75.4	72.2	69.6
4	East 35th Street between First Avenue and FDR Drive	AM	69.8	76.0	71.8	68.4	66.8
		MD	68.3	76.4	70.4	66.6	64.8
		PM	70.5	80.4	71.4	66.4	64.6
5	First Avenue between East 39th Street and East 40th Street	AM	76.0	85.6	79.2	72.8	65.4
		MD	73.8	82.2	77.4	71.2	63.0
		PM	73.9	82.0	77.4	71.8	62.8
6	East 40th Street between First Avenue and Second Avenue	AM	69.4	78.8	71.9	66.4	63.7
		MD	66.9	74.4	68.2	65.4	63.6
		PM	65.7	71.6	68.6	63.8	61.0
7	East 39th Street between First Avenue and Second Avenue	AM	71.1	83.0	72.0	67.0	62.2
		MD	70.2	82.2	71.4	66.0	62.4
		PM	70.8	77.0	71.0	66.4	62.6
8	East 38th Street between First Avenue and FDR Drive (New Street)	AM	71.4	78.4	71.8	69.6	68.2
		MD	69.4	77.2	70.8	67.6	66.2
		PM	69.1	75.0	70.8	68.0	66.8
9	FDR Drive (New Street) between East 39th Street and East 40th Street	AM	80.4	85.2	81.8	80.0	77.8
		MD	72.7	80.8	74.6	70.8	68.0
		PM	78.8	81.8	80.2	78.6	76.4
10	East 41st Street between First Avenue and FDR Drive (New Street)	AM	73.5	83.4	75.8	69.6	66.6
		MD	71.8	81.8	76.0	65.4	62.4
		PM	72.9	82.8	76.2	67.6	64.4

Note: Field measurements were performed by AKRF, Inc. on November 3, 4, 11, and 16, 2004.

In terms of the CEQR Noise Exposure Guidelines, existing noise levels at sites 1, 4, 5, 6, 7, 8, and 10 are in the "marginally unacceptable" category; existing noise levels at Site 2 are in the "marginally acceptable" category; and existing noise levels at sites 3 and 9 are in the "clearly unacceptable" category.

E. FUTURE WITHOUT THE PROPOSED ACTIONS

Using the modeling methodologies previously described, noise levels for future conditions without the Proposed Actions (without the UNDC project) were calculated for the three analysis time periods (AM, MD and PM) in the year 2014. Future No Build $L_{eq(1)}$ noise levels would be less than 1.5 dBA higher than the existing noise levels (see Table 18-8). Changes of this magnitude would be imperceptible and insignificant. In terms of CEQR Noise Exposure Guidelines, noise levels at sites 1, 4, 5, 6, 7, 8, and 10 would remain in the "marginally unacceptable" category; noise levels at Site 2 would change from the "marginally acceptable" category to the "marginally unacceptable" category; and noise levels at sites 3 and 9 would remain in the "clearly unacceptable" category.

Table 18-8
Future Noise Levels Without the Proposed Actions (in dBA)

Receptor	Location	Time	Existing $L_{eq(1)}$	No Build $L_{eq(1)}$	Change	No Build $L_{10(1)}$
1	First Avenue between East 35th Street and East 36th Street	AM	72.4	72.7	0.3	76.1
		MD	71.8	72.2	0.4	74.8
		PM	71.4	71.7	0.3	74.3
2	East 36th Street between First Avenue and FDR Drive (New Street)	AM	68.3	68.6	0.3	70.3
		MD	64.3	64.7	0.4	66.0
		PM	65.4	65.7	0.3	67.1
3	FDR Drive between East 35th Street and East 36th Street	AM	77.8	78.3	0.5	80.9
		MD	74.5	75.0	0.5	76.9
		PM	73.6	74.2	0.6	76.0
4	East 35th Street between First Avenue and FDR Drive	AM	69.8	70.7	0.9	72.7
		MD	68.3	69.3	1.0	71.4
		PM	70.5	71.8	1.3	72.7
5	First Avenue between East 39th Street and East 40th Street	AM	76.0	76.4	0.4	79.6
		MD	73.8	74.2	0.4	77.8
		PM	73.9	74.2	0.3	77.7
6	East 40th Street between First Avenue and Second Avenue	AM	69.4	69.8	0.4	72.3
		MD	66.9	67.3	0.4	68.6
		PM	65.7	66.0	0.3	68.9
7	East 39th Street between First Avenue and Second Avenue	AM	71.1	71.4	0.3	72.3
		MD	70.2	70.4	0.2	71.6
		PM	70.8	71.0	0.2	71.2
8	East 38th Street between First Avenue and FDR Drive (New Street)	AM	71.4	71.7	0.3	72.1
		MD	69.4	69.6	0.2	71.0
		PM	69.1	69.4	0.3	71.1
9	FDR Drive (New Street) between East 39th Street and East 40th Street	AM	80.4	80.9	0.5	82.3
		MD	72.7	73.2	0.5	75.1
		PM	78.8	79.4	0.6	80.8
10	East 41st Street between First Avenue and FDR Drive (New Street)	AM	73.5	73.8	0.3	76.1
		MD	71.8	72.1	0.3	76.3
		PM	72.9	73.2	0.3	76.5

Note: Noise levels at Sites 2, 5, 8, and 10 were calculated using TNM. Noise levels at the remaining receptor sites were calculated using proportional modeling.

F. PROBABLE IMPACTS OF THE PROPOSED ACTIONS

Using the modeling methodology previously described, noise levels were calculated for the three analysis periods in the year 2014 with the Proposed Actions (without the UNDC project). Future $L_{eq(1)}$ noise levels at all 10 receptor sites with the Proposed Actions would be less than 2 dBA higher than Future No Build noise levels (see Table 18-9). Changes of these magnitudes would be barely perceptible and insignificant, and they would be below the CEQR threshold for a significant adverse impact. In terms of CEQR Noise Exposure Guidelines, noise levels at sites 1, 2, 4, 6, 7, 8, and 10 would remain in the "marginally unacceptable" category; noise levels at Site 5 would change from the "marginally unacceptable" category to the "clearly unacceptable" category; and noise levels at sites 3 and 9 would remain in the "clearly unacceptable" category.

Table 18-9
Future Noise Levels With the Proposed Actions (in dBA)

Receptor	Location	Time	No Build Leq(1)	Build Leq(1)	Change	Build $L_{10(1)}$
1	First Avenue between East 35th Street and East 36th Street	AM	72.7	73.2	0.5	76.6
		MD	72.2	72.6	0.7	75.2
		PM	71.7	72.0	0.3	74.6
2	East 36th Street between First Avenue and FDR Drive (New Street)	AM	68.6	69.4	0.8	71.0
		MD	64.7	65.4	0.7	66.7
		PM	65.7	66.3	0.6	67.7
3	FDR Drive between East 35th Street and East 36th Street	AM	78.3	79.5	1.2	82.1
		MD	75.0	76.1	1.1	78.0
		PM	74.2	74.8	0.6	76.6
4	East 35th Street between First Avenue and FDR Drive	AM	70.7	72.2	1.5	74.2
		MD	69.3	70.9	1.6	73.0
		PM	71.8	72.4	0.6	73.3
5	First Avenue between East 39th Street and East 40th Street	AM	76.4	77.0	0.6	80.2
		MD	74.2	74.7	0.5	78.3
		PM	74.2	74.7	0.5	78.2
6	East 40th Street between First Avenue and Second Avenue	AM	69.8	70.9	1.1	73.4
		MD	67.3	68.0	0.7	69.3
		PM	66.0	66.3	0.3	69.2
7	East 39th Street between First Avenue and Second Avenue	AM	71.4	72.6	1.2	73.5
		MD	70.4	71.4	1.0	72.6
		PM	71.0	71.8	0.8	72.0
8	East 38th Street between First Avenue and FDR Drive (New Street)	AM	71.7	72.7	1.0	73.1
		MD	69.6	70.5	0.9	71.9
		PM	69.4	70.9	1.5	72.6
9	FDR Drive (New Street) between East 39th Street and East 40th Street	AM	80.9	82.0	1.1	83.4
		MD	73.2	74.3	1.1	76.2
		PM	79.4	79.7	0.3	81.1
10	East 41st Street between First Avenue and FDR Drive (New Street)	AM	73.8	75.3	1.5	77.6
		MD	72.1	73.5	1.4	77.7
		PM	73.2	73.9	0.7	77.2

Note: Noise levels at Sites 2, 5, 8, and 10 were calculated using TNM. Noise levels at the remaining receptor sites were calculated using proportional modeling.

Noise levels within the new open space areas created on-site as part of the proposed project would be above the 55 dBA $L_{10(1)}$. This exceeds the noise level for outdoor areas requiring serenity and quiet contained in the *CEQR Technical Manual* noise exposure guidelines (see Table 18-5). Maximum $L_{10(1)}$ noise levels would be approximately 75 dBA at the center of the proposed open space located on 616 First Avenue between East 35th and East 36th Streets, approximately 77 dBA at the center of the proposed playground on the corner of 38th Street and

FDR Drive Service Road, and approximately 75 dBA at the center of the proposed public plaza on 709 Waterside. These high predicted noise levels would result principally from the noise generated by traffic on the nearby streets and roadways. There are no practical and feasible mitigation measures that could be implemented to reduce noise levels to below the 55 dBA $L_{10(1)}$ guideline. However, the noise levels in these new open spaces would be comparable to noise levels in other open space areas that are also located adjacent to heavily trafficked roadways, including East River Park, Hudson River Park, Riverside Park, Bryant Park, and Central Park. Although the 55 dBA $L_{10(1)}$ guideline is a worthwhile goal for outdoor areas requiring serenity and quiet, this relatively low noise level is typically not achieved in parks and open space areas in New York City. Consequently, noise levels in the Proposed Actions' new open space, while exceeding the 55 dBA $L_{10(1)}$ CEQR guideline value, would not result in a significant adverse noise impact.

In addition, while design work has not been completed, the proposed development program's mechanical systems (i.e., heating, ventilation, and air-conditioning systems) would be located principally at rooftops and would be designed to avoid producing levels that would exceed the allowable noise levels specified in the City of New York Noise Codes, and would be designed to avoid causing any significant adverse noise impacts.

G. FUTURE CONDITIONS WITH THE UNDC PROJECT

Using the modeling methodology previously described, noise levels were calculated for the three analysis time periods (AM, MD, and PM) in the year 2014 with the UNDC project. $L_{eq(1)}$ noise levels without the Proposed Actions (No Build with UNDC project) are shown in Table 18-10 and $L_{eq(1)}$ noise levels with the Proposed Actions (Build) are shown in Table 18-11.

As shown in Table 18-10, on East 41st Street, future No Build $L_{eq(1)}$ noise levels with the UNDC building as a background project would be less than 2 dBA higher than existing noise levels. Changes of this magnitude would be barely perceptible. The changes at all 10 receptor sites, for No Build conditions, would be below the 3 dBA CEQR impact criteria. In terms of CEQR Noise Exposure Guidelines, noise levels at sites 1, 4, 5, 6, 7, 8, and 10 would remain in the "marginally unacceptable" category; noise levels at Site 2 would change from the "marginally acceptable" category to the "marginally unacceptable" category; and noise levels at sites 3 and 9 would remain in the "clearly unacceptable" category.

As shown in Table 18-11, with the UNDC building as a background project, future Build condition $L_{eq(1)}$ noise levels at all 10 receptor sites would be less than 2 dBA higher than future No Build noise levels with the UNDC project. Changes of these magnitudes would be barely perceptible and, based on CEQR impact criteria, would be insignificant. In terms of CEQR Noise Exposure Guidelines, noise levels at sites 1, 2, 4, 6, 7, 8, and 10 would remain in the "marginally unacceptable" category; noise levels at Site 5 would change from the "marginally unacceptable" category to the "clearly unacceptable" category; and noise levels at sites 3 and 9 would remain in the "clearly unacceptable" category.

Table 18-10
Future No Build Noise Levels With UNDC Project (in dBA)

Receptor	Location	Time	Existing $L_{eq(1)}$	No Build $L_{eq(1)}$	Change	No Build $L_{10(1)}$
1	First Avenue between East 35th Street and East 36th Street	AM	72.4	72.8	0.4	76.2
		MD	71.8	72.2	0.4	74.8
		PM	71.4	71.7	0.3	74.3
2	East 36th Street between First Avenue and FDR Drive (New Street)	AM	68.3	68.6	0.3	70.3
		MD	64.3	64.6	0.3	65.9
		PM	65.4	65.7	0.3	67.1
3	FDR Drive between East 35th Street and East 36th Street	AM	77.8	78.3	0.5	80.9
		MD	74.5	75.0	0.5	76.9
		PM	73.6	74.2	0.6	76.0
4	East 35th Street between First Avenue and FDR Drive	AM	69.8	70.5	0.7	72.5
		MD	68.3	68.8	0.5	70.9
		PM	70.5	71.1	0.6	72.0
5	First Avenue between East 39th Street and East 40th Street	AM	76.0	76.4	0.4	79.6
		MD	73.8	74.1	0.3	77.7
		PM	73.9	74.2	0.3	77.7
6	East 40th Street between First Avenue and Second Avenue	AM	69.4	69.9	0.5	72.4
		MD	66.9	67.1	0.2	68.4
		PM	65.7	66.1	0.4	69.0
7	East 39th Street between First Avenue and Second Avenue	AM	71.1	71.8	0.7	72.7
		MD	70.2	70.4	0.2	71.6
		PM	70.8	71.2	0.4	71.4
8	East 38th Street between First Avenue and FDR Drive (New Street)	AM	71.4	71.7	0.3	72.1
		MD	69.4	69.6	0.2	71.0
		PM	69.1	69.4	0.3	71.1
9	FDR Drive (New Street) between East 39th Street and East 40th Street	AM	80.4	80.9	0.5	82.3
		MD	72.7	73.1	0.4	75.0
		PM	78.8	79.4	0.6	80.8
10	East 41st Street between First Avenue and FDR Drive (New Street)	AM	73.5	74.9	1.4	77.2
		MD	71.8	72.3	0.5	76.5
		PM	72.9	73.9	1.0	77.2

Note: Noise levels at Sites 2, 5, 8, and 10 were calculated using TNM. Noise levels at the remaining receptor sites were calculated using proportional modeling.

Table 18-11
Future Build Noise Levels With UNDC Project (in dBA)

Receptor	Location	Time	No Build $L_{eq(1)}$	Build $L_{eq(1)}$	Change	Build $L_{10(1)}$
1	First Avenue between East 35th Street and East 36th Street	AM	72.8	73.3	0.5	76.7
		MD	72.2	72.6	0.4	75.2
		PM	71.7	72.0	0.3	74.6
2	East 36th Street between First Avenue and FDR Drive (New Street)	AM	68.6	69.4	0.8	71.1
		MD	64.6	65.3	0.7	66.6
		PM	65.7	66.2	0.5	67.6
3	FDR Drive between East 35th Street and East 36th Street	AM	78.3	79.5	1.2	82.1
		MD	75.0	76.1	1.1	78.0
		PM	74.2	74.9	0.7	76.7
4	East 35th Street between First Avenue and FDR Drive	AM	70.5	72.1	1.6	74.1
		MD	68.8	70.7	1.9	72.8
		PM	71.1	71.8	0.7	72.7
5	First Avenue between East 39th Street and East 40th Street	AM	76.4	77.0	0.6	80.2
		MD	74.1	74.6	0.5	78.2
		PM	74.2	74.7	0.5	78.2
6	East 40th Street between First Avenue and Second Avenue	AM	69.9	70.9	1.0	73.4
		MD	67.1	67.9	0.8	69.2
		PM	66.1	66.3	0.2	69.2
7	East 39th Street between First Avenue and Second Avenue	AM	71.8	72.9	1.1	73.8
		MD	70.4	71.4	1.0	72.6
		PM	71.2	71.9	0.7	72.1
8	East 38th Street between First Avenue and FDR Drive (New Street)	AM	71.7	72.7	1.0	73.1
		MD	69.6	69.9	0.3	71.3
		PM	69.4	70.9	1.5	72.6
9	FDR Drive (New Street) between East 39th Street and East 40th Street	AM	80.9	81.9	1.0	83.3
		MD	73.1	74.2	1.1	76.1
		PM	79.4	79.7	0.3	81.1
10	East 41st Street between First Avenue and FDR Drive (New Street)	AM	74.9	76.0	1.1	78.3
		MD	72.3	73.7	1.4	77.9
		PM	73.9	74.4	0.5	77.7

Note: Noise levels at Sites 2, 5, 8, and 10 were calculated using TNM. Noise levels at the remaining receptor sites were calculated using proportional modeling.

Noise levels within the new open space areas created on-site as part of the proposed project would be above the 55 dBA $L_{10(1)}$. This exceeds the noise level for outdoor areas requiring serenity and quiet contained in the *CEQR Technical Manual* noise exposure guidelines (see Table 18-5). Maximum $L_{10(1)}$ noise levels would be approximately 75 dBA at the center of the proposed open space located on 616 First Avenue between East 35th and East 36th Streets, approximately 76 dBA at the center of the proposed playground on the corner of 38th Street and FDR Drive Service Road, and approximately 75 dBA at the center of the proposed public plaza on 709 Waterside. These high predicted noise levels would result principally from the noise generated by traffic on the nearby streets and roadways. There are no practical and feasible mitigation measures that could be implemented to reduce noise levels to below the 55 dBA $L_{10(1)}$ guideline. However, the noise levels in these new open spaces would be comparable to noise levels in other open space areas that are also located adjacent to heavily trafficked roadways, including East River Park, Hudson River Park, Riverside Park, Bryant Park, and Central Park. Although the 55 dBA $L_{10(1)}$ guideline is a worthwhile goal for outdoor areas requiring serenity and quiet, this relatively low noise level is typically not achieved in parks and open space areas in New York City. Consequently, noise levels in the Proposed Actions' new open space, while exceeding the 55 dBA $L_{10(1)}$ CEQR guideline value, would not result in a significant adverse noise impact.

In addition, while design work has not been completed, the proposed development program's mechanical systems (i.e., heating, ventilation, and air-conditioning systems) would be located principally at rooftops and would be designed to avoid producing levels that would exceed the allowable noise levels specified in the City of New York Noise Codes, and would be designed to avoid causing any significant adverse noise impacts.

H. ATTENUATION REQUIREMENTS

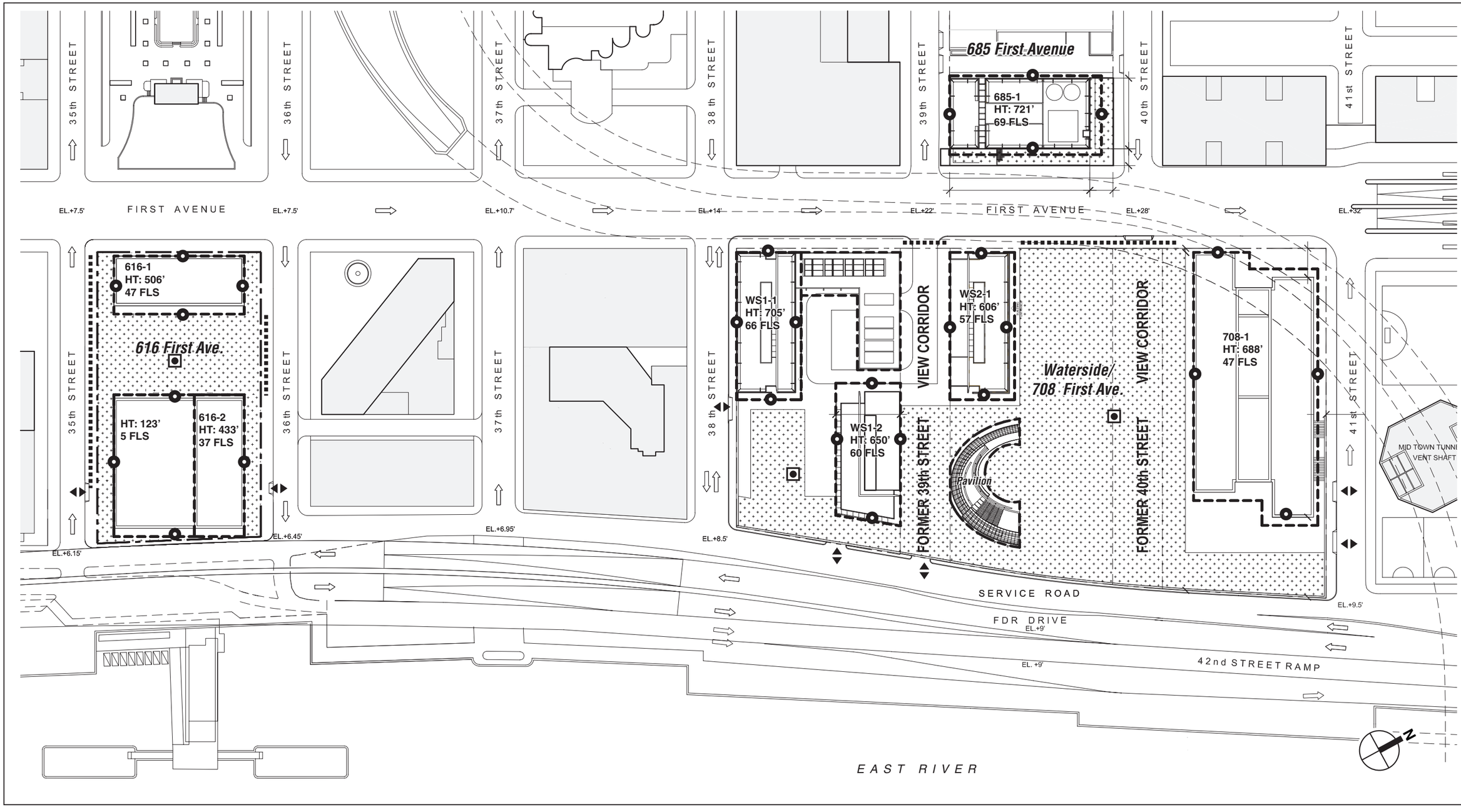
As shown in Table 18-6, the New York City *CEQR Technical Manual* has set noise attenuation quantities for buildings, based on exterior noise levels. Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 45 dBA or lower at residences and 50 dBA at commercial office and meeting rooms, and are determined based on exterior $L_{10(1)}$ noise levels. Table 18-12 lists the building attenuation values for each façade, at each of the project buildings (see Figure 18-2). For buildings facades set back from the street and locations on different floor elevations, TNM was used to determine the attenuation with distance. The values shown are maximum exterior $L_{10(1)}$ levels on the buildings façades. Based upon the predicted noise results, the maximum noise levels would occur at grade elevations.

Table 18-12
Building Attenuation* (in dBA): Year 2014**

Block and Lot	Building	Façade On	Without UNDC		With UNDC	
			Build $L_{10(1)}$	Attenuation	Build $L_{10(1)}$	Attenuation
Block 967, Lot 1	616 First Avenue Building 1	East	75.8	35	75.9	35
		South	78.5	35	78.6	35
		West	78.9	35	79.0	35
		North	77.2	35	77.3	35
	616 First Avenue Building 2, Residential Tower	East	81.2	40	81.2	40
		South	76.4	35	76.4	35
		West	74.7	30	74.8	30
		North	76.5	35	76.5	35
	616 First Avenue Building 2, Community Facilities	East	81.2	40	81.2	40
		South	76.4	35	76.4	35
		West	74.7	35*	74.8	35*
Block 945, Lot 33	685 First Avenue	East	78.5	35	78.4	35
		South	76.9	35	76.9	35
		West	74.4	30	74.4	30
		North	76.1	35	76.1	35
Block 970, Lot 1	Waterside-WS1-1	East	75.4	35	75.4	35
		South	77.1	35	77.1	35
		West	80.3	40	80.3	40
		North	76.3	35	76.3	35
	Waterside-WS1-2	East	78.7	35	78.7	35
		South	76.5	35	76.5	35
		West	75.3	35	75.3	35
		North	76.4	35	76.3	35
	Waterside-WS2-1	East	75.4	35	75.4	35
		South	76.6	35	76.6	35
		West	80.0	35	79.9	35
		North	76.4	35	76.4	35
	708 First Avenue 708-1**	East	77.3	30	77.5	30
		South	75.3	30	75.4	30
		West	79.0	30	79.0	30
		North	76.3	30	76.9	30

Note:
* The school portion of this building will provide 35 dBA on the west façade, even though the future $L_{10(1)}$ noise level does not require it.
** Commercial office building.
*** The above composite window-wall attenuation values are based on obtaining a 45 dB(A) L_{10} value for residential dwellings. Commercial office spaces and meeting rooms require 5 dB(A) less attenuation than residential dwellings. The attenuation values shown above for 708 First Avenue account for this 5 dB(A) difference.

1.14.08



NOT TO SCALE

- *Publicly Accessible Open Space*
- *Access Points to Publicly Accessible Open Space*
- *Zoning Envelope*
- *Parking/Loading Access*
- *Building Attenuation Noise Receptor*
- *Open Space Noise Receptor*

FIRST AVENUE PROPERTIES REZONING

Noise Receptor Locations
Figure 18-2

To ensure that these levels of building attenuation would be provided, the restrictive declaration would have the necessary requirements for each of the proposed development sites ensuring that the level of attenuation as specified in Table 18-12. The requirements in the restrictive declaration would be as follows:

Block 967, Lot 1.

616 First Avenue Building 1. In order to ensure an acceptable interior noise environment, future residential 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.

616 First Avenue Building 2. In order to ensure an acceptable interior noise environment, future residential uses must provide a closed window condition with a minimum of 30 dBA window/wall attenuation on the west façade of the building, 35 dBA window/wall attenuation on the north and south facades of the building, and 40 dBA window/wall attenuation on the east façade of the building in order to maintain an interior noise level of 45 dBA. To achieve 40 dBA of building attenuation, special design features that go beyond the normal double-glazed windows are necessary and may include using specially designed windows (i.e., windows with small sizes, windows with air gaps, windows with thicker glazing, etc.), and additional building attenuation. 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.

Block 945, Lot 33.

685 First Avenue. In order to ensure an acceptable interior noise environment, future residential uses must provide a closed window condition with a minimum of 30 dBA window/wall attenuation on the west façade of the building, and 35 dBA window/wall attenuation on the north, south, and east 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.

Block 970, Lot 1.

Waterside WS1-1. In order to ensure an acceptable interior noise environment, future residential uses must provide a closed window condition with a minimum of 40 dBA window/wall attenuation on the west façade of the building, and 35 dBA window/wall attenuation on the north, south, and east façades in order to maintain an interior noise level of 45 dBA. To achieve 40 dBA of building attenuation, special design features that go beyond the normal double-glazed windows are necessary and may include using specially designed windows (i.e., windows with small sizes, windows with air gaps, windows with thicker glazing, etc.), and additional building attenuation. 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.

Waterside WS1-2. In order to ensure an acceptable interior noise environment, future residential 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.

Waterside WS2-1. In order to ensure an acceptable interior noise environment, future residential 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.

708 First Avenue 708-1. In order to ensure an acceptable interior noise environment, future commercial uses must provide a closed window condition with a minimum of 30 dBA window/wall attenuation on all façades. 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.

I. CONDITIONS WITH SPECIAL EVENTS AT THE UNITED NATIONS

As described in the Chapter 15, "Traffic and Parking", there are times when special events at the United Nations cause the New York Police Department (NYPD) to implement lane closures and other traffic operations measures aimed at maintaining security at the United Nations and along key streets leading to it. These measures may result in increased traffic volumes and changes in vehicle speeds in certain areas, and could affect local background noise. During such events, diverted traffic would include traffic generated by the Proposed Actions.

The analysis above found that noise levels at all receptor sites with the Proposed Actions would be less than 3 dBA higher than Future No Build noise levels, a change that would be barely perceptible and insignificant. The predicted project increments were considerably lower than threshold levels, and would be similar during special events at the United Nations. No significant adverse noise impacts would occur as a result of the operation of the project, even during such events.

J. CONCLUSION

Based on the analyses presented above, the proposed development program would not result in any predicted exceedances of *CEQR Technical Manual* suggested incremental thresholds at noise receptor locations. Therefore, there would be no predicted significant adverse noise impacts from the proposed development program. ✷