3.18 NOISE

INTRODUCTION

The New York City Economic Development Corporation has proposed an action that would result in the development of three parcels of land (the parcels with their associated block and lots are shown in Table 3.18-1) in East Harlem. These parcels of land would be transformed from a mix of vacant land, commercial development, and an at-grade MTA bus storage facility to high density residential and commercial uses. Several multi-storied towers would include apartments and commercial properties with retail, community, and entertainment spaces included on the lower floors.

Table 3.18-1:
East 125th Street Development Block and Lots

Parcel	Affected Blocks	Affected Lots
Parcel A	1791	1, 25, and 34
Parcel B	1790	1, 101, 3, 5, 6, 8, 12, 13, 20, 24-31, 40, 45, 46, 49
Parcel C	1789	46

The New York City *CEQR Technical Manual* requires that if an action could result in the generation of additional mobile or stationary source noise, then the potential for significant adverse impact should be evaluated. Therefore, an analysis was prepared to evaluate the potential effect of the proposed action on noise levels at existing and potential future noise sensitive locations in the area surrounding the proposed action. Existing noise levels are predominantly the result of vehicular traffic. Future noise sensitive locations include areas that would be developed for residential, commercial, community facility and open space uses.

In order to assess the potential for significant adverse noise impacts, an analysis was conducted that considered changes in noise due to increases in traffic and the introduction of sensitive receptors into an area with maximum existing ambient noise levels classified as "Clearly Unacceptable," as defined in the *CEQR Technical Manual.* The noise analysis addresses two factors: 1) the change in noise levels from the existing condition in the area as a result of the proposed action; and 2) the location of new sensitive receptors and the degree to which window/wall attenuation would provide acceptable interior noise levels.

No dominant stationary sources of noise were identified within the project area. As a result, further analysis of existing stationary source noise was not conducted.

Project Summary

The proposed East 125th Street Development would not result in significant adverse impacts related to noise. As part of the proposed action, locations requiring window attenuation to avoid the potential for significant adverse noise impacts were identified along the north, south, east and west facades of the proposed development. The affected development parcels would be required

to provide sufficient noise attenuation to maintain interior noise levels of 45 dBA or lower. Consequently, these requirements would preclude the potential for the proposed action to result in significant adverse noise impacts.

Although the original noise analysis was conducted for the 2012 future Build Year, the revised traffic analysis indicates that the results of the traffic analyses for the 2012 future build year can be conservatively applied to 2016. Consequently, it may be assumed that the noise analysis originally conducted for the 2012 future Build Year can also be applied to the 2016 future Build Year. This assumption is based on the fact that mobile source noise is directly related to changes in traffic; and, No-Build projects would not be different from those potential stationary noise sources identified in the 2012 analysis. As a result, the noise analysis conducted for the 2012 future build year is conservative enough to be applied to the 2016 future build year.

NOISE FUNDAMENTALS

Noise in a community can come from man-made sources such as automobiles, trucks, buses, aircraft, and construction equipment, as well as industrial, commercial, transportation, and manufacturing facilities. Environmental noise can also originate from natural sources such as animals, insects and wind. Table 3.18-2 lists some typical activities, their noise levels, and the effects that they have on humans.

Table 3.18-2:
Typical Noise Levels

Common Outdoor Noises	Sound Pressure Level (dBA)	Common Indoor Noises
	110	Rock Band at 15 feet
Jet flyover at 1000 feet		
	100	
		Inside NYC Subway Train
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 feet		Food blender at 3 feet
		Garbage disposal at 3 feet
Noisy urban setting - daytime	80	
		Shouting at 3 feet
Gas lawnmower at 100 feet	70	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
	60	
		Large business office
Quiet urban setting - daytime	50	Dishwasher - next room
		Small theater
Quiet urban setting - nighttime	40	Large conference room and library
Quiet suburban setting - nighttime		
	30	

Table 3.18-2:
Typical Noise Levels

Common Outdoor Noises	Sound Pressure Level (dBA)	Common Indoor Noises
Quiet rural - nighttime		Bedroom at night
		Large concert hall (background)
	20	
		Broadcast and recording studio
	10	
		Threshold of hearing
	0	

:

Noise levels, which are measured in units called decibels (dB), relate the magnitude of the sound pressure to a standard reference value. While the noise values of certain activities can approach 135 dB, normally encountered sounds lie in the range of 40 to 120 dB.

Noises contain sound energy at different frequencies whose range depends on the individual noise source. Human hearing does not register the sound levels of all noise frequencies equally, and reduces the impression of high and low-pitched sounds. Over the normal range of hearing, humans are most sensitive to sounds with frequencies in the range of 200Hz to 10kHz. To replicate the response of the human ear to noise, the noise levels at different frequencies must be adjusted. Utilizing this practice, the resulting level, commonly expressed as dBA, is said to be an A-weighted sound level and enables these noise levels to be more representative of what a human would actually hear.

Noise levels from human activities also vary widely over time. The equivalent noise level (L_{eq}) represents the time-varying noise level produced over a period of time, as a single number over that same period of time. This represents the equivalent steady noise level which, over a given period, contains the same energy as the time-varying noise during the same period (i.e. noise from a building ventilation fan; vs a train passage or a gun shot) The period of time used in most noise assessments is the noise over one hour, represented as $L_{eq}(h)$. This descriptor is commonly used to express results from noise; measurements, predictions and impact assessments. Another descriptor often used in noise analyses is L_{10}. L_{10} is defined as the sound pressure level exceeded 10 percent of the time and is often used to describe noise generated from traffic sources. Either descriptor may be used in the analysis of highway noise, but as the Proposed Action is situated in a community environment, the L_{eq} noise descriptor was determined to be most the most appropriate. Another descriptor, L_{dn}, is the day-night equivalent sound level, defined as a 24-hour continuous L_{eq} with a 10dB adjustment added to all hourly noise levels recorded between the hours of 10 PM and 7 AM. This descriptor was also used in this analysis to describe the existing noise environment over a full 24-hour period.

In order to provide a better understanding of the numerical aspect of sound, a few general relationships may be helpful in understanding the decibel scale:

- Doubling of the noise energy produces a 3-dBA increase in noise level. A 3-dBA increase is normally the smallest change in a sound level that is perceptible to the human ear.
- While a 10-dBA increase in noise level corresponds to 10-fold increase in total noise energy, a listener would only judge a 10-dBA increase as being about twice as loud.
- A substantial increase in noise level is defined as 6-dBA or more, according to FHWA.

Noise Criteria

The New York City Department of Environmental Protection (NYCDEP) Division of Noise Abatement sets standards for external noise exposure. These standards are classified into four main categories: "Acceptable"; "Marginally Acceptable"; "Marginally Unacceptable"; and "Clearly Unacceptable" (see Table 3.18-4). The *CEQR Technical Manual* provides guidance for assessing project-generated noise impacts at sensitive receptors, based on the category of external noise exposure at these receptor sites. These guidelines are used in this analysis to determine the applicable interior noise levels of sensitive uses, including potential future residential sites, based on external noise exposure. For example, at a potential residential site located within areas with "Marginally Unacceptable" external noise levels, a minimum of 30 to 35 dBA reduction below daytime external noise level would be required, according to CEQR guidelines, to satisfy the interior noise level criteria.

The *CEQR Technical Manual* specifies that increases in daytime noise levels as a result of a proposed action are not considered significant unless the resulting noise levels exceed 65 dBA. At night and during the day where the No-action noise levels exceed 65 dBA, a 3dBA increase from the No-action condition is considered a significant adverse impact. In addition, the introduction of sensitive uses such as residences into an area with noise levels above 70 dBA constitutes a significant adverse impact unless interior noise levels for the buildings are attenuated to 45 dBA.

Table 3.18-4:
Noise Exposure Standards for Use in City Environmental Impact Reviews

Receptor type	Time period	Acceptable General External Exposure	Airport Exposure[3]	Marginally Acceptable General External Exposure	Airport Exposure[3]	Marginally Unacceptable General External Exposure	Airport Exposure[3]	Clearly Unacceptable General External Exposure	Airport Exposure[3]
1. Outdoor area requiring serenity and quiet[2]		$L_{10} \leq 55$ dBA	$L_{dn} \leq 60$ dBA		$60 < L_{dn} \leq 65$ dBA		(I) $65 < L_{dn} \leq 70$ dBA, (II) 70 dBA $\leq L_{dn}$		$L_{dn} \leq 75$ dBA
2. Hospital, Nursing Home		$L_{10} \leq 55$ dBA		$55 < L_{10} \leq 65$ dBA		$65 < L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
3. Residence, residential hotel or motel	7 AM - 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 - 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 health facility		Same as Residential Day (7AM–10PM)		Same as Residential Day (7AM–10PM)		Same as Residential Day (7AM – 10PM)		Same as Residential Day (7 AM – 10 PM)	
5. Commercial or office		Same as Residential Day (7AM–10PM)		Same as Residential Day (7AM–10PM)		Same as Residential Day (7AM – 10PM)		Same as Residential Day (7 AM – 10 PM)	
6. Industrial, public areas only[4]	Note 4	Note 4		Note 4		Note 4		Note 4	

Source:
New York City Department of Environmental Protection (adopted by DEP for use in CEQR-1983)

Notes:
(I) In addition, any new activity shall not increase the ambient noise level by 3 dBA or more:

1. Measurements and projections of noise exposures are to be made at appropriate heights above site boundaries as given by 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 of 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 old-age homes.
3. One may use FAA-approved Land 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).

New York City Noise Control Code

Specific noise standards for the proposed development site would be governed by the 2005 New York City Noise Code. Table 3.18-5 shows the permitted sound levels for sources operating in connection with any residential, commercial or business enterprises. Acceptable levels are shown for designated octave bands as displayed in Table 3.18-5 (these noise levels do not apply to construction activities or equipment).

Table 3.18-5:
2005 New York City Noise Control Code

Octave Band	***Maximum Sound Pressure Levels (dB) as measured within a receiving property as specified below***	
Frequency (Hz)	***Residential Receiving property for mixed use buildings 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

TRAFFIC NOISE ASSESSMENT

3.18.1 EXISTING CONDITIONS

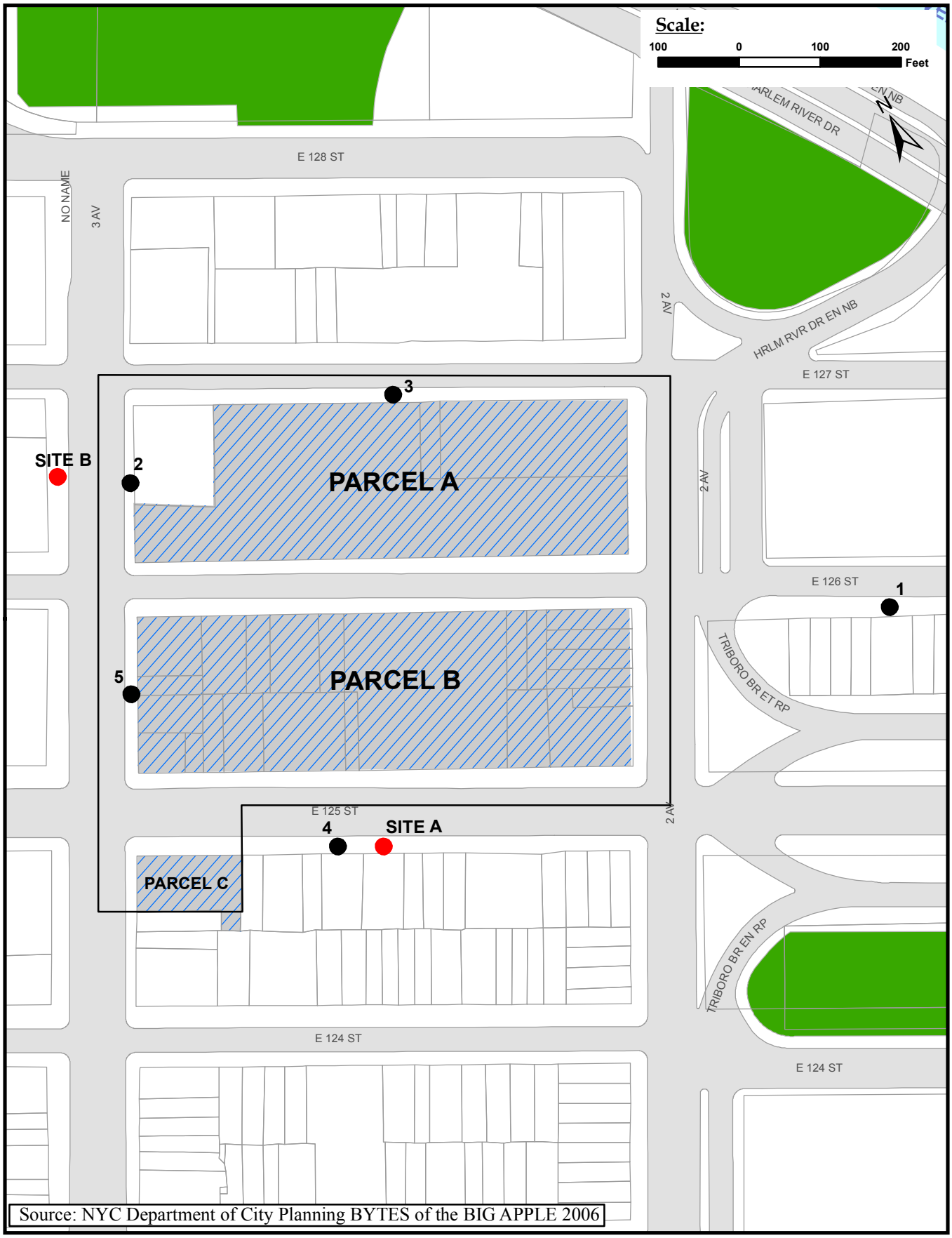
The proposed development is located in an area that is exposed to numerous sources of noise. These sources include vehicular traffic, airplanes, schoolyards and various street activities. However, the overwhelming source of neighborhood noise comes from local vehicular traffic. The principal traffic corridors in the vicinity of the proposed development include 125th Street, 126th Street, 127th Street, and First, Second and Third Avenues. Of these heavily congested routes, 125th Street is probably the noisiest, as intersection traffic at 125th Street and Second Avenue causes vehicle idling (particularly buses) stretching from Second to Third Avenue during peak hours. Overhead airline flights from and to La Guardia Airport also contribute to the existing noise exposure. Lastly, the vibrant street culture in NYC in general, and Harlem in particular, add to this already loud noise environment.

Noise Monitoring Locations

Information concerning specific land usage in an around the project area and trip assignments for potential future uses were reviewed to select monitoring sites and assess future noise impacts on sensitive sites. The five monitoring sites depicted on Figure 3.18-1 are representative of the sensitive land uses in the area, and of locations where additional new vehicle trips are expected which could result in an increase in future noise levels. Measured noise levels represent the existing noise exposure conditions at these locations.

Noise monitoring was performed on several weekdays (May 2nd and 3rd, 2007) and weekend days (November 3rd and 10th 2007). Additional measurements were also taken on October 31st, 2007. The time periods chosen for noise monitoring included the AM travel peak (7:45 AM to 8:45 AM), Midday Peak (1 PM to 2 PM), PM peak (5 PM to 6 PM) and a weekend peak, on a Saturday (1 PM – 2 PM). These time periods are the peak hours when the majority of existing and future project-generated traffic would be passing these locations. Weekend monitoring takes into account heavy retail and residential traffic while weekday AM, Midday and PM monitoring takes into account the peak work week, commercial and school-related traffic. The duration of the measurements varied from 15 to 20 minutes and simultaneous traffic counts were taken. In addition to $L_{eq}(h)$ and L_{10} noise levels, other statistical noise descriptors (L_{50}, L_{90}, Lmax and Lmin) were also sampled at all locations for all time periods. For the Proposed Action, the analysis of potential noise impacts utilized the L_{10} and $L_{eq}(h)$ descriptors. The other noise descriptors collected during the monitoring program were utilized to assist in the characterization of the existing noise environment.

The monitored noise levels are summarized in Table 3.18-6



Legend

- 1-Hour Site
- 24-Hour Site
- Project Site
- Rezoning Area

Figure 3.18-1 - Location of Noise Monitoring Sites

East 125th Street Development EIS

NYC Economic Development Corporation

Equipment Used in Noise Monitoring

Noise measurements were taken with a Larson & Davis Model 820 Type I sound level meter. A windscreen was placed over the microphone for all measurements. The meter was properly calibrated for all measurements using a Larson & Davis Model Cal250 calibrator. There were no significant variances between the beginning and ending calibration measurements. Weather conditions during the measurement periods, with respect to temperature and wind conditions, were conducive to obtaining valid noise readings.

Results of Baseline Noise Measurements

Short-Term Noise Monitoring

The results of baseline noise measurements are presented in Table 3.18-6. Daytime noise levels at all of the receptor sites are fairly typical of noise levels throughout the study area. A steady background noise exists at all locations due to consistent traffic movement on nearby streets. The background noise level L_{90} (lowest average minimum level) is in the range of 57.7 to 66.1 dBA. The highest L_{10} monitored noise level was measured during the AM peak period at site S4 (125th Street between Second and Third Avenues) where a noise level of 76.0 dBA was measured. This level of exposure places this site, along with the other four monitoring locations, under the CEQR defined "Marginally Unacceptable" category. The categorization of these monitoring sites is based on the results of baseline noise monitoring and *CEQR Technical Manual* noise exposure standards, also shown in Table 3.18-6.

Table 3.18-6:
Existing Short-term Noise Levels at Monitoring Sites S1 through S5*

Site #	Location	Peak Period Measurement Times	Existing Noise Level				CEQR Noise Exposure Category
			L_{EQ}	L_{10}	L_{50}	L_{90}	
S1	126th St between 1st & 2nd Avenues	7:45 – 8:45 AM	68.8	71.6	66.3	63.6	Marginally Unacceptable
		1:00 - 2PM	68.2	71.2	66.4	64.0	
		4:00 - 5:00 PM	67.7	70.3	66.4	63.1	
		1:00 - 2:00 PM	68.5	71.6	63.8	61.3	
S2	Third Avenue Between 127th & 126th Street	7:45 - 8:45 AM	68.9	71.4	65.9	60.9	Marginally Unacceptable
		1:00 - 2PM	66.3	70.1	63.6	60.5	
		4:00 - 5:00 PM	70.3	73.5	67.2	61.0	
		1:00 - 2:00 PM	66.7	68.5	66.0	63.2	
S3	127th Street between 2nd & 3rd Avenues	7:45 - 8:45 AM	65.8	68.5	61.1	58.2	Marginally Unacceptable
		1:00 - 2PM	61.4	63.6	59.5	57.7	
		4:00 - 5:00 PM	69.6	72.7	66.7	62.2	
		1:00 - 2:00 PM	64.4	67.3	60.6	58.1	
S4	125th Street between 3rd & 2nd Avenues	7:45 - 8:45 AM	72.4	76.0	70.5	66.1	Marginally Unacceptable
		1:00 - 2PM	74.1	75.0	69.0	63.7	
		4:00 - 5:00 PM	70.9	74.2	68.0	63.5	
		1:00 - 2:00 PM	70.8	74.6	67.1	62.8	
S5	Third Avenue between 125th & 126th Streets	7:45 - 8:45 AM	71.4	74.1	68.2	63.9	Marginally Unacceptable
		1:00 - 2PM	71.6	75.6	66.7	61.4	
		4:00 - 5:00 PM	69.3	71.6	64.9	60.7	
		1:00 - 2:00 PM	66.6	69.1	63.3	59.7	

***** Noise exposure category classification was based on the highest noise level measured during any of the four time periods for each site

Twenty-Four Hour Noise Monitoring

In addition to the short-term noise measurements, two twenty-four hour noise measurements were also taken near to the project area. These measurements take into account existing noise, not only during the peak-hour periods but during off-peak periods. The measured noise levels represent existing traffic noise along neighborhood streets as well as other ambient noise sources such as overhead flights to and from La Guardia Airport, and other random local off-peak noise sources. The *CEQR Technical Manual* identifies 45dBA as the acceptable limit for interior noise levels. As a result, when monitored noises levels would result in the 45dBA interior noise limit being exceeded, appropriate attenuation at the project site must be considered. Measurements were taken at, the New York State Food Stamp Office (2323 Third Avenue) and the New York City Public Library (224 E 125th Street) on September 5 and October 30, 2007, respectively. These sites were chosen due to their accessibility and the fact that they are along the heaviest traffic routes in the project area. Their locations are representative of the proposed projects'

sensitive land uses and thus they are locations that would experience some of the worst noise conditions.

As indicated in Table 3.18-7, a maximum noise level (L_{10}) of 80.5dBA was recorded at Site A - the Public Library, between 7:00AM and 8:00PM. This noise level falls within the CEQR threshold range of clearly unacceptable noise exposure. Two additional time periods were also identified in this category, one at 5:00PM – 6:00PM the other at 10:00AM – 11:00AM. The remaining monitored noise levels, during the 24-hour period, all fall within the CEQR marginally unacceptable range.

The second 24-hour noise measurement, taken at Site B, a Food Stamp Office, resulted in a maximum noise level (L_{10}) of 76.3dBA, recorded between 7:00AM and 8:00AM. This noise level falls within the CEQR threshold range of marginally unacceptable noise exposure. The remaining monitored noise levels, during the 24-hour period, all fall below within either the CEQR marginally acceptable or marginally unacceptable ranges.

Table 3.18-7:

Monitored 24-hour Noise Measurements*

Site A NYC Public Library (224 E 125th Street)			Site B Social Security Office (2323 Third Avenue)		
Start Hour	**L_{eq}**	**L_{10}**	**Start Hour**	**L_{eq}**	**L_{10}**
10:00 AM	80.0	80.4	**11:00 AM**	75.0	72.3
11:00 AM	76.7	78.9	**12:00 PM**	71.3	74.7
12:00 PM	75.1	77.8	**1:00 PM**	69.8	71.9
1:00 PM	75.4	78.1	**2:00 PM**	71.6	73.7
2:00 PM	76.2	78.8	**3:00 PM**	71.4	74.1
3:00 PM	78.1	79.6	**4:00 PM**	72.3	73.8
4:00 PM	75.9	78.5	**5:00 PM**	70.8	74.0
5:00 PM	82.0	80.3	**6:00 PM**	70.3	73.2
6:00 PM	74.7	77.5	**7:00 PM**	70.3	72.9
7:00 PM	73.5	76.6	**8:00 PM**	69.3	71.2
8:00 PM	73.8	76.2	**9:00 PM**	68.6	71.3
9:00 PM	78.1	76.3	**10:00 PM**	68.7	70.5
10:00 PM	72.5	75.8	**11:00 PM**	67.6	70.3
11:00 PM	72.0	74.9	**12:00 AM**	65.8	67.7
12:00 AM	72.3	74.1	**1:00 AM**	65.9	68.3
1:00 AM	69.8	73.6	**2:00 AM**	64.2	66.6
2:00 AM	68.7	72.4	**3:00 AM**	64.8	67.5
3:00 AM	70.1	73.7	**4:00 AM**	66.0	68.5
4:00 AM	70.6	74.0	**5:00 AM**	73.2	73.4
5:00 AM	73.2	76.5	**6:00 AM**	71.9	75.5
6:00 AM	75.2	78.5	**7:00 AM**	73.3	76.3
7:00 AM	81.7	80.5	**8:00 AM**	73.0	75.2
8:00 AM	77.3	79.9	**9:00 AM**	71.5	72.3
9:00 AM	76.9	79.4	**10:00 AM**	70.2	73.6

***** Twenty-four hour noise levels include noise from La Guardia Airport flyovers.

Figure 3.18-1 shows the locations of both 24-hour measurements.

3.18.2 FUTURE WITHOUT THE PROPOSED ACTION

As per *CEQR Technical Manual* Guidelines, in order to predict the noise levels in the future without the proposed development, monitored noise levels were projected by using a proportional modeling technique to take into account the increases in traffic associated with area growth. First, future traffic volumes were obtained by adding future ~~2012~~2016 No Action traffic volumes to the existing baseline conditions. Then, vehicular traffic volumes under the existing and future No Action conditions were converted into Passenger Car Equivalent (PCE) values. For this conversion, one medium truck was estimated to generate the noise equivalent of 13 cars, one bus was estimated to generate the noise equivalent of 18 cars, and one heavy truck was estimated to generate the noise equivalent of 47 cars. Future No Action noise levels were calculated using the following equation:

$$\text{Future No Action Noise Level} = 10 * \log\left(\frac{NoAction\ PCE}{Existing\ PCE}\right) + Existing\ Noise\ Level$$

As indicated in Table 3.18-8, the individual existing L_{10} noise levels would fall under the "Marginally Unacceptable" category at the monitored sites. Future No Action noise levels at the five monitoring sites as shown in Table 3.18-8 would be higher than the existing noise levels, with increases in the range of 0.1 to 1.1 dBA. Changes of this magnitude would be below the threshold of human perception.

3.18.3 FUTURE WITH THE PROPOSED ACTION

In order to predict noise levels in the future with the proposed development, the additional increase in traffic noise associated with the proposed development was added to the future No Action traffic noise condition. Using the methodology cited above to calculate No Action traffic noise, there would be no perceptible increases in traffic noise levels at the East 125th Street Development project site as a result of increases in associated traffic (see Table 3.18-9). At site S3, where the greatest increase in traffic volumes is expected, the increase in noise level conditions in the future with the proposed action compared to the future no action condition noise levels is predicted to be 1.4 dB. The increase in noise level at the remaining sites is predicted to be in the range of 0.1 dB to 1.1 dB. The increases at these locations would be considered insignificant and imperceptible. As result of the proposed action, the increase in the proposed action noise level over the no action noise level would not exceed the 3 dBA CEQR threshold at any of the receptor sites. Therefore, significant adverse noise impacts from mobile sources are not predicted to occur.

Table 3.18-9
Existing and Future Traffic Noise Levels (L_{eq}) at Monitored Sites

Site #	*Site Description*	*Peak Traffic Time Period*	*Existing PCEs*	*Future No Action PCEs*	*Future Proposed Action PCEs*	*Existing Noise Level (dBA[1])*	*Predicted Future No Action Noise Level (dBA)*	*Proposed Action Noise Level (dBA)*	*Future Proposed Action Minus Future No Action (dBA)*	*Impact (Yes/No)*
1	126th Street between 1st & 2nd Avenues	AM	1889	1923	2079	68.8	68.9	69.2	0.3	No
2	3rd Avenue Between 127th & 126th Street	PM	2144	2243	2882	70.3	70.5	71.6	1.1	No
3	127th Street between 2nd & 3rd Avenues	PM	1996	2100	2893	69.6	69.8	71.2	1.4	No
4	125th Street between 3rd & 2nd Avenues	MID	5480	7100	7300	74.1	75.2	75.3	0.1	No
5	3rd Avenue between 125th & 126th Streets	MID	1021	1306	1466	71.6	72.7	73.2	0.5	No

1. For impact assessment, the highest measured hourly level for the entire day, AM Peak, Midday Peak, PM Peak and Saturday, was used for each location to calculate change in noise level from calculated PCE's for the existing, the no-build and the build conditions.

SENSITIVE RECEPTOR ASSESSMENT

The proposed action would introduce new sensitive receptors into an area with high existing ambient noise levels. As indicated in Table 3.18-10, the existing L_{10} noise levels range from "Marginally Unacceptable" to "Clearly Unacceptable" at the sites where residential, commercial or community facility use is part of the proposed East 125th Street Development.

Table 3.18-10
Required Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Acceptable	***Marginally Unacceptable***		***Clearly Unacceptable***		
Noise level with 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: New York City Department of Environmental Protection

The maximum existing L_{10} noise levels at all of the five monitoring sites and the future noise levels at the facades of the development site would exceed 70 dBA. These sites would be suitable for residential, commercial and community facility uses only by providing window-wall attenuation ranging from 30 dBA to 40 dBA for the affected exterior facades of the development in order to achieve a 45 dBA interior noise level (refer to Table 3.18-10). Window/wall attenuation requirements based on future Action noise levels are shown in Table 3.18-11 for the five noise monitoring sites.

Table3.18-11
Required Window Attenuation Values for Monitored sites S1 through S5*

Site	***L_{10} No Action (dBA)***	***Change in Noise Level due to Change in Traffic PCEs (dBA)***	***Predicted Action L_{10} Noise Levels (dBA)***	***Maximum Measured L_{10} (if more than predicted Action) (dBA)***	***Required Window Attenuation (dBA)***
1	71.7	0.3	72.0	NA	30
2	73.7	1.1	74.8	NA	30
3	72.9	1.4	74.3	NA	30
4	76.1	0.1	76.2	80.5	40
5	76.7	0.5	77.2	NA	35

**As stated in the CEQR Technical Manual " L_{10} values can be calculated by adding the difference between the L_{10} and L_{eq} descriptors found to exist in the measurement program to the calculated no action L_{eq} noise level." For example, for Site 1 the difference between L_{10} and L_{eq} in the measurement program is 71.6.-68.8=2.8. Future calculated no-action L_{10} is 68.9 + 2.8 = 71.7.*

To properly assess potential impacts on the development site, the attenuation requirements predicted for the monitoring sites were used and applied as shown in Table 3.18-12. This represents a closed window condition at these sites which can be maintained only by providing an alternate means of ventilation for the interior spaces. Details of required window insulation are described below:

- Sound attenuation of 30 dBA would be needed for sites where future noise levels would be between 70 and 75 dBA. This can be achieved through installing ¼-inch laminated single-glazed windows or double-glazed windows with $^1/_8$-inch glass panes with ¼-inch air space between them mounted in a heavy frame.

- Sound attenuation of 35 dBA would be required for sites where future 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.

- Sound attenuation of 40 dBA would be required where future noise levels would be between 80 and 85 dBA. This requires the use of noise attenuation measures that typically exceed standard practice for new construction. Achieving the 40 dBA attenuation would require the placement of acoustically well-sealed ¼-inch laminated storm sash 1.5 to 3 inches from single glazed window on wood or metal frame.

Table 3.18-12
Required Attenuation Values for the Proposed Development Site

Parcel ID	*Affected Parcel Façade*	*Representative Noise Site*	*Build Year Maximum L10 Noise Level (dBA)*	*Required Window Attenuation*
A	North	S3	74.3	30
	South	S1	72.0	30
	East	S2	74.8	30
	West	S2	74.8	30
B	North	S1	72.0	30
	South	S6(24-Hour)	80.5*	40
	East	S5	77.2	35
	West	S5	77.2	35
C	North	S6(24-Hour)	80.5*	40
	South	S3	74.3	30
	East	S6(24-Hour)	80.5*	40
	West	S5	77.2	35

** Where the measured L10 noise level from the 24-hour monitoring program had a maximum value greater than the predicted future Build L10 value, the maximum monitored value was conservatively used as a basis for the required window attenuation.*

There are three levels of noise attenuation depending upon the ambient noise levels: 30 dBA, 35 dBA and 40 dBA. Descriptions of these attenuation measures are as follows:

- For the proposed development site where the exterior building facade would experience between 70 and 75 dBA of exterior noise exposure, 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 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 Federal Department of Housing and Urban Development (HUD) -approved fans.

- For the proposed development site where the exterior building facade would experience between 75 and 70 dBA of exterior noise exposure, 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 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.

- For the proposed development site where the exterior building facade would experience between 80 and 85 dBA of exterior noise exposure, to ensure an acceptable interior noise environment, future residential/commercial uses must provide a closed-window condition with a minimum of 40 dBA window/wall attenuation 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 design 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.

As mentioned above, the proposed development would be exposed to exterior noise sources such as autos, overhead flights to and from La Guardia Airport and other sounds typical to the local community. However, with the attenuation measures specified above, the proposed rezoning would not result in any significant adverse noise impacts from these sources. It is anticipated that "E" designations, a restrictive declaration, restrictions in the property deed, or other similar techniques would be used to enforce these noise abatement measures.

STATIONARY SOURCES

Stationary noise sources of concern with respect to the proposed development would include building machinery or mechanical equipment related to its heating, ventilation and air conditioning or other interior/exterior operational systems In order to ensure that these mechanical systems would not result in any significant increases in noise levels, it is assumed that equipment would be constructed so as to adhere to prevailing industry standards as we11 as the revised 2005 NYC Noise Control Code. In addition, it is not anticipated that any of the proposed developments mechanical systems would be located in noise sensitive areas where they would affect the community or residential inhabitants.

CONCLUSION

The proposed development would not result in significant adverse impacts related to noise. The proposed action would generate new residential, commercial and cultural uses in an area that is already characterized by medium to high density residential and commercial development. Residential, commercial and cultural use portions of the development would be required to provide sufficient noise attenuation to maintain interior noise levels of 45 dBA or lower, so that the proposed development would not result in significant adverse noise impacts. It is anticipated that "E" designations, a restrictive declaration, restrictions in the property deed, or other similar techniques would be used to enforce these noise abatement measures.