3.18 NOISE

INTRODUCTION

The proposed action would not result in significant adverse impacts related to noise. As described in Chapter 2.0, "Project Description," it would generate new, medium to high density residential and commercial uses in an area historically occupied primarily by industrial uses. As part of the proposed action, (E) designations would be placed on the zoning map for select projected and potential development sites where there is the potential for significant adverse noise impacts. Residential, commercial and community facility development on lots mapped with an (E) designation would be required to provide sufficient noise attenuation to maintain interior noise levels of 45 dBA or lower. The (E) designations on the projected and potential development sites would preclude the potential for the proposed action to result in significant adverse noise impacts. As part of the proposed action, mixed use zoning districts would be created within the project boundaries. These mixed use districts require at least a 35 dBA level of attenuation and therefore, properties within these mixed use districts would not be subject to the above mentioned (E) designations.

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 surrounding area. Existing noise levels are predominantly the result of local vehicular traffic and through traffic on the Major Deegan Expressway, although the Metro-North Railroad also contributes to existing noise levels. Future noise sensitive locations include areas that may be redeveloped for residential, commercial and community facility uses.

In order to assess the potential for significant adverse noise impacts, an analysis was conducted that considers changes in noise due to increases in traffic and the introduction of sensitive receptors into an area with existing ambient noise levels classified as "Marginally Unacceptable" and "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 significant stationary sources of noise that would exist in the future Action year were identified within the project corridor. As a result, further analysis of stationary source noise was not conducted.

3.18.1 NOISE FUNDAMENTALS

Noise is "unwanted sound" and, by this definition, the perception of noise is a subjective process. Noise in the environment can be characterized by three distinguishing characteristics: loudness, pitch, and time variation.

- The loudness or magnitude of noise is a measure of its intensity, and it is measured in units called decibels (dB). The decibel unit is based on a logarithmic scale, and it

compresses a large range of sound pressures into manageable numbers. For example, on the decibel scale, environmental noise ranges from 40 dB from the rustling of leaves to over 80 dB from a truck passage and up to 100 dB at the front rows of a rock concert. The louder the sound, the greater is its decibel value.

- Pitch describes the character and frequency content of noise. Measured in Hertz (Hz), the pitch is used to identify annoying characteristics of noise and help in determining appropriate mitigation to minimize annoyance. The human ear is sensitive to noise frequencies between 20 Hz (low-pitched noise) and 20,000 Hz (high-pitched noise). For example, a noise may be characterized as a low-pitched "rumble" from stereo sub-woofers or a high-pitched "whine" from a train whistle or a train wheel squeal.

- Time variation describes the pattern of the sound over the observation period. Time variation of environmental noise can be characterized as: 1) continuous, such as noise from a building ventilation fan; 2) intermittent, such as noise from a train passage; or 3) impulsive, like noise from a car backfire. Time variation is used in combination with loudness and pitch to determine the sound energy exposure from a particular noise during a period of time, such as a 24-hour day.

3.18.2 HUMAN PERCEPTION OF NOISE AND NOISE DESCRIPTORS

Since the human ear does not respond equally to all frequencies, measured sound levels (in decibel units at standard frequency bands) are often adjusted or weighted to correspond to the frequency response of human hearing. The weighted sound level is expressed in units called "A"-weighted decibels (dBA) and is measured with a calibrated noise meter. A ten dBA increase in noise level is generally perceived as a doubling of loudness, while a three dBA increase in noise is just barely perceptible to the human ear. Except in carefully controlled laboratory experiments, a change of one dBA cannot be perceived. A change in sound level of five dBA is subjectively noticeable. Typical A-weighted noise levels in the environment lie in the range of zero dBA (approximate threshold of hearing) to 120 dBA (jet aircraft at 500 feet).

The following A-weighted noise descriptors (noise metrics) are typically used to determine impacts from noise sources.

- L_{eq} represents the level of a constant noise containing the same acoustical energy as a fluctuating noise (e.g., highway traffic) observed during a given interval, typically one hour. The L_{eq} is commonly used to describe energy average levels at places with primarily daytime uses such as offices, schools, and churches. L_{eq} (1 ha) represents the cumulative noise exposure from all events averaged over one hour.

- L_{90}: Noise level in dBA exceeded 90 percent of the observation time. L_{90} is often considered to represent the "background" noise in a community.

- L_{10}: Noise level in dBA exceeded ten percent of the observation time. This unit is used in CEQR regulations and establishes threshold levels for acceptable noise exposure.

Outdoor A-weighted sound levels were used in the measurements and analysis of the noise effects from the proposed action, as dBA correlates well with the human perception of noise. Noise descriptors selected for this analysis were the one-hour equivalent continuous noise level (L_{eq} (1h) in dBA), and the noise level exceeded ten percent of the time (L_{10} in dBA).

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 3.18-1). The 2001 *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.

Under the *CEQR Technical Manual,* increases in daytime noise levels as a result of the 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 three dBA 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 3.18-1
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 (7 AM – 10 PM)		Same as Residential Day (7 AM – 10 PM)		Same as Residential Day (7 AM – 10 PM)		Same as Residential Day (7 AM – 10 PM)	
5. Commercial or office		Same as Residential Day (7 AM – 10 PM)		Same as Residential Day (7 AM – 10 PM)		Same as Residential Day (7 AM – 10 PM)		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 three 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).

3.18.3 TRAFFIC NOISE ASSESSMENT

EXISTING CONDITIONS

Short-Term Noise Monitoring Locations

Information about land use in the rezoning area and trip assignment for potential future uses was reviewed to select monitoring sites and assess future noise impacts on sensitive sites. The twenty-three 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 noise. Measured noise levels represent the existing noise exposure conditions at these locations. Noise monitoring was performed over the course of three months from April to June 2008. The time periods chosen for noise monitoring included AM peak (7 to 10 AM), Midday Peak (11 AM to 2 PM), PM peak (4 to 7 PM), and weekend Saturday (12 to 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 traffic while weekday AM and PM monitoring takes into account the peak work week and school traffic. The duration of the measurements was 20 minutes and simultaneous traffic counts were taken. In addition to $L_{eq}(h)$ and L_{10} noise levels, other statistical noise descriptors (L_1, 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. Other noise descriptors collected during the monitoring program were collected to assist in the characterization of the existing noise environment.

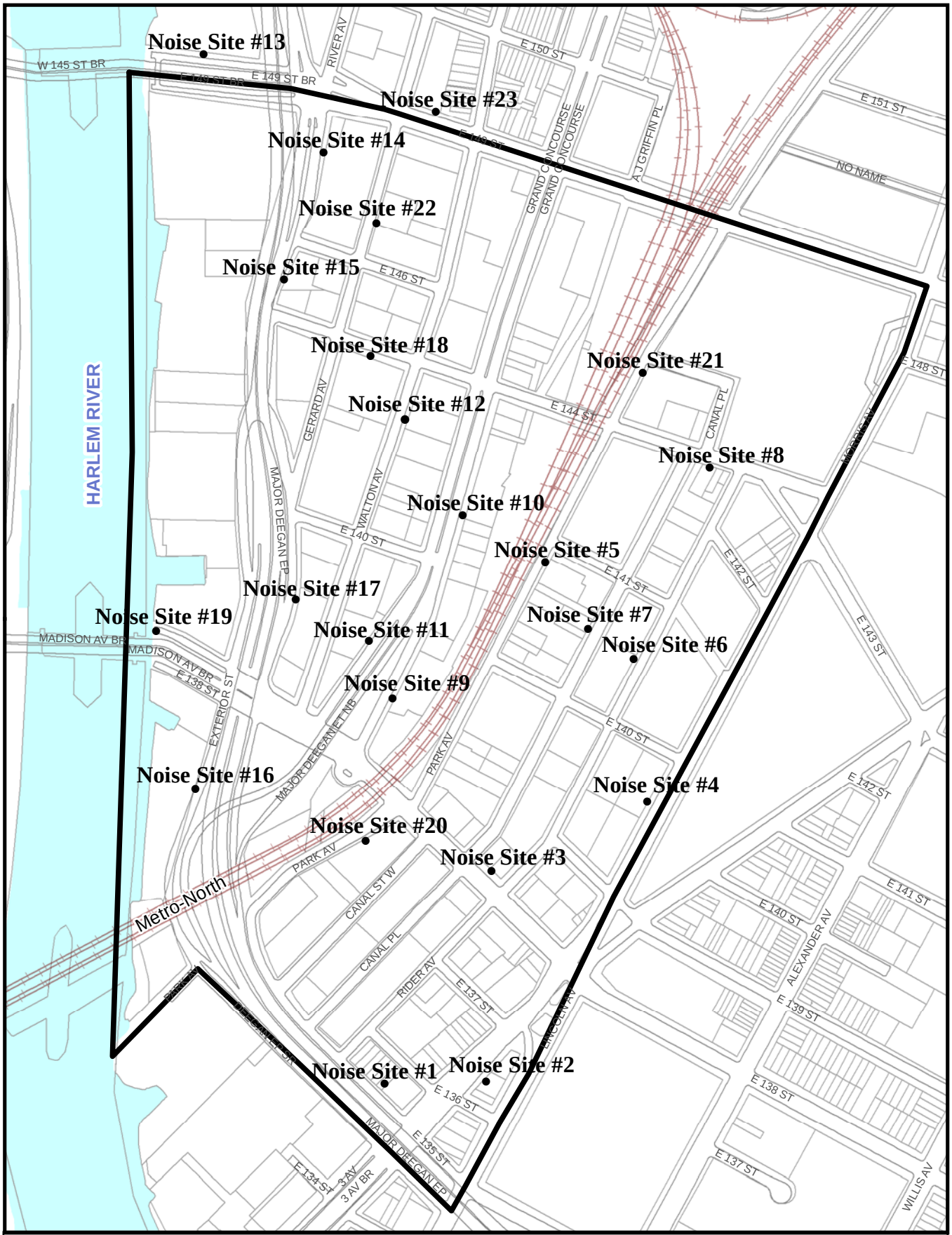
The monitored noise levels are summarized in Table 3.18-2.

24-Hour Noise Monitoring Locations

In addition to the short-term noise measurements, two 24-hour noise measurements were also taken at select representative rooftop locations. 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 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 Padded Wagon (163 Exterior Street) and the Twinkle Factory (585 Exterior Street) on May 28 and June 5, 2008, respectively. These sites were chosen due to their accessibility as well as their proximity to heavy traffic routes and the elevated metro north train operations. Their locations are representative of some of the proposed projects' sensitive land uses and thus they are locations that could experience some of the worst noise conditions.

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 all measurements consisted of sunny skies and temperatures of approximately 50 - 60 degrees Fahrenheit.



Legend

- Noise Monitoring Sites
- Proposed Rezoning Area

200 0 200 400 600 Feet

N

Figure 3.18-1: Noise Monitoring Locations

Lower Concourse Rezoning and Related Actions EIS

NYC Department of City Planning

Source: NYC Department of City Planning MapPLUTO 2006; STV Incorporated

Table 3.18-2:
Existing Short-term Noise Levels at Monitoring Sites S1 through S23 [1,2]

Site #	Location	Measurement Times [4]	Existing Noise Level					CEQR Noise Exposure Category
			L_{EQ1}	L_1	L_{10}	L_{50}	L_{90}	
S01	247 E 135th Street between Third and Rider Avenues	7 - 9 AM	71.5	80.5	73.3	69.6	68.1	Marginally Unacceptable
		12 - 2 PM	71.4	77.1	75.2	68.8	66.5	
		4 - 6 PM	70.3	76.1	70.7	66.7	62.5	
		12 - 2 PM	71.0	77.5	73.6	69.4	67.0	
S02	2506 Third Avenue between E 136th and E 137th Streets	7- 9 AM	72.6	82.0	75.2	69.1	64.7	Marginally Unacceptable
		12 - 2 PM	70.9	79.8	72.5	67.1	63.1	
		4 - 6 PM	71.2	80.2	73.6	68.8	64.7	
		12 - 2 PM	72.2	84.4	73.6	68.6	65.0	
S03	231 E 138th Street between Third/Morris and Rider Avenues	7 - 9 AM	69.3	78.5	72.3	66.7	62.7	Marginally Unacceptable
		12 – 2 PM	69.2	79.6	71.6	66.1	62.6	
		4 - 6 PM	70.7	79.5	73.7	67.9	63.7	
		12 - 2 PM	73.1	83.9	74.9	69.1	64.6	
S04	224 Morris Avenue between E 139th and E 140th Streets	7 - 9 AM	65.9	78.5	68.2	60.8	56.6	Marginally Acceptable
		12 – 2 PM	63.4	71.7	66.5	60.8	56.1	
		4 - 6 PM	67.2	74.7	65.9	59.9	56.4	
		12 - 2 PM	66.3	74.2	64.0	63.4	59.6	
S05	2657 Park Avenue between E 140th and E 141st Streets	7 - 9 AM	74.5	84.6	78.9	66.6	59.1	Marginally Unacceptable
		12 – 2 PM	71.1	81.9	75.1	63.6	59.7	
		4 - 6 PM	74.1	84.7	78.4	65.9	55.4	
		12 - 2 PM	72.9	84.6	77.4	61.4	55.1	
S06	345 Rider Avenue between E 140th and E 141st Streets	7 - 9 AM	67.8	78.0	69.7	65.4	62.0	Marginally Acceptable
		12 – 2 PM	63.4	72.3	66.1	61.0	58.0	
		4 - 6 PM	63.6	73.3	66.3	61.0	57.1	
		12 - 2 PM	66.2	74.6	67.4	60.8	59.1	
S07	340 Canal Place between E 140th and E 141st Streets	7 - 9 AM	68.5	77.9	71.5	65.5	61.8	Marginally Unacceptable
		12 – 2 PM	68.2	76.8	71.1	66.1	63.1	
		4 - 6 PM	65.3	73.1	68.1	63.5	59.2	
		12 - 2 PM	67.5	76.7	69.8	65.2	61.8	
S08	226 E 144th Street between Canal Place and Park Avenue	7 - 9 AM	73.3	84.8	74.9	67.7	61.4	Marginally Unacceptable
		12 – 2 PM	69.7	81.4	71.7	63.8	57.7	
		4 - 6 PM	72.5	75.1	69.1	64.0	58.7	
		12 - 2 PM	68.4	81.1	70.3	63.3	58.7	
S09	289 Grand Concourse between E 138th and E 140th Streets	7 - 9 AM	72.2	80.3	74.6	70.6	66.2	Marginally Unacceptable
		12 – 2 PM	70.4	81.0	72.0	67.3	63.0	
		4 - 6 PM	70.3	78.2	72.8	68.7	65.1	
		12 - 2 PM	71.0	79.2	73.4	68.5	65.2	
S10	362 Grand Concourse between E 140th and E 144th Streets	7 - 9 AM	73.0	81.1	76.5	70.7	64.7	Marginally Unacceptable
		12 – 2 PM	68.8	77.9	71.9	66.4	60.0	
		4 - 6 PM	69.9	78.4	72.4	67.9	62.9	
		12 - 2 PM	70.0	78.2	73.2	67.8	61.2	

Site #	Location	Measurement Times [4]	Existing Noise Level					CEQR Noise Exposure Category
			L_{EQ1}	L_1	L_{10}	L_{50}	L_{90}	
S11	276 Grand Concourse between E 138th and E 140th Streets	7 - 9 AM	74.0	83.0	76.8	71.3	66.2	Marginally Unacceptable
		12 - 2 PM	73.0	80.6	73.5	68.5	63.3	
		4 - 6 PM	73.0	85.1	73.8	68.0	62.3	
		12 - 2 PM	69.7	77.9	72.9	67.5	60.9	
S12	362 Walton Avenue between E 140th and E 144th Streets	7 – 9 AM	66.3	76.6	68.1	62.5	60.4	Marginally Acceptable
		12 - 2 PM	65.4	75.3	68.9	60.6	58.7	
		4 - 6 PM	64.1	75.3	65.4	60.8	58.6	
		12 - 2 PM	61.3	69.7	64.7	58.6	56.6	
S13	145th Street Bridge (elevated site) [3]	7 - 9 AM	79.8	87.1	83.1	78.2	74.0	'Clearly Unacceptable'
		12 – 2 PM	79.2	88.5	82.5	75.8	70.6	
		4 - 6 PM	79.4	89.1	81.3	76.1	71.8	
		12 - 2 PM	-	-	-	-	-	
S14	478 Exterior Street between E 146th and E 149th Streets	7 - 9 AM	74.0	82.3	75.5	72.9	69.1	Marginally Unacceptable
		12 - 2 PM	75.5	87.8	75.5	70.8	68.6	
		4 - 6 PM	73.2	81.5	72.3	69.4	67.8	
		12 - 2 PM	74.2	85.8	71.6	69.1	67.1	
S15	Exterior Street between E 144th and E 146th Streets	7 - 9 AM	79.1	86.6	81.6	77.4	73.9	'Clearly Unacceptable'
		12 - 2 PM	79.7	89.5	82.5	75.6	70.8	
		4 - 6 PM	78.9	89.7	78.7	72.7	68.6	
		12 - 2 PM	78.5	85.6	80.4	74.7	71.1	
S16	95 Exterior Street SB south of E 138th Street	7 - 9 AM	79.3	87.9	82.0	77.3	75.0	'Clearly Unacceptable'
		12 - 2 PM	74.2	83.5	76.5	72.0	68.5	
		4 - 6 PM	77.0	82.4	75.8	73.2	70.6	
		12 - 2 PM	74.8	81.8	76.6	73.8	70.9	
S17	208 Gerard Avenue between E 140th and E 138th Streets	7 - 9 AM	74.8	81.3	76.9	73.6	71.6	Marginally Unacceptable
		12 - 2 PM	74.4	82.5	76.9	72.5	69.9	
		4 - 6 PM	73.5	80.3	74.9	72.3	70.5	
		12 - 2 PM	73.4	82.2	75.5	71.5	68.8	
S18	124 E 144th Street between Gerard and Walton Avenues	7 - 9 AM	75.0	86.8	76.5	72.1	67.1	Marginally Unacceptable
		12 - 2 PM	67.5	75.6	71.6	64.5	60.5	
		4 - 6 PM	69.3	78.9	72.8	65.8	60.1	
		12 - 2 PM	64.2	74.3	67.1	60.5	58.5	
S19	Oak Point freight rail line at E 138th Street	7 - 9 AM	68.6	74.4	69.7	68.1	66.7	Marginally Acceptable
		12 - 2 PM	67.1	71.2	67.9	65.5	64.1	
		4 - 6 PM	64.2	73.4	67.9	61.0	57.8	
		12 - 2 PM	65.4	76.5	67.6	62.6	60.6	
S20	2490 Park Avenue between E 137th and E 138th Streets	7 - 9 AM	69.9	78.6	74.6	64.9	61.7	Marginally Unacceptable
		12 - 2 PM	71.9	81.7	75.6	68.6	63.7	
		4 - 6 PM	69.2	78.7	72.6	65.6	61.1	
		12 - 2 PM	66.4	77.4	69.3	61.0	58.8	

Site #	Location	Measurement Times [4]	Existing Noise Level					CEQR Noise Exposure Category
			L_{EQ1}	L_1	L_{10}	L_{50}	L_{90}	
S21	2820 Park Avenue between E 146th and E 149th Streets	7 - 9 AM	69.0	76.4	72.8	64.8	60.7	Marginally Unacceptable
		12 - 2 PM	66.8	77.3	68.5	61.8	59.8	
		4 - 6 PM	72.6	81.4	75.0	71.5	62.9	
		12 - 2 PM	68.0	76.0	71.1	64.7	61.4	
S22	508 Gerard Avenue between E 146th and E 149th Streets	7 - 9 AM	68.6	75.7	70.1	67.4	65.6	Marginally Unacceptable
		12 - 2 PM	67.7	77.7	69.1	65.5	63.0	
		4 - 6 PM	70.1	82.3	69.3	64.3	61.4	
		12 - 2 PM	69.6	80.9	71.0	65.4	62.6	
S23	129 E 149th Street between Walton and Gerard Avenues	7 - 9 AM	71.7	80.6	74.3	68.9	65.9	Marginally Unacceptable
		12 - 2 PM	69.4	78.0	73.0	66.3	63.2	
		4 - 6 PM	71.2	82.0	74.0	66.7	63.5	
		12 - 2 PM	67.7	75.5	70.1	65.7	62.1	

[1] Noise exposure category classification was based on the highest noise level measured during any of the four time periods
[2] Monitoring conducted from April 2008 to June 2008.
[3] No weekend access to this site
[4] Noise measurements were conducted for 20 minutes during the applicable two-hour periods

Results of Baseline Noise Measurements

Short-Term

The baseline noise measurements are presented in Table 3.18-2. In this table, the categorization of the monitoring sites is based on *CEQR Technical Manual* noise exposure standards (refer to Table 3.18-1). Daytime noise levels at all of the receptor sites are fairly typical of noise levels in the study area. A steady background noise exists at all locations due to consistent traffic movement on streets in and around the proposed action area. The background noise level L_{90} (lowest average minimum level) is in the range of 55.6 to 77.4 dBA. The highest L_{10} monitored noise level was measured during the AM peak period at site S13 (an elevated location along the 145th Street Bridge) where the L_{10} noise level was 79.8 dBA. This level of exposure places this site, along with S15 and S16 in CEQR defined "Clearly Unacceptable" category. The remaining two sites would be within the CEQR defined "Marginally Unacceptable" category.

24-Hour

The monitoring results at the 24-hour sites show high levels of existing noise. Peak noise levels are very comparable to levels recorded during peak-traffic hours for the short-term monitoring program. As shown in Table 3.18-3, a maximum noise level (L_{10}) of 72.5 dBA was recorded at Site A - the Padded Wagon, between 6 and 7 AM. This noise level falls within the CEQR threshold range of "marginally unacceptable" noise exposure. Thirteen additional time periods between the hours of 5 AM and 7 PM were also

categorized as "marginally unacceptable." The remaining monitored noise levels, during the 24-hour period, all fall within the CEQR "marginally acceptable" range.

The second 24-hour noise measurement, taken at Site B, The Twinkle Factory, resulted in a maximum noise level (L_{10}) of 79.0 dBA, recorded between 6 and 7 AM. This noise level also 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 3.18-3:
Monitored 24-hour Noise Measurements

Site A The Padded Wagon (163 Exterior Street)			**Site B Twinkle Factory (585 Exterior Street)**		
Start Hour	**L_{eq}**	**L_{10}**	**Start Hour**	**L_{eq}**	**L_{10}**
11 AM	69.3	71.7	12 PM	72.6	74.2
12 PM	69.3	71.8	1 PM	72.6	74.3
1 PM	68.9	71.1	2 PM	74.9	75
2 PM	68.8	71.4	3 PM	71.9	74.2
3 PM	69.0	71.3	4 PM	72.9	74.6
4 PM	69.0	71.9	5 PM	72	73.2
5 PM	68.4	71.6	6 PM	68.2	70.5
6 PM	67.3	70.1	7 PM	69.2	70.3
7 PM	67.0	69.9	8 PM	68.4	69.7
8 PM	67.1	69.8	9 PM	68.2	69.7
9 PM	66.9	69.7	10 PM	67.6	69.2
10 PM	66.7	68.5	11 PM	67.4	69.5
11 PM	65.4	67.8	12 AM	67.2	69.3
12 AM	66.7	68.6	1 AM	71.6	71.5
1 AM	64.9	67.2	2 AM	65.2	67.8
2 AM	65.5	67.6	3 AM	67.7	71.1
3 AM	64.1	66.9	4 AM	67.3	69.9
4 AM	65.7	68.3	5 AM	70.7	73.7
5 AM	68.1	70.8	6 AM	75.8	79
6 AM	70.4	72.5	7 AM	73.7	75.4
7 AM	70.0	72.3	8 AM	73.1	74.5
8 AM	70.8	72.4	9 AM	73.7	74.4
9 AM	69.9	72.4	10 AM	74.2	75.7
10 AM	69.8	72.3	11 AM	75.2	77.5

3.18.4 FUTURE WITHOUT THE PROPOSED ACTION

As per *CEQR Technical Manual* Guidelines, in order to predict the noise levels in the future without the proposed action, monitored noise levels were projected to the 2018 No-Action year levels by using a proportional modeling technique, which takes into account the increases in traffic associated with area growth. First, future traffic volumes were obtained by adding future 2018 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 is estimated to generate the noise equivalent of 13 cars, one bus is estimated to generate the noise equivalent of 18 cars, and one heavy truck generated the noise equivalent of 47 cars. Future No Action noise levels are calculated using the following equation:

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

In the existing condition (refer to Table 3.18-2), existing L_{10} noise levels range from the "Marginally Acceptable" to the "Clearly Unacceptable" category at all monitored sites. Future No Action noise levels at all monitoring sites, as shown in Table 3.18-4, would be higher than the existing noise levels, with increases in the range of 0.2 to 5.5 dBA. Of the 23 sites, 21 would experience minor increase less than the threshold of human perception. The remaining two sites (S6 and S17) would experience increases in noise levels of 5.5 and 5.4 dB, respectively. Increases of this magnitude are perceptible to humans. These increases in noise levels would be due to significant increases in no build traffic passing at these locations.

3.18.5 FUTURE WITH THE PROPOSED ACTION

In order to predict noise levels in the future with the proposed action, the additional increase in traffic noise associated with the proposed action was added to the existing traffic noise condition. Future proposed action traffic volumes utilized in the mobile source noise analyses were based on unmitigated traffic conditions. Using the methodology previously used to calculate No Action traffic noise, there would be no perceptible increases in traffic noise levels at the Projected and Potential Development Sites as a result of increases in traffic associated with the proposed action (see Table 3.18-4). At sites S2-S5, S8-S16, S18, and S20-S23, 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 in the range of 0.1 to 2.5 dB. This increase at these locations would be considered insignificant and imperceptible. At the remaining four monitoring sites (S1, S6, S7, S17), the increase in future traffic volume would result in actual reductions in noise levels over the future no action condition. This is due to changes in vehicle mix, i.e. shift from truck to car. As result of the proposed action, the increase in the proposed action noise level over the no action noise level would not exceed the three dBA CEQR threshold at any of the receptor sites. Therefore, significant adverse noise impacts from mobile sources are not predicted to occur.

Table 3.18-4:
Existing and Future Traffic Noise Levels (L_{eq}) at Monitored Sites [1,2]

Noise Site #	Site Description	Peak Traffic Time Period	Existing PCEs[1]	Future No Action PCEs[1]	Future Proposed Action PCEs[1]	Existing Noise Level (dBA)	Predicted Future No Action Noise Level (dBA)	Proposed Action Leq Noise Level (dBA)	Future Proposed Action Minus Future No Action (dBA)	Impact (Yes/No)
1	247 E 135th Street between Third and Rider Avenues	AM	1,020	2,829	2,720	71.5	72.1	72.0	-0.1	No
2	2506 Third Avenue between E 136th and E 137th Streets	AM	2,092	1,702	1,796	72.6	72.9	73.2	0.3	No
3	231 E 138th Street between Third/Morris and Rider Avenues	SAT	2,575	2,541	3,074	73.1	73.3	74.1	0.8	No
4	224 Morris Avenue between E 139th and E 140th Streets	AM	1,329	1,876	1,940	65.9	66.7	66.8	0.1	No
5	2657 Park Avenue between E 140th and E 141st Streets	AM	540	381	381	74.5	74.9	74.9	0.0	No
6	345 Rider Avenue between E 140th and E 141st Streets	AM	1,236	4,813	3,165	67.8	73.3	71.5	-1.8	No
7	340 Canal Place between E 140th and E 141st Streets	AM	1,800	1,866	1,844	68.5	69.7	69.6	-0.1	No
8	226 E 144th Street between Canal Place and Park Avenue	AM	2,133	2,143	2,210	73.3	74.0	74.1	0.1	No
9	289 Grand Concourse between E 138th and E 140th Streets	AM	2,655	3,210	3,327	72.2	72.7	72.9	0.2	No
10	362 Grand Concourse between E 140th and E 144th Streets	AM	1,860	5,527	5,527	73.0	73.7	73.7	0.0	No
11	276 Grand Concourse between E 138th and E 140th Streets	AM	1,560	1,518	1,504	74.0	74.8	74.8	0.0	No
12	362 Walton Avenue between E 140th and E 144th Streets	AM	333	468	523	66.3	66.6	67.1	0.5	No
13	145th Street Bridge (elevated site)	AM	7,434	9,611	9,663	79.8	80.3	80.3	0.0	No
14	478 Exterior Street between E 146th and E 149th Streets	MID	930	5,024	7,103	75.5	76.1	77.6	1.5	No
15	Exterior Street between E 144th and E 146th Streets	MID	3,951	4,060	5,116	80.6	81.1	82.1	1.0	No

Noise Site #	Site Description	Peak Traffic Time Period	Existing PCEs[1]	Future No Action PCEs[1]	Future Proposed Action PCEs[1]	Existing Noise Level (dBA)	Predicted Future No Action Noise Level (dBA)	Proposed Action Leq Noise Level (dBA)	Future Proposed Action Minus Future No Action (dBA)	Impact (Yes/No)
16	95 Exterior Street SB south of E 138th Street	AM	5,931	6,910	7,387	79.3	79.6	79.9	0.3	No
17	208 Gerard Avenue between E 140th and E 138th Streets	AM	1,188	3,949	1,245	74.8	80.2	75.2	-5.0	No
18	124 E 144th Street between Gerard and Walton Avenues	AM	1,038	1,802	2,154	75.0	76.1	76.9	0.8	No
20	Oak Point freight rail line at E 138th Street	MID	3,807	3,627	3,702	71.9	72.2	72.3	0.1	No
21	2490 Park Avenue between E 137th and E 138th Streets	PM	522	663	670	72.6	72.8	72.9	0.1	No
22	2820 Park Avenue between E 146th and E 149th Streets	SAT	1,021	247	444	69.6	69.8	72.3	2.5	No
23	508 Gerard Avenue between E 146th and E 149th Streets	AM	4,551	4,701	4,800	71.7	72.2	72.3	0.1	No

[1]. For impact assessment, the highest measured hourly level for the entire day, AM Peak (7 AM to 9 AM), Midday Peak (12 PM to 2 PM) PM Peak (4 PM to 6 PM) and Saturday (12 PM to 2 PM), was used for each location to calculate change in noise level from calculated PCEs for the existing, the no-build and the build conditions.

[2] Site 19 was not included in the assessment since it is located at the edge of the Harlem River and represents existing noise conditions which would not be directly affected by any one traffic segment.

Although there would be increases in noise levels for the No Action condition over the Existing condition at noise receptor sites S6 and S17 as seen in the table above; for the Proposed Action condition, reductions of traffic at those two locations as a result of the proposed project would result in a corresponding reduction in noise level when compared to the No Action condition.

3.18.6 SENSITIVE RECEPTOR ASSESSMENT

The proposed action would introduce new sensitive receptors into an area with high existing ambient noise levels. As indicated in Table 3.18-1, the existing noise levels range from "Marginally Acceptable" to "Clearly Unacceptable" at the sites where residential, commercial or community facility use is part of the projected development.

The existing L_{10} noise levels at 20 of the 23 monitoring sites and the future noise levels at 75 of the 79 projected and potential development sites would exceed 70 dBA. Because the proposed action would include projected and potential sites within proposed mixed-use zones, these sites would be made suitable for residential, commercial and community facility uses by providing window-wall attenuation ranging from 30 to 40 dBA for the exterior facade of the affected development with a minimum of 35 dBA for residential uses in order to achieve a 45 dBA interior noise level (Table 3.18-5). An (E) designation for these sites would preclude the potential for significant adverse noise impacts.

Table 3.18-5:
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

Window-wall attenuation requirements based on future Action L_{10} noise levels are shown in Table 3.18-6 for the 23 noise monitoring sites. Also provided in Table 3.18-6 are No Action L_{10} noise levels. Both No Action and Action L_{10} noise levels were derived from their corresponding No Action and Action L_{eq} noise levels, also shown in Table 3.18-6, by adding to the L_{eq} noise levels the difference between the existing L_{10} and L_{eq}. This methodology assumes that while traffic volumes may increase in future years for individual traffic segments, the relationship between the L_{eq} and L_{10} noise levels monitored for the existing condition will remain consistent in future years. To properly assess potential impacts on the development sites, the attenuation requirements predicted for the monitoring sites were used and applied as shown in Tables 3.18-7 and 3.18-8. The corresponding required (E) designations for the projected and potential

development sites are described below and also shown in Tables 3.18-7 and 3.18-8. The closed window condition at these sites can be maintained only by providing an alternate means of ventilation for the interior spaces. Details of window insulation are the following:

- 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 1/4-inch laminated single-glazed windows or double-glazed windows with 1/8-inch glass panes separated by 1/4-inch air space 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, and for all residential sites in mixed-use districts. 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 0.25″ laminated storm sash 1.5″ to 3″ from single glazed window on wood or metal frame.

- Because most of the projected and potential development sites included in the proposed action are within proposed mixed use districts as identified in Tables 3.18-7 and 3.18-8, the attenuation requirements for those districts specify that all residential uses will include at least 35 dBA of window-wall attenuation.

Table 3.18-6:
Required Window Attenuation Values for Monitored sites S1 through S23 *

Noise Site	Leq No Action Noise Levels (dBA)	L_{10} No Action Noise Levels (dBA) [1, 5]	Change in noise level due to change in Traffic PCEs (dBA)	Leq Action Noise Levels (dBA)	L_{10} Action Noise Levels (dBA) [5]	Required Window Attenuation (dBA) [2]
S1	72.1	75.2**	-0.1	72.0	75.2**	35.0
S2	72.9	75.5	0.3	73.2	75.8	35.0
S3	73.3	75.1	0.8	74.1	75.9	35.0
S4	66.7	69.0	0.1	66.8	69.1	25.0 (std. window)
S5	74.9	79.3	0.0	74.9	79.3	35.0
S6	73.3	75.2	-1.8	71.5	73.4	30.0 [4]
S7	69.7	72.7	-0.1	69.6	72.6	30.0 [4]
S8	74.0	75.6	0.1	74.1	75.7	35.0
S9	72.7	75.1	0.2	72.9	75.3	35.0
S10	73.7	77.2	0.0	73.7	77.2	35.0
S11	74.8	77.6	0.0	74.8	77.6	35.0
S12	66.6	68.4	0.5	67.1	68.9	25.0 (std. window) [4]
S13	80.3	83.6	0.0	80.3	83.6	40.0
S14	76.1	76.1	1.5	77.6	77.6	35.0
S15	80.2	83.9	1.0	81.2	84.9	40.0
S16	79.6	82.3	0.3	79.9	82.6	40.0
S17	80.2	82.3	-5.0	75.2	77.3	35.0
S18	76.1	77.6	0.8	76.9	78.4	35.0
S19 [3]	68.6	69.7	0.0	68.6	69.7	25.0 (std. window)
S20	72.2	75.9	0.1	72.3	76.0	35.0
S21	72.8	75.2	0.1	72.9	75.3	35.0
S22	69.8	71.2	2.5	72.3	73.7	30.0 [4]
S23	72.2	74.8	0.1	72.3	74.9[2]	35.0

** An E designation associated with these build L_{10} noise levels would preclude the potential for adverse noise impacts.*
*** The existing L_{10} noise level (see Table 3.18-2) is utilized for this Noise Site as it higher than that seen under the No Action condition.*
[1] The CEQR Technical Manual states "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 leve1." For example, for Site 1 the difference between L_{10} and L_{eq} in the measurement program is 73.3.-71.5=1.8. Future calculated no-action L_{10} is 72.1+1.8=73.9.
2 The required window attenuation for monitoring site 23 was conservatively increased since the Build L_{10} noise level was close to the next attenuation category.
3 Noise site S19 is representative of the potential and projected sites located along the edge of the Harlem River. S19 would not be directly affected by any one traffic segment and the western facades of the potential and projected building sites would be shielded from traffic noise from the Major Deegan Expressway; therefore the Existing, No Action and Action noise conditions at S19 are assumed to be the same.
[4] These values are the minimum attenuation to provide an interior L_{10} value less than 45 dBA, however, the actual minimum required attenuation at these noise sites will be at least 35 dBA as specified by the requirements within the Lower Concourse mixed use districts.
5 Both No Action and Action L_{10} noise levels were derived from their corresponding No Action and Action L_{eq} noise levels, by adding to the L_{eq} noise levels the difference between the existing monitored L_{10} and L_{eq}. Please see narrative above this Table for details.

For projected and potential development site locations including block and lot numbers and attenuation requirements, see Table 3.18-7 (Projected Development Sites) and 3.18-8 (Potential Development Sites).

Table 3.18-7:
Required Attenuation Values for Projected Development Sites [1]

Dev. Site Number	Address	Adjacent Monitoring Sites	Block	Lot	Proposed Zoning	Build Condition Max L_{10} (dBA)	Attenuation Required
1	60 EAST 149 STREET	S13, S15, S16	2349	112	C4-4	83.6	40
2	333 EXTERIOR STREET	S13, S15, S16	2349	100	C4-4	84.9	40
3	159 MAJ WM DEEGAN BLVD	S13, S15, S16	2323	28	R7-2/C2-4	82.6	40
4	281 EXTERIOR STREET	S13, S15, S16	2349	15	R7-2/C2-4	77.3	40
5	467 RIVER AVENUE	S14, S18, S22	2351	22	M1-4/R8A	78.4	35
6	417 GERARD AVENUE	S13, S15, S16	2351	20	M1-4/R8A	78.4	40
	445 GERARD AVENUE	S13, S15, S16	2351	12	M1-4/R8A	78.4	40
	404 MAJ WM DEEGAN BLVD	S13, S15, S16	2351	1	M1-4/R8A	84.9	40
	121 EAST 144 STREET	S13, S15, S16	2350	1	M1-4/R8A	78.4	40
7	427 WALTON AVENUE	S12, S18	2350	11	M1-4/R8A	68.9	35
	135 WALTON AVENUE	S12, S18	2350	16	M1-4/R8A	78.4	35
8	385 GERARD AVENUE	S13, S15, S16	2349	90	M1-4/R8A	84.9	40
9	120 EAST 144 STREET	S12, S18, S22	2344	112	M1-4/R8A	78.4	35
10	370 GERARD AVENUE	S22	2344	110	M1-4/R6A	73.7	35
11	301 WALTON AVENUE	S12, S17	2344	75	M1-4/R6A	77.3	35
12	261 WALTON AVENUE	S12, S17	2344	60	M1-4/R6A	77.3	35
13	334 WALTON AVENUE	S5, S10, S11, S17	2345	5	C6-2A	68.9	35
14	346 GRAND CONCOURSE	S5, S10, S11, S17	2341	40	C6-2A	79.3	35
	344 GRAND CONCOURSE	S5, S10, S11, S17	2341	37	C6-2A	79.3	35
15	310 GRAND CONCOURSE	S5, S10, S11, S17	2341	28	C6-2A	75.3	35
16	276 GRAND CONCOURSE	S5, S10, S11, S17	2341	10	C6-2A	79.3	35
17	373 RIDER AVENUE	S6, S7	2340	208	M1-4/6A	73.4	35
	375 RIDER AVENUE	S6, S7	2340	209	M1-4/6A	73.4	35
18	2522 PARK AVENUE	S7, S20	2322	28	M1-4/R7X	76.0	35
19	245 EAST 138 STREET	S3	2333	6	M1-4/R7X	75.9	35
	243 EAST 138 STREET	S3	2333	10	M1-4/R7X	75.9	35
20	2551 3 AVENUE	S2, S3	2333	1	M1-4/R7X	75.9	35
21	250 EAST 138 STREET	S3, S6	2320	66	M1-4/R7X	75.9	35
22	258 EAST 138 STREET	S3, S6	2320	73	M1-4/R7X	75.9	35
23	2505 3 AVENUE	S2	2320	45	M1-4/R7A	75.8	35
24	240 EAST 136 STREET	S1	2320	5	M1-4/R7A	73.8	35
	242 EAST 136 STREET	S1	2320	6	M1-4/R7A	73.8	35
	244 EAST 136 STREET	S1	2320	7	M1-4/R7A	73.8	35
	246 EAST 136 STREET	S1	2320	8	M1-4/R7A	73.8	35

Dev. Site Number	Address	Adjacent Monitoring Sites	Block	Lot	Proposed Zoning	Build Condition Max L_{10} (dBA)	Attenuation Required
	248 EAST 136 STREET	S1	2320	9	M1-4/R7A	73.8	35
	EAST 136 STREET	S1	2320	10	M1-4/R7A	73.8	35
	2477 3 AVENUE	S1, S2	2320	11	M1-4/R7A	75.8	35
25	2472 3 AVENUE	S1, S2	2318	5	M1-4/R7A	75.8	35
26	213 EAST 144 STREET	S8	2335	58	M1-4/6A	75.7	35
27	223 EAST 144 STREET	S8	2335	57	M1-4/6A	75.7	35
28	371 RIDER AVENUE	S6, S7	2340	204	M1-4/6A	73.4	35
29	341 RIDER AVENUE	S6, S7	2340	186	M1-4/6A	73.4	35
30	266 EAST 143 STREET	S4	2334	61	M1-4/R7A	69.1	NO
	268 EAST 143 STREET	S4	2334	62	M1-4/R7A	69.1	NO
	383 MORRIS AVENUE	S4	2334	63	M1-4/R7A	69.1	NO
31	289 MORRIS AVENUE	S4	2333	31	M1-4/R7A	69.1	NO

[1] The representative monitoring sites are shown next to the address

Table 3.18-8:
Required Attenuation Values for Potential Development Sites[1]

Dev. Site Number	Address	Adjacent Monitoring Sites	Block	Lot	Proposed Zoning	Build Condition Max L_{10} (dBA)	Attenuation Required
32	325 EXTERIOR STREET	S13, S15, S16	2349	38	R7-2/C2-4	77.3	40
33	255 EXTERIOR STREET	S13, S15, S16	2349	3	R7-2/C2-4	77.3	40
34	110 EAST 138 STREET	S13, S15, S16	2323	43	R7-2/C2-4	82.6	40
35	MAJOR DEEGAN EXPWY	S13, S15, S16	2349	47	R7-2/C2-4	77.3	40
	329 EXTERIOR STREET	S13, S15, S16	2349	46	R7-2/C2-4	77.3	40
36	188 EAST 135 STREET	S13, S15, S16	2323	13	R7-2/C2-4	82.6	40
37	110 EAST 149 STREET	S14, S22, S23	2351	25	M1-4/R8A	77.6	35
	100 EAST 149 STREET	S14	2351	35	M1-4/R8A	77.6	35
38	500 GERARD AVENUE	S12, S22, S23	2350	34	M1-4/R8A	74.9	35
39	479 WALTON AVENUE	S12, S22	2350	63	M1-4/R8A	73.7	35
40	440 MAJ WM DEEGAN BLVD	S13, S15, S16	2351	3	M1-4/R8A	84.9	40
41	444 GERARD AVENUE	S22	2350	5	M1-4/R8A	73.7	35
42	WALTON AVENUE	S5, S10, S11, S17	2345	10	C6-2A	68.9	35
	WALTON AVENUE	S5, S10, S11, S17	2345	12	C6-2A	68.9	35
	356 WALTON AVENUE	S5, S10, S11, S17	2345	14	C6-2A	77.2	35
	367 GRAND CONCOURSE	S5, S10, S11, S17	2345	18	C6-2A	77.2	35
	391 GRAND CONCOURSE	S5, S10, S11, S17	2345	22	C6-2A	77.2	35
	395 GRAND CONCOURSE	S5, S10, S11, S17	2345	26	C6-2A	77.2	35
43	335 GRAND CONCOURSE	S5, S10, S11, S17	2345	1	C6-2A	77.2	35

Dev. Site Number	Address	Adjacent Monitoring Sites	Block	Lot	Proposed Zoning	Build Condition Max L_{10} (dBA)	Attenuation Required
	349 GRAND CONCOURSE	S5, S10, S11, S17	2345	49	C6-2A	77.2	35
44	287 WALTON AVENUE	S12, S17	2344	83	M1-4/R6A	77.3	35
45	109 EAST 138 STREET	S5, S10, S11, S17	2344	52	C6-2A	77.3	35
46	270 WALTON AVENUE	S5, S10, S11, S17	2344	11	C6-2A	77.6	35
	288 WALTON AVENUE	S5, S10, S11, S17	2344	17	C6-2A	68.9	35
	315 GRAND CONCOURSE	S5, S10, S11, S17	2344	27	C6-2A	77.6	35
47	261 GRAND CONCOURSE	S5, S10, S11, S17	2344	1	C6-2A	77.6	35
48	350 GRAND CONCOURSE	S5, S10, S11, S17	2341	42	C6-2A	79.3	35,
49	338 GRAND CONCOURSE	S5, S10, S11, S17	2341	34	C6-2A	79.3	35
50	334 GRAND CONCOURSE	S5, S10, S11, S17	2341	31	C6-2A	79.3	35
51	304 GRAND CONCOURSE	S5, S10, S11, S17	2341	23	C6-2A	75.3	35
52	250 GRAND CONCOURSE	S5, S10, S11, S17	2341	6	C6-2A	76.0	35
53	213 EAST 138 STREET	S3	2340	1	M1-4/R7X	75.9	35
	205 EAST 138 STREET	S3	2340	3	M1-4/R7X	75.9	35
	201 EAST 138 STREET	S3	2340	8	M1-4/R7X	75.9	35
54	221 EAST 138 STREET	S3, S7	2340	56	M1-4/R7X	75.9	35
	225 EAST 138 STREET	S3, S6	2340	58	M1-4/R7X	75.9	35
55	236 EAST 138 STREET	S3, S6	2322	101	M1-4/R7X	75.9	35
56	256 EAST 138 STREET	S3, S6	2320	72	M1-4/R7X	75.9	35
57	260 EAST 138 STREET	S3	2320	74	M1-4/R7X	75.9	35
58	2535 3 AVENUE	S2	2320	77	M1-4/R7X	75.8	35
59	2527 3 AVENUE	S2, S6	2320	79	M1-4/R7A	75.8	35
60	2515 3 AVENUE	S1, S2	2320	41	M1-4/R7A	75.8	35
	2511 3 AVENUE	S1, S2	2320	42	M1-4/R7A	75.8	35
	2507 3 AVENUE	S1, S2	2320	43	M1-4/R7A	75.8	35
61	2503 3 AVENUE	S1, S2	2320	46	M1-4/R7A	75.8	35
62	2501 3 AVENUE	S1, S2	2320	47	M1-4/R7A	75.8	35
	2495 3 AVENUE	S1, S2	2320	50	M1-4/R7A	75.8	35
	2491 3 AVENUE	S1, S2	2320	51	M1-4/R7A	75.8	35
63	270 EAST 137 STREET	S2	2318	22	M1-4/R7A	75.8	35
64	2488 3 AVENUE	S2	2318	18	M1-4/R7A	75.8	35
	2490 3 AVENUE	S2	2318	19	M1-4/R7A	75.8	35
65	2482 3 AVENUE	S1, S2	2318	7	M1-4/R7A	75.8	35
	2486 3 AVENUE	S1, S2	2318	9	M1-4/R7A	75.8	35
66	220 PARK AVENUE	S21	2335	6	M1-4/R6A	75.3	35
67	228 EAST 144 STREET	S8	2340	221	M1-4/R6A	75.7	35
68	391 RIDER AVENUE	S7, S8	2340	215	M1-4/R6A	75.7	35

Dev. Site Number	Address	Adjacent Monitoring Sites	Block	Lot	Proposed Zoning	Build Condition Max L_{10} (dBA)	Attenuation Required
	405 RIDER AVENUE	S6, S8	2340	218	M1-4/R6A	75.7	35
69	389 RIDER AVENUE	S6, S7	2340	213	M1-4/R6A	73.4	35
70	220 EAST 138 STREET	S3, S7	2322	81	M1-4/R7X	75.9	35
71	247 EAST 142 STREET	S6	2334	43	M1-4/R7A	73.4	35
	400 RIDER AVENUE	S4, S6	2334	45	M1-4/R7A	73.4	35
	262 EAST 143 STREET	S4	2334	59	M1-4/R7A	69.1	NO
72	267 EAST 142 STREET	S4	2334	38	M1-4/R7A	69.1	NO
	263 EAST 142 STREET	S4	2334	39	M1-4/R7A	69.1	NO
	261 EAST 142 STREET	S4	2334	40	M1-4/R7A	69.1	NO
	253 EAST 142 STREET	S4	2334	41	M1-4/R7A	69.1	NO
	375 MORRIS AVENUE	S4	2334	66	M1-4/R7A	69.1	NO
73	349 RIDER AVENUE	S6, S7	2340	195	M1-4/R6A	73.4	35
74	305 RIDER AVENUE	S6, S7	2340	72	M1-4/R6A	73.4	35
75	302 RIDER AVENUE	S6	2333	50	M1-4/R7A	73.4	35
	301 MORRIS AVENUE	S4, S6	2333	54	M1-4/R7A	73.4	35
76	286 RIDER AVENUE	S6	2333	33	M1-4/R7A	73.4	35
77	270 RIDER AVENUE	S6	2333	12	M1-4/R7A	73.4	35
78	254 EAST 139 STREET	S2	2333	17	M1-4/R7A	75.8	35
79	2564 PARK AVENUE	S7, S20	2340	11	M1-4/R7X	76.0	35

[1] *The representative monitoring sites are shown next to the address*

The following sites require 40 dBA of noise attenuation in order to avoid the potential for significant adverse impacts related to noise. The proposed action includes (E) designations as shown in Table 3.18-9, on the following properties:

Table 3.18-9:
Sites Requiring (E) Designation with 40 dBA Noise Attenuation

Projected Development Sites		
Development Site	**Block**	**Lot(s)**
1	2349	112
2	2349	100
3	2323	28
4	2349	15
6	2351	1, 12, 20
	2350	1
8	2349	90
Potential Development Sites		
32	2349	38
33	2349	3
34	2323	43
35	2349	47, 46
36	2323	13
40	2351	3

The text of the (E) designation for noise for the above properties is as follows:

> In order to ensure an acceptable interior noise environment, future residential/commercial uses must provide a closed window condition with a minimum of 40 dBA window-wall attenuation on all 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 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. The required degree of window-wall attenuation would require added project costs and could limit the range of design options. The City has not made any determination that cost-effective attenuation measures are available for this site. 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 50 dBA.

The proposed mixed use zoning districts specifies that all residential uses will include at least 35 dBA of window/wall attenuation. Therefore, only the following sites that would not be located within the proposed mixed use zoning districts require 35 dBA of noise attenuation in order to avoid the potential for significant adverse impacts related to noise shown in Table 3.18-10. The proposed action includes (E) designations on the following properties:

Table 3.18-10:
Sites Requiring (E) Designation with 35 dBA Noise Attenuation

Projected Development Sites		
Development Site	**Block**	**Lot (s)**
13	2345	5
14	2341	40, 37
15	2341	28
16	2341	10
Potential Development Sites		
42	2345	14, 18, 22, 26
43	2345	1, 49
45	2344	52
46	2344	11, 17, 27
47	2344	1
48	2341	42
49	2341	34
50	2341	31
51	2341	23
52	2341	6

The text of the (E) designation for noise for the above properties is as follows:

> In order to ensure an acceptable interior noise environment, future residential/commercial uses must provide a closed window condition with a minimum of 35 dB(A) window-wall attenuation in all façades in order to maintain an interior noise level of 45 dB(A). 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 or air conditioning sleeves containing air conditioners or HUD-approved fans.

With the attenuation measures specified above, the proposed rezoning would not result in any significant adverse noise impacts, and would meet CEQR guidelines.

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When compared to the non-YGD Proposed Action, the changes in traffic under the YGD scenario would be minor relative to their impact on noise and are not expected to result in any significant increases in local ambient noise or a doubling of traffic at any roadway or intersection such that a significant adverse impact would occur. Traffic volume data indicate that the existing, future no build and future build volumes along the E 149th Street corridor, would either decrease or remain the same when comparing the non-YGD to the YGD scenario. As a result, any the required noise attenuation values under the YGD scenario for proposed and projected sites would be identical to those predicted for the non-YGD scenario.

CONCLUSION

The proposed action would not result in significant adverse impacts related to noise. The proposed action would generate new residential, commercial and community facility uses in an area that is already characterized by medium to high density residential and commercial development. As discussed above, as part of the proposed action, (E) designations would be placed on the zoning map for select projected and potential development sites to avoid the potential for significant adverse noise impacts. Residential, commercial and community facility development on lots mapped with an (E) designation would be required to provide sufficient noise attenuation to maintain interior noise levels of 45 dBA or lower, and the proposed action would not result in significant adverse noise impacts. As part of the proposed action, mixed use zoning districts would be created within the project boundaries. These mixed use districts would require at least a 35 dB level of attenuation and therefore, properties within these mixed use districts would not be subject to any (E) designations.

It is possible that between the Draft EIS and Final EIS, further noise analysis and refinements will be undertaken which could result in more specific building attenuation requirements as presently seen in the E-designations above. If so, the DCP will coordinate with NYCDEP between the Draft EIS and Final EIS.