

Technical Memorandum 003

City Council Modifications

Midtown South Mixed-Use Plan

CEQR No. 24DCP094M

August 12, 2025
ULURP NOS.: C250166ZMM, N250167ZRM

A. INTRODUCTION

The New York City Department of City Planning (DCP) proposes a zoning map amendment and a zoning text amendment (the “Proposed Actions”) to the New York City Zoning Resolution (ZR) that would foster a vibrant, mixed-use Midtown South neighborhood in the heart of Manhattan. The Proposed Actions would encourage the creation of critically needed housing in both new residential development and conversions, support critical commercial activity, respond to changing conditions in the wake of the COVID-19 pandemic and shifting work patterns, and affirm the area’s architectural legacy and industrial character.

The area affected by the Proposed Actions (Affected Area) includes approximately 141 total acres, consisting of all or parts of 42 blocks of the Midtown South neighborhood, and is roughly bounded by 40th Street to the north, Fifth Avenue to the east, 23rd Street to the south, and Ninth Avenue to the west.

The Draft Environmental Impact Statement (DEIS) for the Proposed Actions was issued on January 17, 2025, by DCP, acting on behalf of the City Planning Commission (CPC) as the lead agency. A public hearing on the DEIS was held on May 7, 2025, in conjunction with the CPC’s citywide public hearing pursuant to the Uniform Land Use Review Process (ULURP), and written comments on the DEIS were accepted until May 19, 2025. The Notice of Completion for the Final Environmental Impact Statement (FEIS) was issued June 6, 2025 (CEQR No. 24DCP094M). The FEIS incorporated responses to the public comments received on the DEIS and additional analyses conducted after the completion of the DEIS. A Technical Memorandum 002, issued on June 13, 2025, assessed the effects of the proposed modifications by CPC after the issuance of the FEIS. The CPC voted to approve the Proposed Actions on June 18, 2025.

Since the publication of the FEIS and subsequent technical memoranda, proposed modifications have been identified by the New York City Council. The proposed modifications (the “Proposed City Council Modifications”) are summarized below. This technical memorandum examines the potential for the Proposed City Council Modifications to result in any new or different significant adverse environmental impacts not already identified in the FEIS or subsequent technical memoranda and concludes that the Proposed City Council Modifications would not result in any new or different significant adverse impacts that have not already been previously identified.

B. Description of the Proposed City Council Modifications

Zoning Map Amendments

Northwest Quadrant

Under the Proposed Actions, the Northwest Quadrant, which is the area generally bounded by Broadway and Seventh Avenue to the east, West 35th Street to the south, West 40th Street to

the north, and a line 100 feet west of Eighth Avenue to the west would be rezoned from M1-6 to M1-9A/R12. Under the Proposed City Council Modifications, a portion of the Northwest Quadrant would be zoned to only M1-9A and would not permit any residential uses in this area (refer to **Figure 1**). **Table 1** provides an overview of the zoning changes for the City Council Modification Area within the Northwest Quadrant.

Table 1. Northwest Quadrant – Proposed City Council Modifications

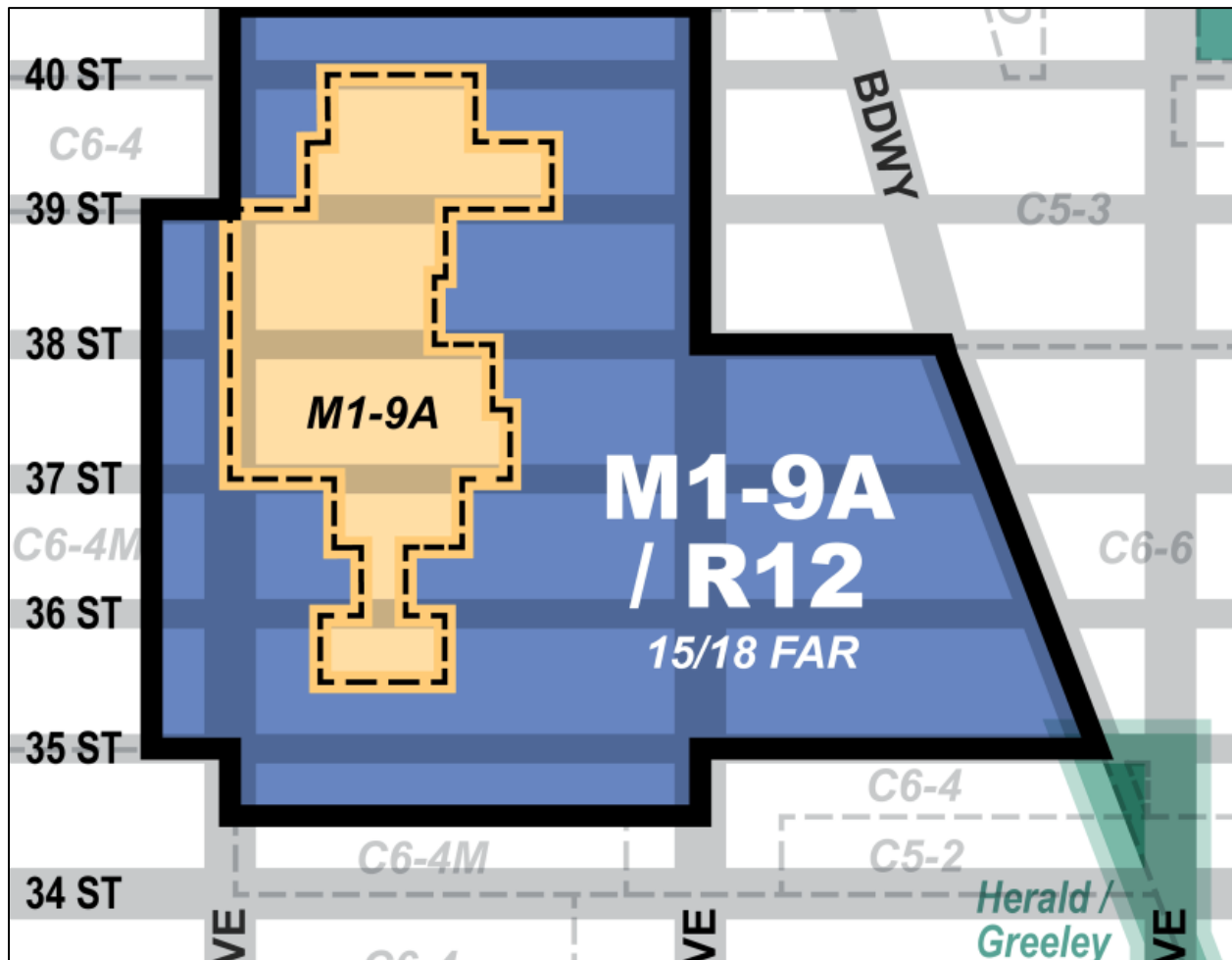
	Existing Conditions	CPC-Approved Proposal	Proposed City Council Modification ¹
Zoning District	M1-6 (GC)	M1-9A/R12 (MSX)	M1-9A (MSX)
Max. Res. FAR	N/A	18 FAR (MIH)	N/A
Max. Non-res. FAR	10 FAR	15 FAR	15 FAR
Min./Max. Base Height	85'-125' / 135'-155'	60'/155'	60'/155'
Max. Building Height	N/A (tower district)	N/A (tower district)	N/A (tower district)
Northwest Quadrant Dwelling Units (DUs)	3	1,696	1,620

¹The zoning information depicted in this column would only be applicable to a portion of the Northwest Quadrant. Refer to **Figures 1** and **2**.

As shown in **Figure 2**, no projected development sites are in the Proposed City Council Modification Area in the Northwest Quadrant. One potential development (Site C), located in this area, would not be developed under the Proposed City Council Modifications since conversions of commercial floor area to residential uses would not be permitted (see **Figures 1** and **2**). The removal of residential zoning from this portion of the Northwest Quadrant would result in the conversion of 76 less dwelling units (DUs) than what was analyzed in the FEIS and Technical Memorandum 002.¹

¹ 22 of these DUs would have been permanently affordable pursuant to Mandatory Inclusionary Housing (MIH).

Figure 1 – Northwest Quadrant – Proposed City Council Modifications Zoning Map



Source: NYC Department of City Planning

Figure 2 – Northwest Quadrant – Proposed City Council Modifications Projected and Potential Sites



Southeast Quadrant

Under the Proposed Actions, the Southeast Quadrant, which is defined as the midblocks bounded by a line 100 to 275 feet west of Fifth Avenue to the east, a line 125 to 150 feet east of Sixth Avenue to the west, West 23rd Street to the south, and West 31st Street to the north would be zoned M1-8A/R12. The M1-8A/R12 zoning district would permit a maximum non-residential FAR of 12 and a maximum residential FAR of 18. Under the Proposed City Council Modifications, the area south of West 27th Street would be zoned M1-8A/R11. The non-residential FAR would remain the same, however, the maximum residential FAR would be 15. **Table 2** provides an overview of the zoning changes for the Proposed City Council Modification Area within the Southeast Quadrant.

Table 2. Southeast Quadrant – Proposed City Council Modifications

	Existing	CPC-Approved Proposal	Proposed City Council Modification Area ¹
Zoning District	M1-6	M1-8A/R12 (MSX)	M1-8A/R11 (MSX)
Max. Res. FAR	N/A	18 FAR (MIH)	15 FAR (MIH)
Max. Non-res. FAR	10 FAR	12 FAR	12 FAR
Min./Max. Base Height	N/A./85'	60'/155'	60'/155'
Max. Building Height	N/A (tower district)	N/A (tower district)	N/A (tower district)
Southeast Quadrant Dwelling Units (DUs)	14	3,289	3,172

¹The Proposed City Council Modifications would only be applicable to a portion of the Southeast Quadrant. The area north of West 27th Street would remain zoned M1-8A/R12 (MSX).

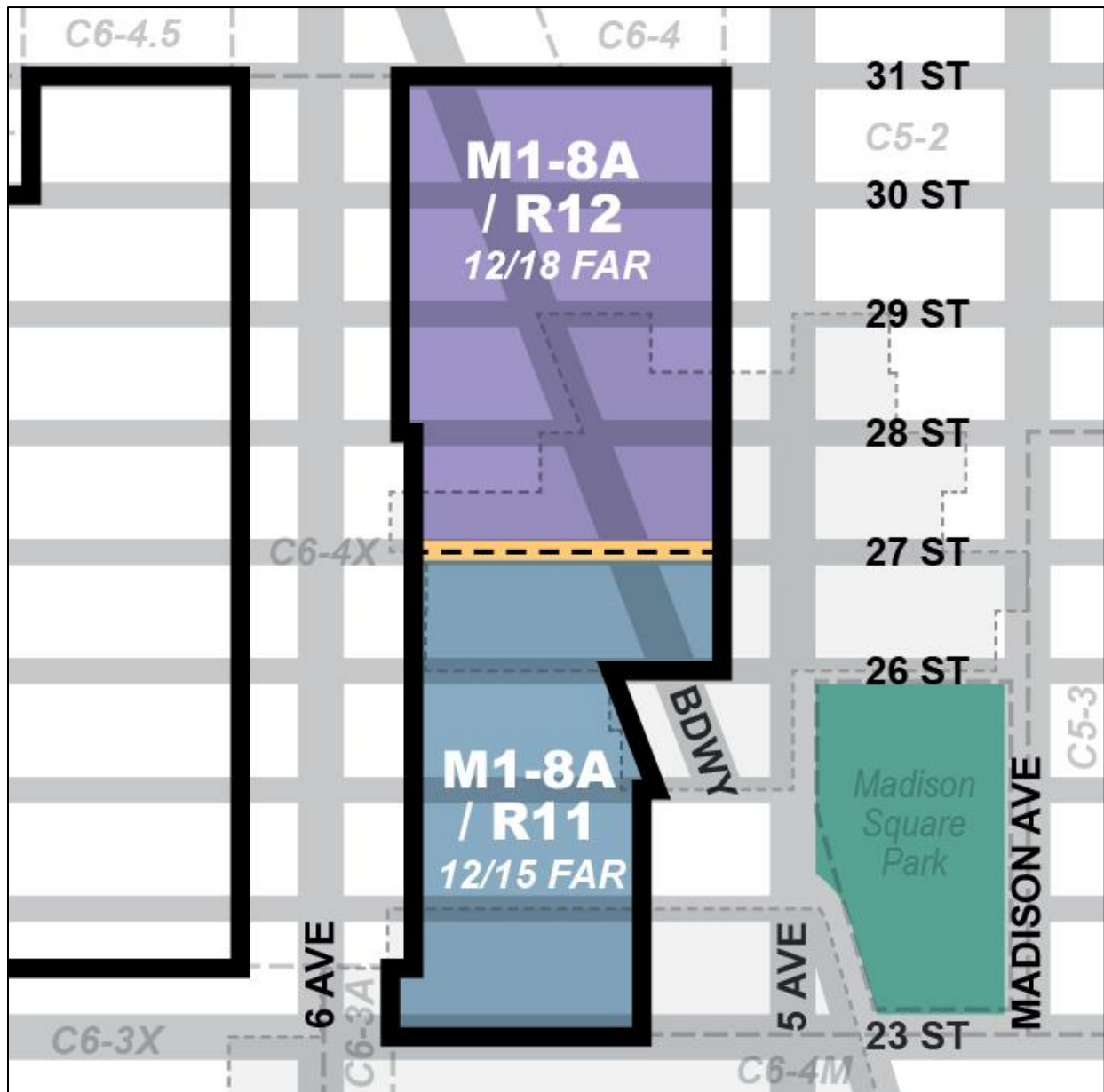
As shown in **Figure 4**, four projected development sites are in the Proposed City Council Modification Area in the Southeast Quadrant (projected development sites 37, 38, 39, and 40). No potential development sites are located in this area. Under the Proposed City Council Modifications, the area in the Southeast Quadrant south of West 27th Street would have a lower maximum residential FAR. The reduction in allowable residential FAR in this area would result in fewer DUs on projected development sites. This reduction would be approximately 117 less dwelling units (DUs) than what was analyzed in the CPC-Approved proposal.²

Zoning Text Amendment

Due to the elimination of residential zoning in a portion of the Northwest Quadrant, a zoning text amendment would be required to eliminate the MIH Area mapped over the Northwest Quadrant Proposed City Council Modifications Area.

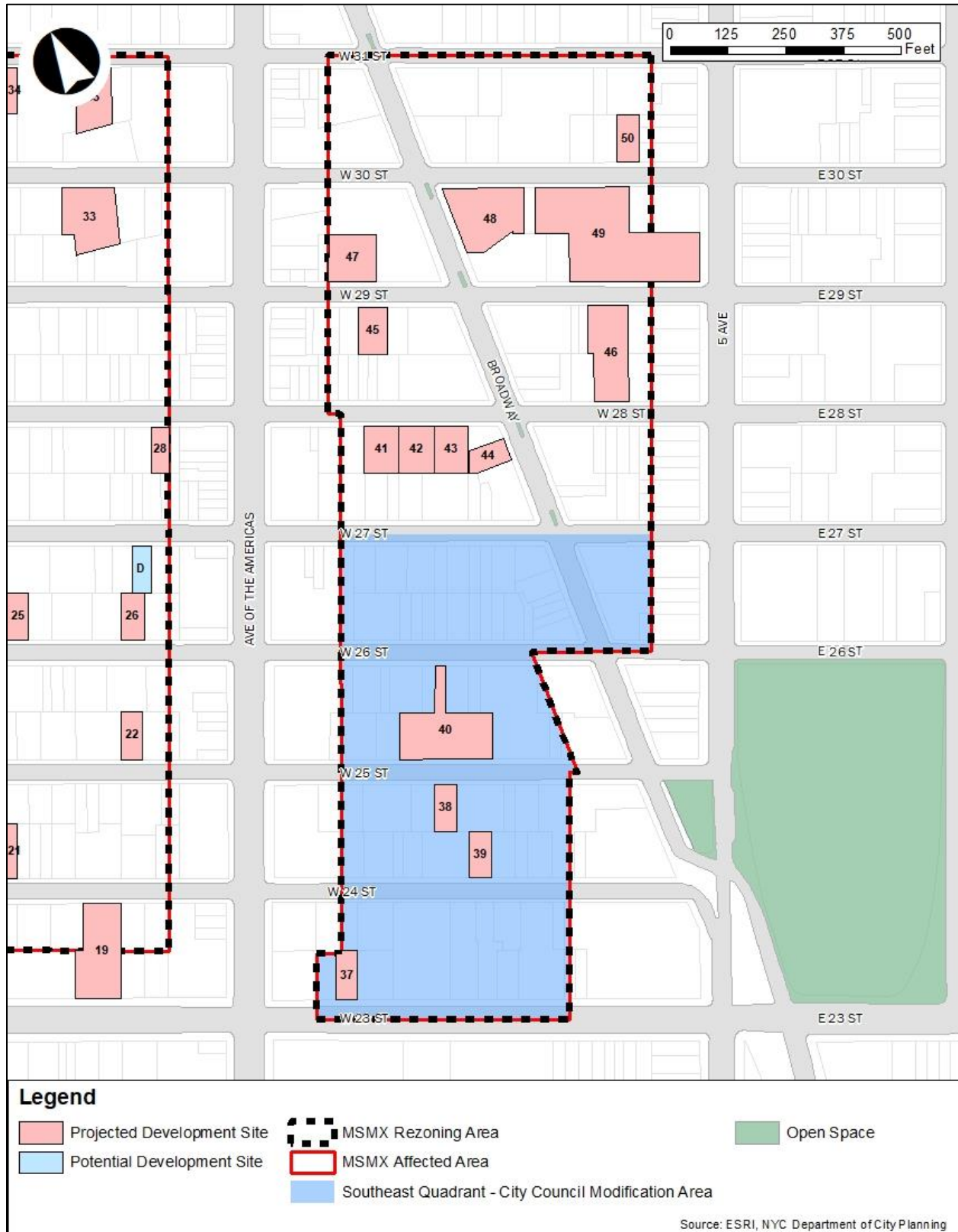
² 35 of these DUs would have been permanently affordable pursuant to Mandatory Inclusionary Housing (MIH).

Figure 3 – Southeast Quadrant – Proposed City Council Modifications Zoning Map



Source: NYC Department of City Planning

Figure 4 – Southeast Quadrant – Proposed City Council Modifications Projected and Potential Sites



C. Environmental Assessment of the Proposed City Council Modifications

As discussed above in Section B, the Proposed City Council Modifications are expected to result in 193 less DUs than what was analyzed in the FEIS and Technical Memorandum 002. The following section assesses this change through the technical areas described in the 2021 *CEQR Technical Manual*.

Land Use, Zoning, and Public Policy

Like the Proposed Actions, the Proposed City Council Modifications would not result in any significant adverse impacts and would generally result in the same effects to land use, zoning, and public policy as described in the FEIS and Technical Memorandum 002. The Proposed City Council Modifications would not generate additional land uses that would be incompatible with zoning and existing and future land uses generated under the Proposed Actions. The Proposed City Council Modifications would lead to a reduction of 193 DUs in the Affected Area. The zoning map and text amendments proposed under the Proposed City Council Modifications, like the Proposed Actions, would not conflict with any public policy. Therefore, no significant adverse impacts to land use, zoning and public policy are anticipated under the Proposed City Council Modifications.

Socioeconomic Conditions

Similar to the Proposed Actions, the Proposed City Council Modifications would not result in significant adverse impacts to socioeconomic conditions.

Direct Residential Displacement

The Proposed City Council Modifications would not result in significant adverse impacts due to direct residential displacement. The Proposed City Council Modifications would result in the same amount of direct residential displacement, because the number and location of projected development sites would not change. Similar to what was described in the FEIS for the Proposed Actions, the Proposed City Council Modifications would directly displace approximately 54 DUs, or approximately 91 residents. Therefore, the Proposed City Council Modifications would not result in impacts to direct residential displacement.

Indirect Residential Displacement

As described above, the Proposed City Council Modifications would reduce the project-wide development by 193 DUs (324 fewer residents) than the FEIS analyzed.³ This reduction of 324 residents would have slightly less potential to alter the demographics of the study area population. As the decrease in DUs would include a proportionate decrease of affordable MIH units, the overall average income would remain similar to what was disclosed in the FEIS. The reduced residential population under the Proposed City Council Modifications Action would not result in impacts to indirect residential displacement.

Direct Business Displacement

Similar to the Proposed Actions, the Proposed City Council Modifications would not result in significant adverse impacts to direct business displacement. The Proposed City Council Modifications would not change the number of projected development sites to be developed and would reduce the amount of non-residential floor area to be converted to residential use. As such,

³ Assumes 1.68 persons per DU for residential units in Manhattan Community Districts 4 and 5.

the Proposed City Council Modifications would not increase the amount of business displacement compared to the Proposed Actions. The Proposed City Council Modifications would reduce the area residential conversions are permitted in the Northwest Quadrant thereby reducing the potential for direct business displacement as compared to the CPC-Approved proposal. Therefore, no significant adverse impacts to direct business displacement would occur as a result of the Proposed City Council Modifications.

Indirect Business Displacement

The Proposed City Council Modifications, like the Proposed Actions, would not result in significant adverse impacts to indirect business displacement. As described above, under the Proposed City Council Modifications, the projected and potential development sites would produce the same amount of non-residential area as the Reasonable Worst Case Development Scenario (RWCDs) analyzed in the FEIS. Therefore, no significant adverse impacts to indirect business displacement would occur as a result of the Proposed City Council Modifications.

Adverse Effects on Specific Industries

The Proposed City Council Modifications would result in the same effects as the Proposed Actions for direct residential and business displacement and affects to specific industries. The Proposed City Council Modifications would result in less direct business displacement and indirect business displacement. Therefore, the Proposed City Council Modifications would not significantly affect businesses conditions in any specific industry.

Community Facilities

Similar to the Proposed Actions, the Proposed City Council Modifications would not result in significant adverse impacts on community facilities. The reduction of 193 DUs in the Affected Area would slightly reduce demand for schools, libraries, and publicly funded childcare. The Proposed City Council Modifications would not change the capacity of public schools, local libraries, or publicly funded childcare centers. Therefore, the Proposed City Council Modifications would not result in significant adverse impacts on community facilities.

Open Space

Similar to the Proposed Actions, the Proposed City Council Modifications would result in indirect significant adverse impacts to total, active, and passive open space in the residential study area. Like the Proposed Actions, the Proposed City Council Modifications would not result in significant adverse impacts related to direct open space impacts or indirect impacts to the non-residential study area.

The Proposed City Council Modifications would result in 193 fewer DU (approximately 324 fewer residents). This reduction would slightly lessen the demand for publicly accessible open space resources compared to the Proposed Actions. Under both conditions, the residential study area's total, active, and passive open space ratios would remain below the City's open space planning goal ratios. Therefore, the Proposed City Council Modifications, like the Proposed Actions, would result in significant indirect adverse impacts to open space in the residential study area. Mitigation is described below.

Shadows

The Proposed City Council Modifications, like the Proposed Actions, would result in significant adverse shadows impacts to the privately owned public spaces (POPS) at 1185 Broadway, Marble Collegiate Church, St. John the Baptist Roman Catholic Church, St. Francis of Assisi Roman Catholic Church, and the Trinity Chapel Complex.

The Proposed City Council Modifications would reduce the density and height of four projected development sites in the Southeast Quadrant (projected development sites 37, 38, 39 and 40). Under the Proposed City Council Modifications, the development proposed at these four sites would have a lower building height, 70-feet lesser than what would occur under the Proposed Actions. Therefore, it is likely that incremental shadow coverage and duration would decrease under the Proposed City Council Modifications and no new impacts are likely to occur. However, as projected development site 40 is located adjacent to the Trinity Chapel Complex, and the reduction in height is not likely to change the impact determination presented in the FEIS. Therefore, the Proposed City Council Modifications would result in the same shadows impacts as what was disclosed in the FEIS. Mitigation is described below.

Historic and Cultural Resources

The Proposed City Council Modifications would result in the same significant adverse direct and indirect impacts to architectural resources and construction impacts as identified in the FEIS.

Architectural Resources

The Proposed City Council Modifications, similar to the Proposed Actions, would result in a significant adverse historic resources direct impact to the Garment Center Historic District listed on the State and National Register of Historic Places (S/NR). Eleven sites in this district would be redeveloped as a result of the Proposed City Council Modifications. Under the Proposed Actions, 12 sites would be redeveloped in this area. These sites contain contributing resources that are S/NR-Listed and would be directly impacted by construction.

Like the Proposed Actions, the Proposed City Council Modifications would result in one indirect significant adverse impact to a historic architectural resource. Development on one projected development site is anticipated to cause alterations to the setting and visual context of a historic resource, the Trinity Chapel Complex, a New York City Landmark (NYCL) and S/NR-Listed historic resources. Only projected development site 40 could eliminate or substantially obstruct significant public views of the Trinity Chapel Complex. Under the Proposed City Council Modifications, the maximum height of development on projected development site 40 would decrease by 70 feet when compared to the Proposed Actions. Similar to the Proposed Actions, under the Proposed City Council Modifications, no other projected/potential development sites are expected to alter the context of architectural resources, because all significant elements of these historic resources would remain visible in view corridors on public streets. Additionally, no incompatible visual, audible, or atmospheric elements would be introduced by the Proposed Actions to any historic resource's setting. Mitigation is described below.

Construction

The Proposed City Council Modifications would result in the same construction impacts to historic resources that would occur under the Proposed Actions. The Proposed City Council Modifications would not alter the number of projected or potential development sites that would result in construction-related impacts described in the FEIS. Similar to the Proposed Actions, development at 15 projected and two potential sites under the Proposed City Council Modifications could potentially result in construction-related impacts to 16 S/NR-Eligible / Eligible New York City Landmarks (NYC-E) historic resources, located within 90 feet of the projected/potential development sites. Therefore, the Proposed City Council Modifications would result in the same construction impacts to historic resources as the Proposed Actions.

Urban Design and Visual Resources

Like the Proposed Actions, the Proposed City Council Modifications would not result in any significant adverse impacts to urban design and visual resources in the primary or secondary study areas. The Proposed City Council Modifications would slightly reduce the density/height in the Southeast Quadrant of the Affected Area due to the proposed zoning map amendments (refer to **Figure 3**).

Similar to the Proposed Actions, the Proposed City Council Modifications would facilitate the construction and conversion of new-mixed use buildings to encourage residential uses in the Affected Area. The Proposed City Council Modifications not negatively alter any viewsheds of visual resources in the Affected Area or secondary study area. Therefore, the Proposed City Council Modifications would not result in a significant adverse impact related to urban design and visual resources.

Hazardous Materials

The Proposed City Council Modifications would not result in new significant adverse impacts related to hazardous materials. The Proposed City Council Modifications would continue to establish (E) Designation (E-830), which would avoid the potential for significant adverse impacts related to hazardous materials during construction within the projected and potential development sites. Under the Proposed City Council Modifications, the (E) Designation (E-830) would no longer apply to Block 786, Lot 68 (potential development site C) since this site would no longer be considered a development site. In addition, similar to the Proposed Actions, the Proposed City Council Modifications would not preclude significant adverse hazardous materials impacts for potential conversions from non-residential use to residential use. Under the Proposed City Council Modifications, there would be a reduction in conversion sites in the Northwest Quadrant, reducing the potential impact in this area. Therefore, the Proposed City Council Modifications would result in the same significant adverse impacts as what is disclosed in the FEIS.

Water and Sewer Infrastructure

Like the Proposed Actions, the Proposed City Council Modifications would not result in significant adverse impacts on water and sewer infrastructure. The Proposed City Council Modifications would result in 193 fewer DUs and would slightly reduce the total demand on the City's water supply and sewer infrastructure as described in the FEIS. Therefore, the Proposed City Council Modifications would not result in impacts to water and sewer infrastructure.

Solid Waste and Sanitation Services

Like the Proposed Actions, the Proposed City Council Modifications would not result in significant adverse impacts to solid waste and sanitation services. The reduction of 193 DUs would slightly reduce the generation of solid waste and would not result in noticeable changes to the analysis presented in the FEIS. Likewise, the Proposed City Council Modifications would not overburden existing waste management capacity, nor would it conflict with the City's solid waste management policies. Therefore, the Proposed City Council Modifications would not result in significant adverse impacts to solid waste and sanitation services.

Energy

Like the Proposed Actions, the Proposed City Council Modifications would not result in significant adverse impacts to energy. The reduction of 193 DUs as a result of the Proposed City Council Modifications would slightly reduce demand for energy. Any new development resulting from the Proposed Actions with the Proposed City Council Modifications would be required to comply with

the New York City Energy Conservation Code (NYCECC), which governs performance requirements of heating, ventilation, and air condition systems, as well as the exterior building envelope of new buildings. In compliance with this code, new development must meet standards for energy conservation, which include requirements related to energy efficiency and combined thermal transmittance. Therefore, the Proposed City Council Modifications would not result in any significant adverse impact on energy.

Transportation

Like the Proposed Actions, the Proposed City Council Modifications would result in significant adverse impacts to traffic (29 intersections) and pedestrians (17 sidewalks, three corners, and six crosswalks). As a result of the reduction of 193 DUs under the Proposed City Council Modifications, the number of action-generated vehicle, transit, and pedestrian trips would be generally comparable, or slightly less than the number of trips generated under the Proposed Actions. Therefore, the significant adverse impacts identified in the FEIS would continue to be realized, and mitigation is described below.

Air Quality

Mobile Sources

Under the Proposed City Council Modifications, vehicle trips would slightly decrease due to the reduction of 193 DUs. This small change would not change the conclusions of the mobile source air quality analysis presented in the FEIS. Therefore, like the Proposed Actions, the Proposed City Council Modifications would not result in significant adverse impacts to air quality from mobile sources.

Stationary Sources

The Proposed City Council Modifications would not increase the height or density of any projected and potential development sites. Therefore, the Proposed City Council Modifications are not expected to increase emissions from heat and hot water systems compared to what was analyzed in the FEIS under the Proposed Actions.

As described above, the City Council Modifications would rezone a portion of the Northwest Quadrant (Figure 1) to M1-9A instead of the M1-9A/R12 paired district in the CPC-Approved proposal. The only development site located in this area is potential site C (Block 786, Lot 68). Under the City Council Modifications, potential site C does not have any available as-of-right residential floor area, and therefore, is no longer viable as a RWCDs development site. Therefore, there would no longer be significant adverse air quality impacts on this site due to ambient Cadmium concentrations higher than NYSDEC DAR-1 annual guideline concentration (AGC). E-830, which was placed on the site to avoid stationary source impacts from heating and hot water impacts, will be removed.

The Proposed City Council Modifications would reduce the permitted density and height south of 27th Street in the Southeast Quadrant (**Table 2, Figure 3**). Projected development sites 37, 38, 39 and 40 are in the Southeast Quadrant (**Figure 4**). As such, additional air quality impact analysis for fossil fuel-fired heating and hot water systems was performed for projected development sites 37, 38, 39, and 40 based on the modified building total square footage and building heights.

The analysis results indicate that the air quality (E) Designation (E-830) requirements for projected sites 37, 39, and 40 would remain the same as in the CPC-Approved application but the air quality (E) Designation requirements for Site 38 would be modified as follows:

(E) Designation (E-830) Block 826, Lot 61 (Projected Development Site 38):

Any new residential and/or commercial development on the above-reference property must ensure the heating and hot water system stack location to be at least 24 feet from the east lot line facing 5th Avenue and at least 60 feet from the south lot line facing West 24th Street to avoid any potential significant adverse air quality impact.

Other than the update to E-830 for projected site 38 and the removal of E-830 for potential site C, the same requirements identified for the Proposed Actions in the CPC-Approved proposal would apply with the Proposed City Council Modifications. The same significant adverse impacts identified for development sites other than potential site C would continue to exist under the City Council Modifications. Like the CPC-Approved proposal, significant adverse air quality impacts cannot be precluded for the area modeled for residential conversion, but these impacts would no longer exist in the M1-9A area in the Northwest Quadrant. There would be no new significant adverse impacts related to air quality for any of the development sites or area modeled for residential conversion.

Greenhouse Gas Emissions and Climate Change

Like the Proposed Actions, the Proposed City Council Modifications would not result in significant adverse impacts on greenhouse gas (GHG) emissions and climate change. With a slight reduction in vehicle trips due to the reduction of 193 DUs, the Proposed City Council Modifications would result in lower GHG emissions than the Proposed Actions. The Proposed City Council Modifications, like the Proposed Actions, would be consistent with citywide GHG reduction goals and resilience to climate change. Therefore, no significant impacts related to greenhouse gas emissions and climate change would occur under the Proposed City Council Modifications.

Noise

The Proposed City Council Modifications would not result in new significant adverse impacts due to noise. The Proposed City Council Modifications would continue to establish (E) Designation (E-830) which would provide window/wall attenuation levels required to avoid significant adverse impacts related to noise at the projected and potential development sites. As described above, the (E) Designation would no longer apply to Block 786; Lot 68 (potential development site C). Similar to the Proposed Actions, if residential conversion sites are located outside of the proposed Mixed Use Districts, residential conversion area could be located in areas with high ambient noise level and without appropriate attenuation measures to maintain CEQR interior noise target level. Therefore, significant adverse noise impacts cannot be precluded for the residential conversion area under the Proposed City Council Modifications.

The Proposed City Council Modifications would have a slight decrease in vehicle trips, compared to the Proposed Actions as a result of 193 fewer DUs. Therefore, like the Proposed Actions, the Proposed City Council Modifications would not result in a noise level increase above 3 dBA. The Proposed City Council Modifications would not result in new significant adverse impacts due to noise.

Public Health

Like the Proposed Actions, the Proposed City Council Modifications would not result in significant adverse impacts to public health. As described in the FEIS, the Proposed Actions would not result in unmitigated significant adverse impacts to water quality, or for any of the projected development sites for hazardous materials and operational noise. The potential for significant adverse impacts from hazardous materials, air quality, and noise, for areas converted from non-residential to residential use cannot be precluded. Furthermore, the potential for air quality impacts has been identified and is described above and in the FEIS. As described below, the Proposed Actions and

the Proposed City Council Modifications would result in temporary construction-related air quality and noise impacts. As described in the FEIS, the potential for these impacts to occur is expected to be limited and would not significantly affect public health. Therefore, similar to the Proposed Actions, the Proposed City Council Modifications would not result in significant public health impacts.

Neighborhood Character

Like the Proposed Actions, the Proposed City Council Modifications would not result in significant adverse impacts to neighborhood character. The changes resulting from the Proposed City Council Modifications would result in similar effects as the FEIS in the following technical areas considered in the neighborhood character assessment: land use, zoning, and public policy; socioeconomic conditions; open space; shadows; historic and cultural resources; urban design and visual resources; transportation; and noise. The Proposed City Council Modifications would result in the same significant adverse impacts to open space, shadows, historic and cultural resources, transportation, and noise as the Proposed Actions as identified in the FEIS. These impacts would not result in significant adverse impacts to determining elements of neighborhood character.

Construction

Under the Proposed City Council Modifications, one less potential development site (site C) would be developed. The construction phasing, duration, and schedule for the other 67 projected/potential development sites under the Proposed City Council Modifications is expected to be the same as under the Proposed Actions. Neither the Proposed Actions nor the Proposed City Council Modifications would result in significant adverse construction impacts to land use and neighborhood character, socioeconomic conditions, community facilities, open space, hazardous materials, or vibration. Like the Proposed Actions, construction activities in the Proposed City Council Modifications would result in impacts on historic and cultural resources, transportation, air quality, and noise. Therefore, the Proposed City Council Modifications would result in the same temporary construction-related impacts as the Proposed Actions.

Mitigation

The Proposed City Council Modifications Action would result in similar significant adverse impacts to the Proposed Actions: open space; shadows; historic and cultural resources; hazardous materials; transportation; air quality; noise; and construction, and as such would not require any additional mitigation measures beyond what was identified in the FEIS.

Unavoidable Significant Adverse Impacts

Like the Proposed Actions, the Proposed City Council Modifications would result in unavoidable significant adverse impacts in open space, shadows, historic and cultural resources, hazardous materials, transportation, air quality, noise and construction. With the Proposed City Council Modifications, the impacts to these technical areas would not be greater than the impacts associated with the Proposed Actions.

Effects on Disadvantaged Communities

The Proposed City Council Modifications would not cause or increase a disproportionate pollution burden to disadvantaged communities (DAC). With the Proposed City Council Modifications, the degree and location of impact to these technical areas would not be greater or change compared to the impacts associated with the Proposed Actions. Therefore, the Proposed City Council Modifications would not cause or increase a disproportionate pollution burden to DAC.

D. Conclusion

This Technical Memorandum concludes that the Proposed City Council Modifications would not result in any new or different significant adverse impacts not already disclosed in the FEIS.



DEPARTMENT OF CITY PLANNING
CITY OF NEW YORK

ENVIRONMENTAL ASSESSMENT AND REVIEW DIVISION

Daniel R. Garodnick, *Director*
Department of City Planning

March 19, 2024

POSITIVE DECLARATION

Project Identification

Midtown South Mixed-Use Plan (MSMX)
CEQR No. 24DCP094M
ULURP Nos. Pending
SEQRA Classification: Type I

Lead Agency

City Planning Commission
120 Broadway, 31st Floor
New York, NY 10271
Contact: Stephanie Shellooe
(212) 720-3328

Name, Description and Location of Proposal:

Midtown South Mixed-Use Plan (MSMX)

The New York City Department of City Planning (DCP), together with other partner agencies, is proposing a series of land use actions, including zoning map amendments and zoning text amendments (the “Proposed Actions”) affecting an approximately 42-block area (the “Project Area”) of the Midtown South neighborhood in Manhattan, Community Districts 4 and 5. The Project Area consists of four noncontiguous manufacturing-zoned areas roughly bound by 40th Street to the north, Fifth Avenue to the east, 23rd Street to the south, and Eighth Avenue to the west. The Proposed Actions would implement land use and zoning changes to nurture a more vibrant, mixed-use neighborhood, create opportunities for new housing through both ground-up development and conversions, support critical commercial activity and job growth, stabilize the commercial real estate market in the wake of the COVID-19 pandemic and shifting work patterns, and reflect the historic architectural legacy and industrial character of the Midtown South neighborhood in Manhattan.

The Proposed Actions are as follows:

- **Zoning Map Amendment to:**
 - Rezone all of the existing M1-6 and M1-6D districts to the high-density paired manufacturing/residential mixed-use M1-8A/R10 and M1-9A/R10 districts, establish a new Special District coextensive with the Project Area, and eliminate the Special Garment Center District from the Project Area’s northwest quadrant.

- **Zoning Text Amendments to:**
 - Establish regulations for a proposed special district– the Special Midtown South Mixed-Use District – coterminous with the Project Area. The Special Midtown South Mixed-Use District would modify certain bulk regulations, expand the radius of eligibility for the transit bonus like other CBD special districts, and expand the applicability of covered pedestrian space bonuses.
 - Amend Appendix F of the ZR to apply the MIH program to qualifying portions of the Project Area.
 - Remove references to Subdistrict A-1 in the Special Garment Center District text. Regulations applicable to Subdistrict A-2, including bulk and relevant Hudson Yards regulations, would continue to apply. Other text changes may be made to rationalize the remaining portion of the Special Garment Center District.
 - Make the entire Project Area eligible for a floor area increase pursuant to the transit bonus authorization.

The Proposed Actions seek to accomplish the following land use objectives:

- Expand housing opportunities by allowing residential uses as of right and requiring permanently affordable housing through the Mandatory Inclusionary Housing (MIH) program in new development, conversions, and expansions to support neighborhood diversity and further the city’s equity and Fair Housing goals.
- Promote economic recovery, resiliency, and growth by allowing a wider range of compatible commercial, community facility, and light manufacturing uses, modernizing outdated zoning provisions and reducing existing zoning barriers to accommodate a more balanced mix of uses.
- Establish appropriate floor area ratios (FAR) and bulk regulations that ensure new development harmonizes with the surrounding built context and incentivizes mixed-use buildings.
- Promote the adaptive reuse of existing commercial buildings by eliminating non-residential floor area preservation requirements, where applicable.

The Reasonable Worst-Case Development Scenario (“RWCDS”) for the Proposed Actions identifies 27 projected development sites under the With-Action condition, and, for a conservative analysis, also assumes the residential conversion of 1,118,305 gross-square-feet (gsf) of existing non-residential uses within the Project Area. The Proposed Actions are expected to result in a net increase of 4,209,652-gsf of residential uses (3,952 DU) (including 785 to 1,137 affordable units), 296,946- gsf of local retail uses, 19,941-gsf of community facility uses, and a net reduction of 225 accessory parking spaces, 136,350-gsf of office uses, and 19,977-gsf of industrial uses on the projected development sites, as well as a net reduction in the 1,118,305-gsf of non-residential uses projected to convert to residential area. The RWCDS also identifies 15 potential development sites that are considered less likely to be developed by the analysis year, but will be analyzed in the EIS for site-specific effects such as archaeology, shadows, hazardous materials, air quality, and noise.

The analysis year of the Proposed Actions is 2034.

Statement of Significant Effect:

On behalf of the City Planning Commission, the Environmental Assessment and Review Division has determined, pursuant to 6 NYCRR Part 617.7, that the Proposed Actions may have a significant effect on the quality of the environment as detailed in the following areas, and that an environmental impact statement will be required: land use, zoning and public policy; socioeconomic conditions; community facilities and services; open space; shadows; historic and cultural resources; urban design and visual resources; hazardous materials; water and sewer infrastructure; solid waste and sanitation services; transportation; air quality; greenhouse gas emissions and climate change; noise; public health; neighborhood character and construction.

The Proposed Actions would not result in significant adverse impacts related to: natural resources; and energy.

Supporting Statement:

The above determination is based on an Environmental Assessment Statement prepared for the actions which finds that:

1. Land Use, Zoning and Public Policy – The Proposed Actions, including a zoning map amendment, a zoning text amendment (including the establishment of a special zoning district and an MIH area) would affect the land use, zoning and public policies within the Project Area. The Proposed Actions could have the potential to result in significant adverse impacts related to land use, zoning, and public policy.
2. Socioeconomic Conditions – The Proposed Actions would have the potential to result in the direct displacement of existing businesses and the indirect displacement of existing residents and businesses from projected development sites and non-residential area eligible for residential conversion identified as part of the RWCDs. Due to the Proposed Actions' potential for direct business displacement, there is also the potential for adverse effects on a specific industry. The Proposed Actions are expected to increase the number of residential units in the area, including affordable units, and would result in a net increment of more than 200 new residential units, and would introduce more than 200,000 sf of new commercial uses to the project area. Therefore, the Proposed Actions could have the potential to result in a significant adverse impact related to socioeconomic conditions, and further analysis is warranted.
3. Community Facilities and Services – The Proposed Actions would result in a substantial increase in residential units and increase demand at public schools, publicly funded childcare facilities and libraries, and therefore, could have the potential to result in a significant adverse impact to community facilities and services.
4. Open Space – The Proposed Actions would result in a net reduction of 3,792 workers in the Project Area, but would introduce 6,639 residents, which exceeds the analysis threshold of 200 residents generated by the Proposed Actions. Therefore, an indirect analysis of open space is warranted. The Proposed Actions could have the potential to result in a significant

adverse impact on open space.

5. Shadows – The Proposed Actions would allow an increase in development density and greater building heights in the Project Area, and are expected to result in new structures, or additions to existing structures, that are greater than 50 feet in height and/or adjacent to existing sunlight-sensitive resources. This exceeds the threshold for shadows analysis on potential sunlight sensitive resources in the Project Area which could result in new incremental shadows on a sunlight-sensitive resources. The Proposed Actions could have the potential to result in a significant adverse impact on shadows.
6. Historic and Cultural Resources – The Proposed Actions may affect architectural resources including designated landmarks, historic districts and/or buildings that may be eligible for designation. In addition, the Proposed Actions may result in additional in-ground disturbance and therefore have the potential to affect archaeological resources that may be present. As a result, the Proposed Actions have the potential to result in a significant adverse impact on historic and cultural resources.
7. Urban Design and Visual Resources– The Proposed Actions are expected to result in physical changes to the Project Area beyond the bulk and form currently permitted as-of-right. These changes could affect the pedestrian’s experience of public space, requiring an urban design assessment. Therefore, the Proposed Actions could result in a significant adverse impact related to urban design and visual resources.
8. Natural Resources – The Proposed Actions affect an area located in a developed urban environment that is generally devoid of ecologically sensitive areas and does not provide a critical habitat supporting any rare, threatened, or endangered species. The Proposed Actions do not have the potential to create a significant adverse impact on natural resources.
9. Hazardous Materials – The Proposed Actions would result in new construction including new in-ground excavation and subsurface disturbance within the Project Area. Therefore, the Proposed Actions could result in a significant adverse impact on hazardous materials.
10. Water and Sewer Infrastructure – The Proposed Actions would result in increased development within the Project Area which could place additional demands on infrastructure, including water supply and storm water management. Therefore, the Proposed Actions could result in a significant adverse impact on wastewater and stormwater infrastructure.
11. Solid Waste and Sanitation Services – Due to increased development in the Project Area, the Proposed Actions would increase the demand on solid waste and sanitation services and could result in significant adverse impacts on solid waste and sanitation services.

12. Energy – Although the Proposed Actions are not anticipated to result in significant adverse energy impacts, the EIS will disclose the projected amount of energy consumption during long-term operation resulting from the Proposed Actions.
13. Transportation – The Proposed Actions could result in significant adverse impacts on transportation. The Proposed Actions would increase the number of vehicular trips and increase ridership on mass transit facilities including bus, subway, or railroads. The Proposed Actions would also affect pedestrian movements in the area due to the increased number of residents expected to be introduced to the area. Additionally, the Proposed Actions could have the potential to increase demand for parking. Therefore, an analysis is warranted.
14. Air Quality – The Proposed Actions could result in a significant adverse impact on air quality. The Proposed Actions would result in an increased demand for heating, ventilating, and air conditioning (HVAC) as well as additional project-generated vehicle trips, exceeding the screening thresholds for mobile source air quality analysis. An assessment is warranted to consider the potential air quality impacts from project-generated vehicle trips, as well as heat and hot water systems, and from existing industrial uses in the surrounding area on the new development resulting from the Proposed Actions.
15. Greenhouse Gas (GHG) Emissions and Climate Change – The Proposed Actions could result in a significant impact on greenhouse gas emissions. The threshold for detailed analysis of GHG emissions is highly dependent on the nature of the project and its potential impact. The Proposed Actions would result in development that would exceed the development threshold of 350,000 sf, which warrants a GHG assessment. Based on the project location, the Project Area does not meet the threshold for a climate change impact. Therefore, the Proposed Actions would not result in a significant adverse impact to climate change, and no further analysis is warranted.
16. Noise – The Proposed Actions could result in a significant impact on noise. The Proposed Actions would introduce new noise-sensitive receptors in an area with existing high ambient noise levels. Additionally, the Proposed Actions would generate additional vehicular trips to and from the Project Area that could potentially impact existing and project-generated sensitive receptors within and in the vicinity of the Project Area. As a result, an analysis is warranted.
17. Public Health – The Proposed Actions could result in effects related to air quality, water quality, hazardous materials, or noise. Therefore, the Proposed Actions could have the potential to result in significant adverse impacts related to public health.
18. Neighborhood Character – The Proposed Actions could affect land use, socioeconomic

conditions, open space, urban design and visual resources, historic and cultural resources, transportation, and noise. As a result, the Proposed Actions could have the potential to result in a significant adverse impact related the affected area's neighborhood character.

19. Construction – The Proposed Actions would increase the allowable density of the area resulting in new development that involves activities which may result in construction-related impacts. Therefore, the Proposed Actions could have the potential to result in significant adverse impacts related to construction.

Public Scoping:

The CEQR lead agency hereby requests that the applicant prepare or have prepared, at their option, a Draft Environmental Impact Statement (DEIS) in accordance with 6 NYCRR 617.9(b) and Sections 6-08 and 6-12 of Executive Order No. 91 of 1977 as amended (City Environmental Quality Review).

A public scoping meeting has been scheduled for Thursday, April 18, 2024 at 2:00 PM. To continue to allow for broad public participation options, DCP will hold the public scoping meeting remotely. To join the meeting and comment, please visit NYC Engage (<https://www1.nyc.gov/site/nycengage/events/index.page>).

Written comments will be accepted by the lead agency through 5:00 PM, Friday, April 29, 2024.

This determination has been prepared in accordance with Article 8 of the Environmental Conservation Law.

Should you have any questions pertaining to this Positive Declaration, you may contact Max Marinoff, at mmarinoff@planning.nyc.gov.



Evren Ulker-Kacar, AICP, Deputy Director
Environmental Assessment & Review Division
New York City Department of City Planning

03/19/2024

Date

14. Air Quality

A. Introduction

The potential for air quality impacts from the Proposed Actions is examined in this chapter. Air quality impacts can be either direct or indirect. Direct impacts result from emissions generated by stationary sources at a development site, such as emissions from on-site fuel combustion for heat and hot water systems. Indirect impacts are caused by off-site emissions associated with a project such as emissions from nearby existing stationary sources (i.e., impacts on the projected and potential development sites) or by emissions from on-road vehicle trips generated by the Proposed Actions or other changes to future traffic conditions due to a project.

The maximum projected hourly incremental traffic volumes generated by the Proposed Actions would exceed the 2021 City Environmental Quality Review (CEQR) *Technical Manual* carbon monoxide (CO) traffic screening threshold of 140 or 170 peak-hour vehicle trips at a number of intersections in the study area, as well as the particulate matter (PM) traffic screening threshold discussed in Chapter 17, Sections 210 and 311 of the *CEQR Technical Manual*. Therefore, a quantified assessment of emissions from traffic generated by the Proposed Actions was performed for CO and PM.

The Proposed Actions' RWCDs does not include any on-site parking on projected development sites or any new off-street public parking. Therefore, an air quality parking analysis was not required for this assessment.

It is anticipated that each of the projected and potential development sites would include fossil fuel-fired hot water systems, and most would include fossil fuel-fired heating systems. A heating and hot water systems stationary source analysis was conducted to evaluate potential future pollutant concentrations from these sources.

The With-Action condition includes projected and potential development sites containing a mix of residential and commercial (retail and other office) uses. Potential impacts by light industrial facilities were evaluated from pollutant emissions from existing light industrial uses that would remain because they are not located on projected or proposed development sites.

Ten facilities with New York City Department of Environmental Protection (NYCDEP) permits were identified within 400 feet from the proposed and potential sites. In addition, three New York State Department of Environmental Conservation (NYSDEC) air state facilities (ASF) and one facility with a Title V permit were identified within 1,000 feet; as such, potential effects from these sources of emissions on nearby sensitive receptors in projected and potential development sites were analyzed.

B. Principal Conclusions

The air quality analysis for the Proposed Actions considered the potential for both mobile and stationary source impacts. The mobile source analyses determined that Proposed Action-generated traffic resulting in concentrations of CO and PM_{2.5} at the analyzed intersections would not result in any violations of National Ambient Air Quality Standards (NAAQS). Further, the 8-

hour CO incremental concentrations and the 24-hour and annual incremental PM_{2.5} concentrations were predicted to be below the City's de minimis criteria. An E-Designation would be placed on several sites to ensure that an HVAC stationary source impacts do not occur. The light industrial source analyses determined that one non-criteria carcinogenic pollutant from a NYCDEP permitted small industrial facility exceeds the NYSDEC DAR-1 annual guideline concentration threshold for air toxics and fails the cancer risk assessment at a potential development site. In addition, one NYSDEC permitted large facility's 1-hour NO₂ concentrations exceed the NAAQS standard at nearby development sites. As such, the Proposed Actions are anticipated to result in significant, adverse impacts related to air quality at a few development sites. An E-designation would be placed on the affected sites to ensure industrial and large/major source impacts are minimized.

C. Pollutants for Analysis

Air quality is affected by air pollutants produced by both motor vehicles and stationary sources. Emissions from motor vehicles are referred to as mobile source emissions, while emissions from fixed facilities are referred to as stationary source emissions. Ambient concentrations of CO are predominantly influenced by mobile source emissions. PM, volatile organic compounds (VOCs), and nitrogen oxides (nitric oxide [NO] and nitrogen dioxide [NO₂], collectively referred to as NOx) are emitted from both mobile and stationary sources. Fine PM is also formed when emissions of NOx, sulfur oxides (SOx), ammonia, organic compounds, and other gases react or condense in the atmosphere. Emissions of sulfur dioxide (SO₂) are associated mainly with stationary sources, and some sources utilizing non-road diesel such as large international marine engines. On-road diesel vehicles currently contribute very little to SO₂ emissions since the sulfur content of on-road diesel fuel, which is federally regulated, is extremely low. Ozone is formed in the atmosphere by complex photochemical processes that include NOx and VOCs. Ambient concentrations of CO, PM, NO₂, SO₂, ozone, and lead are regulated by the U.S. Environmental Protection Agency (EPA) under the Clean Air Act (CAA) and are referred to as criteria pollutants; emissions of VOCs, NOx, and other precursors to criteria pollutants are also regulated by EPA.

Carbon Monoxide

CO, a colorless and odorless gas, is produced in the urban environment primarily by the incomplete combustion of gasoline and other fossil fuels. In urban areas, approximately 80 to 90 percent of CO emissions are from motor vehicles. CO concentrations can diminish rapidly over relatively short distances; elevated concentrations are usually limited to locations near crowded intersections, heavily traveled and congested roadways, parking lots, and garages. Consequently, CO concentrations must be analyzed on a local (microscale) basis.

Nitrogen Oxides, VOCs, and Ozone

NOx are of principal concern because of their role, together with VOCs, as precursors in the formation of ozone. Ozone is formed through a series of reactions that take place in the atmosphere in the presence of sunlight. Because the reactions are slow and occur as the pollutants are advected downwind, elevated ozone levels are often found many miles from sources of the precursor pollutants. The effects of NOx and VOC emissions from all sources are therefore generally examined on a regional basis. The contribution of any action or project to regional emissions of these pollutants would include any added stationary or mobile source emissions.

The Proposed Actions would not have a significant effect on the overall volume of vehicular travel in the metropolitan area; therefore, no measurable impact on regional NO_x emissions or on ozone levels is predicted. An analysis of emissions of these pollutants from mobile sources related to the Proposed Actions was therefore not warranted.

In addition to being a precursor to the formation of ozone, NO₂ (one component of NO_x) is also a regulated pollutant. Since NO₂ is mostly formed from the transformation of NO in the atmosphere, it has mostly been of concern further downwind from large stationary sources, and not a local concern from mobile sources. (NO_x emissions from fuel combustion consist of approximately 90 percent NO and 10 percent NO₂ at the source.) With the promulgation of the 2010 1-hour average standard for NO₂, local sources such as vehicular emissions may be of greater concern. However, any increase in NO₂ associated with the Proposed Actions would be relatively small due to the very small increases in the number of vehicles. This increase would not be expected to significantly affect levels of NO₂ experienced near roadways.

Potential impacts on local NO₂ concentrations from the fuel combustion for the projected and potential development sites' heat and hot water systems and potential impact from large and major sources, were evaluated.

Lead

Airborne lead emissions are currently associated principally with industrial sources. Lead in gasoline has been banned under the CAA and would not be emitted from any other component of the Proposed Actions. Therefore, an analysis of this pollutant was not warranted.

Respirable Particulate Matter - PM₁₀ AND PM_{2.5}

PM is a broad class of air pollutants that includes discrete particles of a wide range of sizes and chemical compositions, as either liquid droplets (aerosols) or solids suspended in the atmosphere. The constituents of PM are both numerous and varied, and they are emitted from a wide variety of sources (both natural and anthropogenic). Natural sources include the condensed and reacted forms of naturally occurring VOCs; salt particles resulting from the evaporation of sea spray; wind-borne pollen, fungi, molds, algae, yeasts, rusts, bacteria, and material from live and decaying plant and animal life; particles eroded from beaches, soil, and rock; and particles emitted from volcanic and geothermal eruptions and from forest fires. Naturally occurring PM is generally greater than 2.5 micrometers in diameter. Major anthropogenic sources include the combustion of fossil fuels (e.g., vehicular exhaust, power generation, boilers, engines, and home heating), chemical and manufacturing processes, all types of construction, agricultural activities, as well as wood-burning stoves and fireplaces. PM also acts as a substrate for the adsorption (accumulation of gases, liquids, or solutes on the surface of a solid or liquid) of other pollutants, often toxic, and some likely carcinogenic compounds.

As described below, PM is regulated in two size categories: particles with an aerodynamic diameter of less than or equal to 2.5 micrometers (PM_{2.5}) and particles with an aerodynamic diameter of less than or equal to 10 micrometers (PM₁₀, which includes PM_{2.5}). PM_{2.5} has the ability to reach the lower regions of the respiratory tract, delivering with it other compounds that adsorb to the surfaces of the particles, and is also extremely persistent in the atmosphere. PM_{2.5} is mainly derived from combustion material that has volatilized and then condensed to form

primary PM (often soon after the release from a source) or from precursor gases reacting in the atmosphere to form secondary PM.

Gasoline-powered and diesel-powered vehicles, especially heavy-duty trucks and buses operating on diesel fuel, are a significant source of respirable PM, most of which is PM_{2.5}; PM concentrations may consequently be locally elevated near roadways. Since the traffic generated by the Proposed Actions would exceed the PM emission traffic screening threshold discussed in Chapter 17, Sections 210 and 311 of the *CEQR Technical Manual*, a quantified assessment of emissions from traffic generated by the Proposed Actions was performed for PM.

An assessment of PM_{2.5} emissions from heat and hot water systems at the projected and potential development sites was conducted, following the *CEQR Technical Manual* and EPA guidance. PM_{2.5} impacts from the large and major sources were also evaluated.

Sulfur Dioxide

SO₂ emissions are primarily associated with the combustion of sulfur-containing fuels (oil and coal). SO₂ is also of concern as a precursor to PM_{2.5} and is regulated as a PM_{2.5} precursor under the New Source Review permitting program for large sources. Due to the federal restrictions on the sulfur content in diesel fuel for on-road and non-road vehicles, no significant quantities are emitted from vehicular sources. Also, only natural gas would be used in heat and hot water sources. Therefore, mobile and future developments' heat and hot water systems are not sources of significant SO₂ emission and analysis of SO₂ for these sources was not warranted.

Non-criteria Pollutants

In addition to the criteria pollutants discussed above, noncriteria pollutants may be of concern. Noncriteria pollutants are emitted by a wide range of man-made and naturally occurring sources and include multitude of pollutants of ranging toxicity. These pollutants are sometimes referred to as hazardous air pollutants (HAP) and, when emitted from mobile sources, as Mobile Source Air Toxics (MSATs). Emissions of noncriteria pollutants from industries are regulated by EPA.

No Federal ambient air quality standards have been promulgated for non-criteria pollutants. However, EPA and New York State Department of Environmental Conservation (DEC) have issued guidelines that establish acceptable ambient levels for these pollutants based on human exposure. The DEC guidance document DAR-1¹ contains a compilation of annual and short-term (1-hour) guideline concentrations for these compounds. The DEC guidance thresholds represent ambient levels that are considered safe for public exposure. EPA has also developed guidelines for assessing exposure to noncriteria pollutants. These exposure guidelines are used in health risk assessments to determine the potential effects to the public.

D. Air Quality Regulations, Standards, and Benchmarks National and State Air Quality Standards

As required by the CAA, primary and secondary NAAQS have been established for six major air pollutants: CO, NO₂, ozone, respirable PM (both PM_{2.5} and PM₁₀), SO₂, and lead. The primary standards represent levels that are requisite to protect the public health, allowing an adequate

¹ DEC.DAR-1 (Air Guide-1) AGC/SGC Tables, February 2021

margin of safety. The secondary standards are intended to protect the nation's welfare and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the environment. The primary standards are generally either the same as the secondary standards or more restrictive. The NAAQS are presented in **Table 14-1**.

Table 14-1: National Ambient Air Quality Standards

Pollutant		Primary		Secondary	
		ppm	µg/m ³	ppm	µg/m ³
Carbon Monoxide (CO)	8-Hour Average	9 ^[1]	10,000	None	
	1-Hour Average	35 ^[1]	40,000		
Lead	Rolling 3-Month Average	NA	0.15	NA	0.15
Nitrogen Dioxide (NO ₂)	1-Hour Average ^[2]	0.100	188	None	
	Annual Average	0.053	100	0.053	100
Ozone (O ₃)	8-Hour Average ^[3]	0.070	140	0.070	140
Respirable Particulate Matter (PM ₁₀)	24-Hour Average ^[1]	NA	150	NA	150
Fine Respirable Particulate Matter (PM _{2.5})	Annual Mean ^[4]	NA	9	NA	15
	24-Hour Average ^[5]	NA	35	NA	35
Sulfur Dioxide (SO ₂)	1-Hour Average ^[6]	0.075	196	NA	NA
	Maximum 3-Hour Average ^[1]	NA	NA	0.50	1,300

Source: 40 CFR Part 50: National Primary and Secondary Ambient Air Quality Standards.

Notes: ppm – parts per million (unit of measure for gases only)

µg/m³ – micrograms per cubic meter (unit of measure for gases and particles, including lead)

NA – not applicable

All annual periods refer to calendar year.

Standards are defined in ppm. Approximately equivalent concentrations in µg/m³ are presented.

^[1] Not to be exceeded more than once a year.

^[2] 3-year average of the annual 98th percentile daily maximum 1-hr average concentration.

^[3] 3-year average of the annual fourth highest daily maximum 8-hr average concentration.

^[4] 3-year average of annual mean.

^[5] Not to be exceeded by the annual 98th percentile when averaged over 3 years.

^[6] 3-year average of the annual 99th percentile daily maximum 1-hour average concentration.

Effective December 2015, EPA lowered the 2008 ozone NAAQS from 0.075 ppm to 0.070. EPA issued final area designations for the revised standard on April 30, 2018. Effective May 8, 2024, the annual PM_{2.5} NAAQS was lowered from 12 µg/m³ to 9 µg/m³.

Federal ambient air quality standards do not exist for noncriteria pollutants; however, as mentioned above, DEC has issued standards for three noncriteria compounds. DEC has also developed a guidance document DAR-1 (February 2021), which contains a compilation of annual and short term (1-hour) guideline concentrations for numerous other noncriteria compounds. The DEC guidance thresholds represent ambient levels that are considered safe for public exposure.

NAAQS Attainment Status and State Implementation Plans

The CAA, as amended in 1990, defines non-attainment areas (NAA) as geographic regions that have been designated as not meeting one or more of the NAAQS. When an area is designated as non-attainment by EPA, the state is required to develop and implement a State Implementation Plan (SIP), which delineates how a state plans to achieve air quality that meets the NAAQS under

the deadlines established by the CAA, followed by a plan for maintaining attainment status once the area is in attainment.

In 2002, EPA re-designated New York City as in attainment for CO. Under the resulting maintenance plans, New York is committed to implementing site-specific control measures throughout the city to reduce CO levels, should unanticipated localized growth result in elevated CO levels during the maintenance period. The second CO maintenance plan for the region was approved by EPA on May 30, 2014.

Manhattan had been designated as a moderate NAA for PM₁₀. EPA clarified on July 29, 2015 that the designation only applied to the revoked annual standard.

The five New York City counties and Nassau, Suffolk, Rockland, Westchester, and Orange Counties had been designated as a PM_{2.5} NAA (New York Portion of the New York–Northern New Jersey–Long Island, NY–NJ–CT NAA) since 2004 under the CAA due to exceedance of the 1997 annual average standard and were also nonattainment with the 2006 24-hour PM_{2.5} NAAQS since November 2009. The area was redesignated as in attainment for that standard effective April 18, 2014, and is now under a maintenance plan. EPA lowered the annual average primary standard to 9 µg/m³ effective May 2024. EPA designated the area as in attainment for the 12 µg/m³ NAAQS effective April 15, 2015, and will re-assess the status for the 2024 standard.

Effective June 15, 2004, EPA designated Nassau, Rockland, Suffolk, Westchester, and the five New York City counties (NY portion of the New York–Northern New Jersey–Long Island, NY–NJ–CT, NAA) as a moderate non-attainment area for the 1997 8-hour average ozone standard. In March 2008 EPA strengthened the 8-hour ozone standards, but certain requirements remain in areas that were either nonattainment or maintenance areas for the 1997 ozone standard ('anti-backsliding'). EPA designated the same NAA as a marginal NAA for the 2008 ozone NAAQS, effective July 20, 2012. On April 11, 2016, as requested by New York State, EPA reclassified the area as a moderate NAA. On July 19, 2017 DEC announced that the NYMA is not projected to meet the July 20, 2018 attainment deadline and DEC therefore requested that EPA reclassify the NYMA to "serious" nonattainment. EPA reclassified the NYMA from "moderate" to "serious" NAA effective September 23, 2019, which imposes a new attainment deadline of July 20, 2021 (based on 2018-2020 monitored data). NYSDEC's proposed draft revisions to the SIP (June 2021) state that based on monitoring data, New York State has not demonstrated compliance with the 2008 ozone NAAQS. NYSDEC has requested EPA redesignate the area for the 2008 ozone NAAQS as severe on November 29, 2021. On April 30, 2018, EPA designated the same area as a moderate NAA for the revised 2015 ozone standard. EPA is currently reviewing revisions to New York's SIP plan.

New York City is currently in attainment of the annual-average NO₂ standard. EPA has designated the entire state of New York as "unclassifiable/attainment" of the 1-hour NO₂ standard effective February 29, 2012. This designation remains in effect.

EPA has established a 1-hour SO₂ standard, replacing the former 24-hour and annual standards, effective August 23, 2010. In December 2017, EPA designated the entire State of New York as in attainment for this standard, with the exception of Monroe County, which was designated "unclassifiable."

E. Determining the Significance of Air Quality Impacts

The State Environmental Quality Review Act (SEQRA) regulations and the *CEQR Technical Manual* state that the significance of a predicted consequence of a project (i.e., whether it is material, substantial, large or important) should be assessed in connection with its setting (e.g., urban or rural), its probability of occurrence, its duration, its irreversibility, its geographic scope, its magnitude, and the number of people affected². In terms of the magnitude of air quality impacts, any action predicted to increase the concentration of a criteria air pollutant to a level that would exceed the concentrations defined by the NAAQS (see **Table 14-1**) would be deemed to have a potential significant adverse impact. Similarly, for non-criteria pollutants, predicted exceedance of the DAR-1 guideline concentrations would be considered a potential significant adverse impact. In addition, to maintain concentrations lower than the NAAQS in attainment areas, or to ensure that concentrations would not be significantly increased in non-attainment areas, threshold levels have been defined for certain pollutants; any action predicted to increase the concentrations of these pollutants above the thresholds would be deemed to have a potential significant adverse impact, even in cases where violations of the NAAQS are not predicted.

CO de minimis Criteria

New York City has developed *de minimis* criteria to assess the significance of the increase in CO concentrations that would result from the impact of proposed projects or actions on mobile sources, as set forth in the *CEQR Technical Manual*. These criteria set the minimum change in CO concentration that defines a significant environmental impact. Significant increases of CO concentrations in New York City are defined as: (1) an increase of 0.5 ppm or more in the maximum 8-hour average CO concentration at a location where the predicted No Action 8-hour concentration is equal to or between 8 and 9 ppm; or (2) an increase of more than half the difference between baseline (i.e., No Action) concentrations and the 8-hour standard, when No Action concentrations are below 8.0 ppm. Project-related impacts less than these values are not considered to be significant.

PM_{2.5} de minimis Criteria

New York City uses *de minimis* criteria to determine the potential for significant adverse PM_{2.5} impacts under CEQR are as follows:

- Predicted increase of more than half the difference between the background concentration and the 24-hour standard
- Annual average PM_{2.5} concentration increments which are predicted to be greater than 0.1 µg/m³ at ground level on a neighborhood scale (i.e., the annual increase in concentration representing the average over an area of approximately 1 square kilometer, centered on the location where the maximum ground-level impact is predicted for stationary sources; or at a distance from a roadway corridor similar to the minimum distance defined for locating neighborhood scale monitoring stations); or

² New York City. *CEQR Technical Manual*, chapter 1, Section 222, March 2014; and SEQRA Regulations, 6 NYCRR § 617.7

- Annual average PM_{2.5} concentration increments that are predicted to be greater than 0.3 µg/m³ at a discrete receptor location (elevated or ground level).

Actions under CEQR predicted to increase PM_{2.5} concentrations by more than the above *de minimis* criteria will be considered to have a potential significant adverse impact.

The above *de minimis* criteria have been used to evaluate the significance of predicted impacts of the Proposed Actions on PM_{2.5} concentrations.

Non-Criteria Pollutant Thresholds

Non-criteria, or toxic, air pollutants include a multitude of pollutants of ranging toxicity. No federal ambient air quality standards have been promulgated for toxic air pollutants. However, DEC has issued guidelines that establish acceptable ambient levels for these pollutants based on human exposure.

The DEC DAR-1 guidance document presents guideline concentrations in micrograms per cubic meter for the one-hour and annual average time periods for various air toxic compounds. These values from DAR-1 (February 2021) are provided in **Table 14-7** for the compounds potentially affecting receptors located at projected and potential development sites. The compounds listed are those emitted by existing sources. There are no new proposed sources of air toxics within 400 feet of the Project Area.

In order to evaluate health risk of non-carcinogenic toxic air emissions, DAR-1 includes a methodology called the “hazard index” to characterize the cumulative risk from potential air toxic emissions. The hazard index is based on predicted annual concentrations and annual exposure limits. If the combined ratios of pollutant concentration divided by its respective annual exposure threshold for each of the toxic pollutants is found to be less than 2, no significant adverse air quality impacts are predicted to occur due to these pollutant releases.

In addition, DEC characterizes risks of non-criteria carcinogenic pollutants. According to DAR-1, an overall incremental cancer risk from a proposed action of less than one-in-one million is considered to be insignificant. The potential cancer risk associated with each carcinogenic pollutant, as well as the total cancer risk of all of the carcinogenic toxic pollutants combined, can be estimated. If the total incremental cancer risk of all of the carcinogenic toxic pollutants combined is less than one-in-one million, no significant air quality impacts are predicted to occur due to these pollutant releases. Alternatively, if refined air dispersion modeling is used to estimate the maximum concentrations of pollutants, a threshold of 10-in-one-million excess cancer risk for non-criteria carcinogenic compounds can be used. One pollutant, Cadmium, from a light industrial source identified in **Table 14-7** is classified as carcinogenic according to DAR-1.

F. Methodology for Predicting Pollutant Concentrations

Mobile Sources

Vehicular traffic, whether on a road or in a parking garage, may affect air quality. Once operational, the Proposed Actions may result in significant adverse mobile source air quality impacts due to the increase or redistribution of traffic and the addition of new parking areas located near mobile sources.

The Proposed Actions would be located in Manhattan, New York. Per the guidance of the *CEQR Technical Manual*, in this area of the City, actions that would result in the increment of 140 peak hour vehicle trips (north of 30th street) or 170 vehicle peak hour vehicle trips (south of 30th street) at an intersection may cause significant adverse air quality impacts and require a detailed air quality analysis for CO. Also, as described above, the City has developed guidelines for determining potential project related PM_{2.5} impacts. These guidelines are based on the number of project-induced heavy-duty vehicles or their equivalent in vehicle trips. All mobile source analyses are performed for the 2034 future year.

Vehicular Emissions

Vehicular CO and PM engine emission factors were computed using the USEPA mobile source emissions model, Motor Vehicle Emission Simulator (MOVES4). Emissions are supplied for average projected free flow speeds provided by the traffic analysis. Applicable and up to date environmental and vehicular traffic data for MOVES are supplied by NYSDEC to accurately model project conditions. Additional link-based data files requirements for MOVES are compiled by obtaining volume, speed, and traffic distribution data from the traffic analysis.

Appropriate credits are used to accurately reflect the inspection and maintenance program. County-specific hourly temperature and relative humidity data obtained from NYSDEC are used.³

Emissions of fugitive dust are estimated using the USEPA's latest Air Pollutant Emission Factor (AP-42) equation for paved roads. Emissions from fugitive dust are dependent upon vehicle weight and the surface silt loading in accordance with the latest NYCDEP guidelines regarding roadway silt loading factors and average fleet vehicle weight. Fugitive road dust is not included in the neighborhood scale PM_{2.5} microscale analyses because NYCDEP considers it to have an insignificant contribution on that scale.

Traffic Data

Traffic data for the intersection analysis were derived from existing traffic counts, projected future growth in traffic, and other information developed as part of the traffic analysis for the Proposed Actions (see Chapter 13, "Transportation"). Traffic data for the future without the Proposed Project (the No-Action condition) and the future with the Proposed Project (the With-Action condition) were used in the respective air quality modeling condition. The weekday morning (8:30 to 9:30 AM), midday (2:00 to 3:00PM), evening (5:30 to 6:30 PM) peak periods as well as the Saturday midday peak period (1:45-2:45 PM) were analyzed.

The peak weekday morning, midday, evening as well as Saturday midday period traffic volumes were used as a baseline for determining off-peak volumes. Off-peak traffic volumes were determined by adjusting the peak period volumes by the 24-hour distributions of actual vehicle counts collected at appropriate locations.

³ The inspection and maintenance programs require inspections of automobiles and light trucks to determine if pollutant emissions from each vehicle exhaust system are lower than emission standards. Vehicles failing the emissions test must undergo maintenance and pass a repeat test to be registered in New York State.

Dispersion Model

The CO and PM_{2.5} concentrations due to vehicular emissions adjacent to the analysis sites were predicted using the American Meteorological Society/Environmental Protection Agency Regulated Model (AERMOD) Version 23132.⁴ AERMOD is a state-of-the-art dispersion model, applicable to rural and urban areas, flat and complex terrain, surface and elevated releases, and multiple sources (including point, area, and volume sources). AERMOD is a steady-state plume model that incorporates current concepts about flow and dispersion in complex terrain, including updated treatments of the boundary layer theory, understanding of turbulence and dispersion, and includes handling of terrain interactions. Following USEPA guidelines, the analysis was performed using an area source representation of emission sources in order to simulate traffic-related air pollutant dispersion.⁵ Hourly traffic volumes and associated emission factors were used to estimate hourly emission rates from each modeled roadway segment and predict traffic-related air pollutant concentrations at receptor locations.

Meteorology

In general, the transport and concentration of pollutants from vehicular sources are influenced by three principal meteorological factors: wind direction, wind speed, and atmospheric stability. Wind direction influences the direction in which pollutants are dispersed, and atmospheric stability accounts for the effects of vertical mixing in the atmosphere. These factors, therefore, influence the concentration at a particular prediction location (receptor).

The AERMOD model includes the modeling of hourly concentrations based on hourly traffic data and five years of monitored hourly meteorological data. The data consists of surface data collected at LaGuardia Airport and upper air data collected at Brookhaven, New York for the period 2017–2021. The meteorological data provide hour-by-hour wind speeds and directions, stability states, and temperature inversion elevation over the five-year period. These data are processed using the USEPA AERMET program to develop data in a format which can be readily processed by the AERMOD model. The land uses around the site where meteorological surface data were available were classified using categories defined in digital United States Geological Survey (USGS) maps. Processed data for 2017-2021 were obtained from the NYSDEC.

Analysis Year

The microscale analyses are performed for No-Action and Action conditions in 2034, the year by which the Proposed Actions are likely to be completed. The future analysis is performed for both the No-Action condition and the With-Action condition.

Background Concentrations

To properly represent the total impact of the Proposed Actions in this analysis, it is necessary to consider representative background levels for each of the analyzed pollutants. The background level is the component of the total concentration not accounted for through the microscale modeling analysis. The background values used in the air quality analyses are provided in **Table**

⁴ USEPA. *User's Guide for the AMS/USEPA Regulatory Model (AERMOD)*. Office of Air Quality Planning and Standards. USEPA-454/B-19-027. Research Triangle Park, North Carolina. August 2019.

⁵ USEPA. *Project-Level Conformity and Hot-Spot Analyses*, available at: <https://www.epa.gov/state-and-local-transportation/project-level-conformity-and-hot-spot-analyses>

14-2. Applicable background concentrations are added to the modeling results to obtain the total pollutant concentrations at each receptor site for the analysis year.

Table 14-2: Background Concentrations

Pollutant	Location	Averaging Time	Background Concentration
Carbon Monoxide (CO)	CCNY	1-Hour	1.7 ppm
		8-Hour	1.2 ppm
Particulate Matter (PM _{2.5})	IS 45	24-hour	17.6 µg/m ³
		Annual	7.1 µg/m ³

Source: NYSDEC, https://extapps.dec.ny.gov/docs/air_pdf/2022airqualreport.pdf

Analysis Sites

To determine locations at which microscale modeling analysis would be required to estimate CO and PM_{2.5} concentration levels at the most heavily congested intersections in the Affected Area, screening procedures described in the *CEQR Technical Manual* are utilized in order to select the worst-case analysis sites. These procedures include a determination as to whether future traffic volumes from the studied traffic intersections would exceed the *CEQR Technical Manual* CO screening threshold of 140/170 vehicles during peak traffic hours. For PM, the PM_{2.5} screening worksheet referenced in Section 201 of the *CEQR Technical Manual* was used to calculate the number of heavy-duty truck equivalents at each intersection. This worksheet calculates the number of project-generated vehicles based on vehicle classification and roadway classification information. Traffic periods considered in the air quality analysis consist of the weekday AM, midday, PM, and Saturday midday peak hours. Future conditions for the study year 2034, with and without the Proposed Actions, are considered in the selection process.

Two intersections were selected for microscale analysis. These intersections were selected because they have the greatest number of project trip increments and truck-equivalent vehicles per the screening thresholds in the *CEQR Technical Manual* that would result in the highest potential CO and PM_{2.5} incremental concentrations.

1. 7th Avenue and West 29th Street
2. 7th Avenue and West 30th Street

Stationary Sources

A stationary source analysis was conducted to evaluate potential impacts from the projected and potential development sites' heat and hot water systems. In addition, an assessment was conducted to determine the potential for impacts due to industrial activities within the affected area.

Individual Heat and Hot Water Systems

Screening Analysis

A screening analysis was performed to assess air quality impacts associated with emissions from heat and hot water systems for each projected and potential development site. The methodology described in the *CEQR Technical Manual* was used for the analysis, and considered impacts on residential, commercial and community facility uses.

The methodology determines the threshold of development size below which the development would not have a significant adverse impact. The screening procedures utilize information regarding the type of fuel to be used, the maximum development size, and the heat and hot water systems' exhaust stack height, to evaluate whether a significant adverse impact may occur. Based on the distance from the development site to the nearest building of similar or greater height, if the maximum development size is greater than the threshold size shown in the *CEQR Technical Manual*, there is the potential for significant air quality impacts, and a refined dispersion modeling analysis would be required. Otherwise, the source passes the screening analysis, and no further analysis is required.

Each projected and potential development site (**Figures 14-1** through **14-3**) was evaluated with the nearest existing (project-on-existing) or proposed development (project-on-project) of a similar or greater height analyzed as a potential receptor.

The maximum gross floor area of each projected and potential development site from the Reasonable Worst-Case Development Scenario (RWCDs) was used as input for the screening analysis. 68 projected and potential sites were screened using CEQR procedures. A two-tiered screening approach was applied. First, sites were screened based on distance to lot line of nearby receptors and square footage. For those sites that failed this screening, a stack setback distance was applied, and the sites were screened again. For those sites that failed this second screening, refined modeling was conducted.

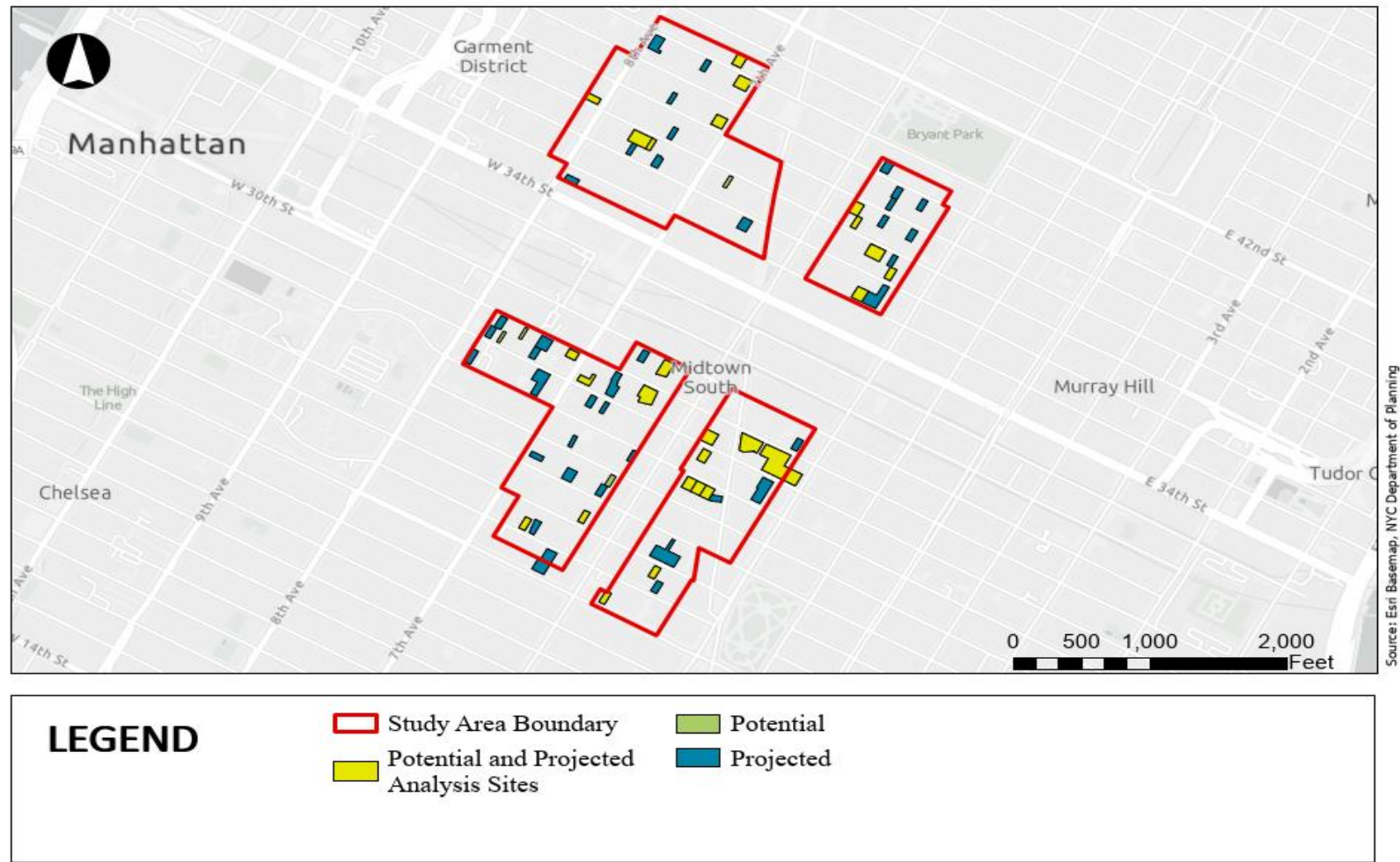
As a result of the two-tiered screening, 2630 individual sites were analyzed in the refined modeling with AERMOD. The individual sites analyzed, and the corresponding locations, are in **Table 14-3** and **Figures 14-1, 14-2** and **14-3** below.

Table 14-3: Addresses of Individual Potential and Projected Development Sites Analyzed using AERMOD (Total 3026 Sites) (Table revised for the FEIS)

Site	Development Sites
1	Projected development site at 539 & 543 8 th Avenue
5	Projected development site at 250 W 30 th Street
6	Projected development site at 223 W 29 th Street
8	Projected development site at 356, 358, and 360 7 th Avenue
11	Projected development site at 232 W 37 th Street
15	Projected development site at 203, 205, & 207 W 38 th Street; 526 7 th Avenue
16	Projected development site at 618 8 th Avenue
18	Projected development site at 552, 556, & 558 7 th Avenue
20	Projected development site at 145 & 147 W 24 th Street
22	Projected development site at 115 & 117 W 25 th Street
26	Projected development site at 117 W 26 th Street
31	Projected development site at 341 & 343 7 th Avenue; 167 W 29 th Street
33	Projected development site at 122 W 30 th Street
35	Projected development site at 120 W 31 st Street
37	Projected development site at 67 & 69 W 23 rd Street
38	Projected development site at 32 W 25 th Street
41	Projected development site at 38, 40 & 42 W 28 th Street
42	Projected development site at 32, 34, & 36 W 28 th Street
43	Projected development site at 24 & 26 W 28 th Street
45	Projected development site at 36 W 29 th Street
47	Projected development site at 39, 43, & 45 W 29 th Street
48	Projected development site at 1204, 1212, & 1214 Broadway; 28 W 30 th Street
49	Projected development site at 3, 9, & 11 W 29 th Street; 8, 16 & 18 W 30 th Street
51	Projected development site at 27 W 35 th Street
53	Projected development site at 32 & 34 W 37 th Street
55	Projected development site at 58 & 60 W 38 th Street
56	Projected development site at 45 & 47 W 37 th Street
C	Potential development site at 240 W 37 th Street
F	Potential development site at 11 & 13 W 36 th Street
G	Potential development site at 213 & 209 W 40 th Street

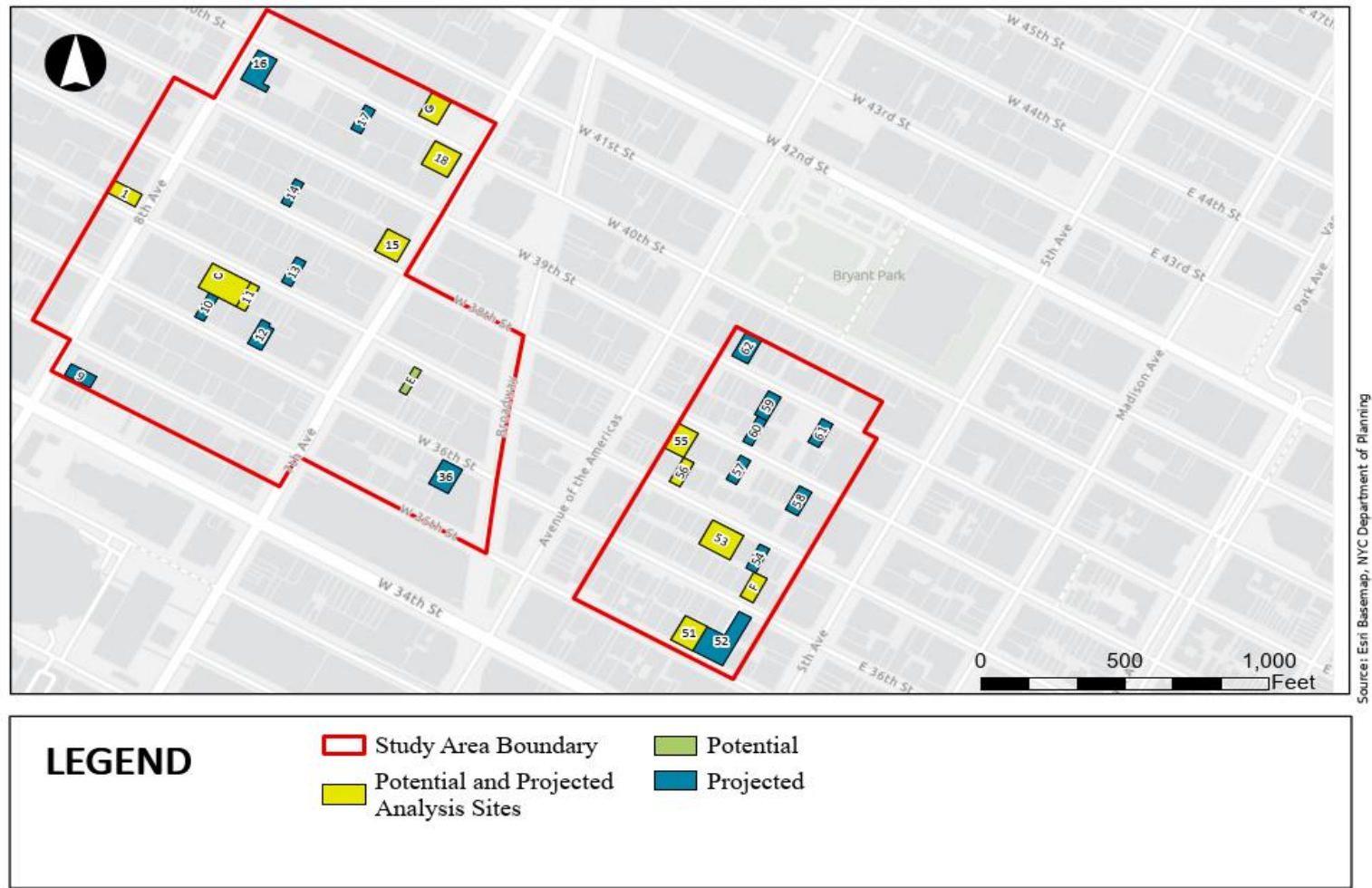
*Four additional sites 5, 6, 16, and 26 were modeled for the FEIS because their original setback requirements based on the screening analysis are impractical to fulfill.

Figure 14-1 - Individual Potential and Projected Sites Screened (Total 68 Sites)

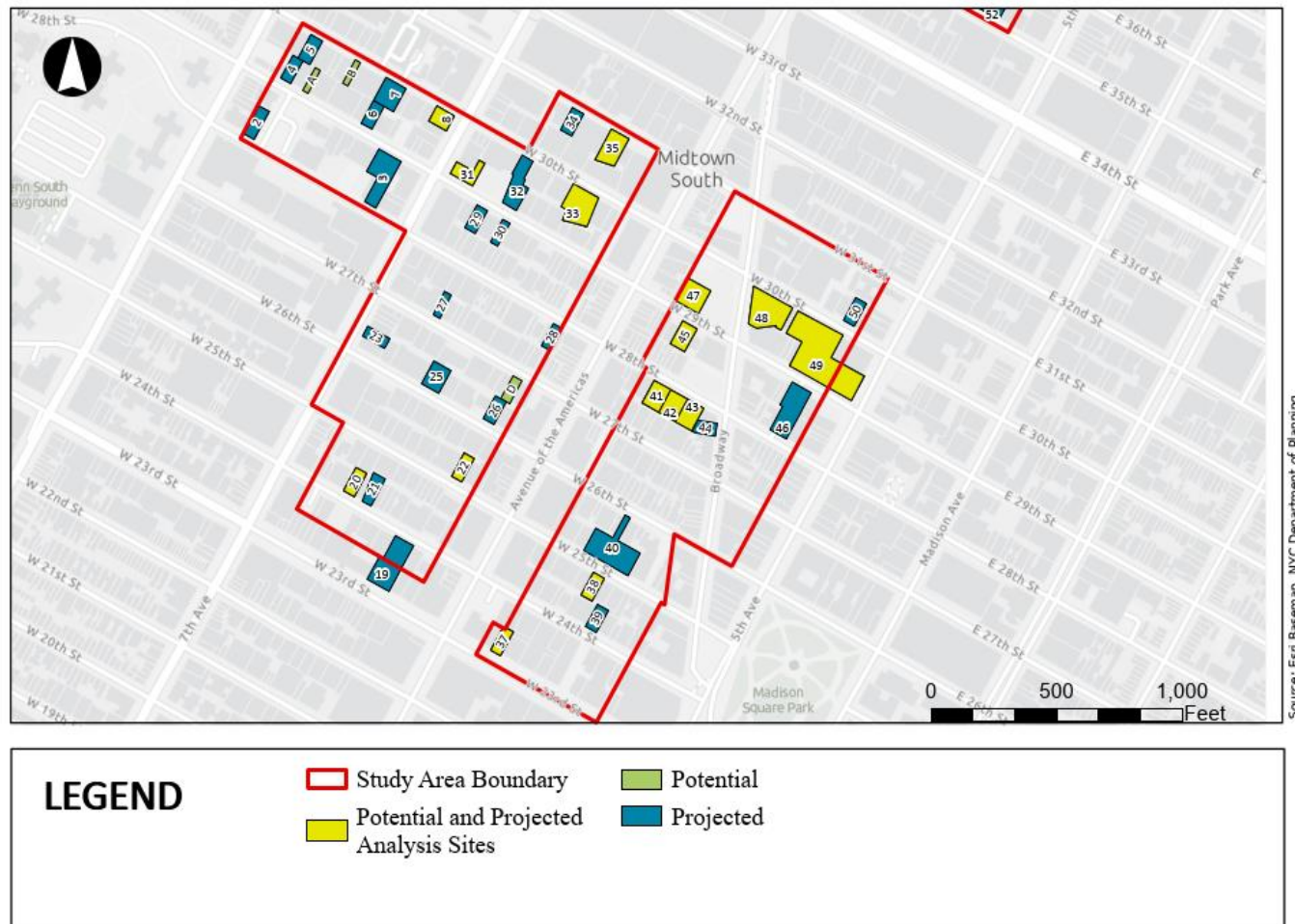


MIDTOWN SOUTH MIXED-USE STUDY

Figure 14-2 - Individual Potential and Projected Sites Screened (North) (Total 28 Sites)



MIDTOWN SOUTH MIXED-USE STUDY

Figure 14-3 - Individual Potential and Projected Sites Screened (South) (Total 40 Sites)

MIDTOWN SOUTH MIXED-USE STUDY

It was assumed that natural gas as the type of fuel would be used in the projected and potential development sites' heat and hot water systems, and that the exhaust stack(s) would be located three feet above roof height (the default assumption in the *CEQR Technical Manual as per GEP*). If the results pass the screening analysis, the projected or potential development site is determined to result in no potential significant adverse air quality impacts using natural gas and an E-designation is placed on these sites. For development sites lower than 7 stories, the use of an electrical heating system was assumed in accordance with City Local Law 154 of 2021. For sources that did not pass the screening analyses using the *CEQR Technical Manual* procedures, a refined modeling analysis was performed. For natural gas, the primary pollutants of concern are NO₂ and PM_{2.5}.

Refined Dispersion Analysis

The 2630 individual projected and potential development sites that did not pass the screening analysis were further analyzed using a refined dispersion model, the EPA/AMS AERMOD dispersion model. AERMOD (version 23132) is a state-of-the-art dispersion model, applicable to rural and urban areas, flat and complex terrain, surface and elevated releases, and multiple sources (including point, area, and volume sources). AERMOD is a steady-state plume model that incorporates current concepts about flow and dispersion in complex terrain, including updated treatments of the boundary layer theory, understanding of turbulence and dispersion, and includes handling of terrain interactions. The AERMOD model calculates pollutant concentrations from one or more points (e.g., exhaust stacks) based on hourly meteorological data, and has the capability to calculate pollutant concentrations at locations where the plume from the exhaust stack is affected by the aerodynamic wakes and eddies (downwash) produced by nearby structures. The analyses of potential impacts from exhaust stacks were made assuming stack tip downwash, urban dispersion and surface roughness length, and elimination of calm winds in the meteorological data. AERMOD can be run with and without building downwash (the downwash option accounts for the effects on plume dispersion created by the structure the stack is located on, and other nearby structures). In general, modeling "without" building downwash produces higher estimates of pollutant concentrations when assessing the impact of elevated sources on elevated receptor locations. Therefore, since the AERMOD analysis was performed to evaluate potential project-on-project and project-on-existing air quality impacts, the analysis was performed using the AERMOD model without downwash only.

The refined dispersion modeling analysis was performed for PM_{2.5} and NO₂. The analysis was performed using calculated emission rates for natural gas combustion as described below. For sites modeled as electric heat, 50% of the emission rates were used, as the boilers are still assumed to use natural gas.

Emission Estimates and Stack Parameters

Fuel consumption was estimated based on building square footage, building type (residential or commercial) and natural gas intensity factors, as outlined in the Air Quality Appendix of *CEQR Technical Manual*.

Emission factors from EPA's Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume I: Stationary Point and Area Sources were used with fuel consumption to calculate emission rates for the projected and potential development sites' heat and hot water systems.

One-hour average NO₂ concentration increments associated with the projected and potential development sites' heating and hot water systems were estimated using the AERMOD model's ARM2 module to analyze chemical transformation within the plume. For the NO₂ annual standard, the analysis assumed 100% conversion of NO_x to NO₂ to identify worst-case annual concentrations.

Background Concentrations

To estimate the maximum expected pollutant concentration at a given location (receptor), the predicted impacts must be added to a background value that accounts for existing pollutant concentrations from other sources that are not directly accounted for in the model (see **Table 14-4**). Concentrations measured at the most representative DEC ambient monitoring station during the most recent three-year period (2020–2022) were used for annual average NO₂, 1-hour NO₂, as well as annual and 24-hour PM_{2.5} background concentrations.

Table 14-4: Maximum Background Pollutant Concentrations

Pollutant	Location	Averaging Period	Concentrations		
			2020 ^[4]	2021 ^[4]	2022
PM _{2.5} (µg/m ³)	IS-45 ^[1, 2]	Annual	7.0	7.5	6.9
		24-hour	17.0	20.6	15.2
NO ₂ (ppb)	IS-52 ^[1, 3]	Annual	15.22	15.21	15.84
		1-hour	52.7	50.8	56.6

Source: New York State Air Quality Report Ambient Air Monitoring System, NYSDEC, 2020–2022 and EPA Air Data website ([Monitor Values Report | US EPA](#)).

^[1] Annual value is based on annual mean concentration for each year.

^[2] The 24-hour value is based on the 98th percentile of 24-hour average concentration for each year.

^[3] The 1-hour value is based on a three-year average (2020–2022) of the 98th percentile of daily maximum 1-hour average concentrations.

^[4] Concentrations may have been affected by lower vehicle related emissions due to COVID-19. NYSDEC has not formally requested exceptional event designation for the data.

PM_{2.5} annual average impacts are assessed on an incremental basis and compared with the PM_{2.5} *de minimis* criteria, without considering the annual background. The PM_{2.5} 24-hour average background concentration of 17.6 µg/m³ (based on the 2020 to 2022 average of 98th percentile concentrations measured at the IS 45 monitoring station) was used to establish the *de minimis* value for the 24-hour increment, consistent with the guidance provided in the *CEQR Technical Manual*. The *de minimis* value for 24-hour PM_{2.5} was calculated to be 8.7 µg/m³.

Meteorological Data

The meteorological data set consisted of five consecutive years of meteorological data: hourly surface data collected at the LGA Airport National Weather Service Station (2017–2021), and concurrent twice-daily upper air data collected at Brookhaven, New York. The meteorological data provide hour-by-hour wind speeds and directions, stability states, and temperature inversion elevation over the five-year period. These data were processed using the EPA AERMET program to develop data in a format which can be readily processed by the AERMOD model. The land uses around the site where meteorological surface data were available were classified using

categories defined in digital United States Geological Survey (USGS) maps to determine surface parameters used by the AERMET program.

Receptor Placement

Discrete receptors (i.e., locations at which concentrations are calculated) were modeled along the existing and proposed building façades to represent potentially sensitive locations such as operable windows and air intake vents. Receptors were placed at elevated locations on all façades and at multiple elevations on buildings, to identify maximum pollutant concentrations. Generally, receptors were spaced at approximately 3-meter (10-foot) intervals vertically to represent individual floors of a building, while horizontally, receptor spacing was 8 meters (approximately 26 feet).

Cumulative Impacts from Heat and Hot Water Systems (Clusters)

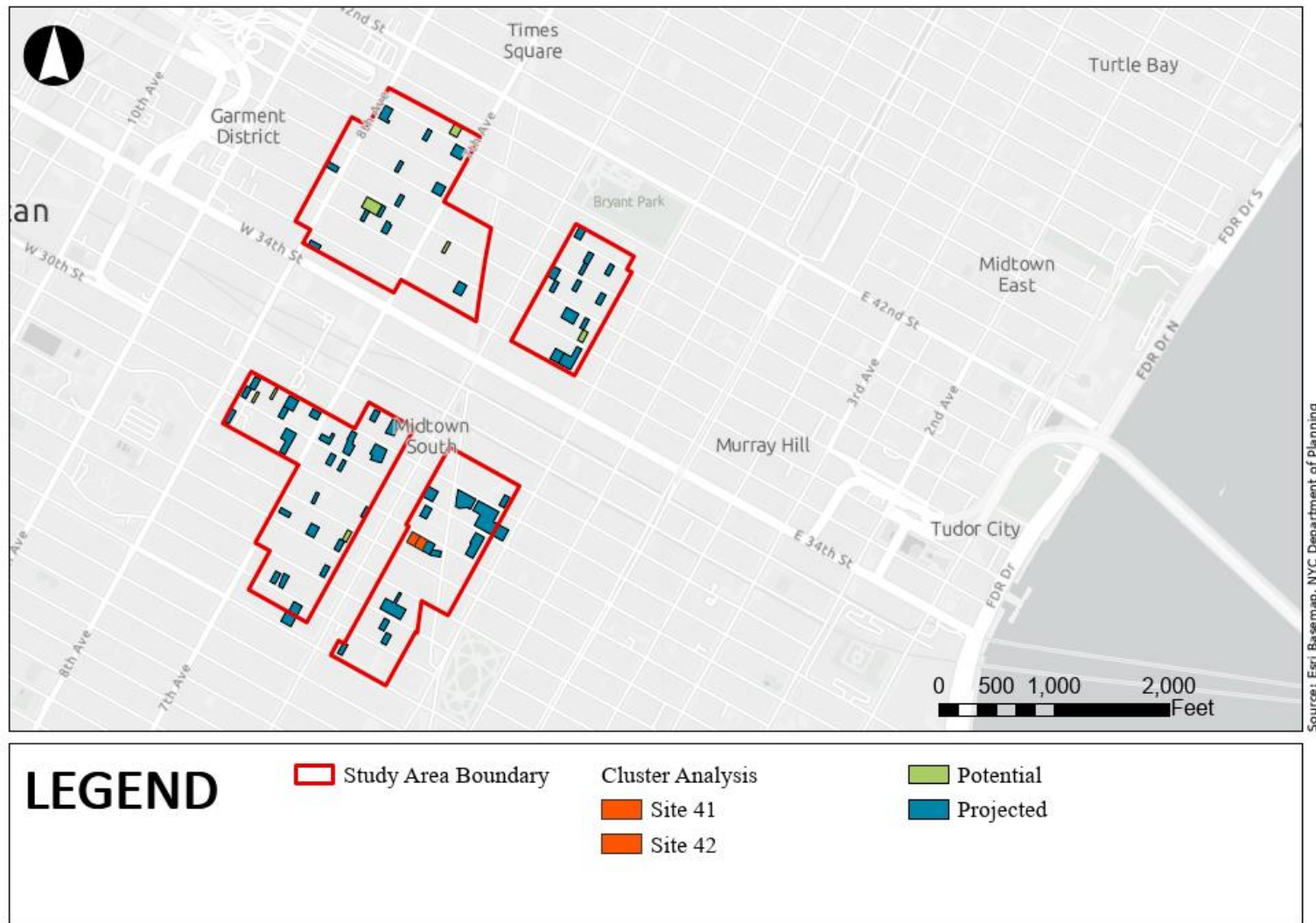
In addition to the individual source analysis, groups or “clusters” of heat and hot water sources from development sites with similar heights and in close proximity were modeled to address the cumulative impacts of multiple sources. The rezoning area and RWCDs were reviewed to determine areas where clusters with high density of development sites with similar building heights would be located, which could result in cumulative impacts on nearby buildings of a similar or greater height. The selection was done together with DCP.

One cluster was selected for analysis based on height delta, proximity to nearby buildings of similar height, and square footage. The development sites associated with the cluster and their location are presented in **Table 14-5** and **Figure 14-4**.

Table 14-5: Sites included in Clusters

Site	Development Sites
Cluster 1	Projected development sites 41 and 42

Figure 14-4 - Cluster Sites Analyzed



The analysis was performed using the EPA-approved AERMOD model (Version 23132, EPA, 2022). The cluster analysis used the same meteorological data in AERMOD as described earlier for the individual sites.

To estimate the maximum expected pollutant concentration at a given receptor, the calculated impact was added to the background value that accounts for existing pollutant concentrations from other sources in the area (see **Table 14-4**).

Industrial Sources

Analysis of Potential Impacts from Existing Uses

Actions that would result in the development of new, significant industrial sources or new uses that may be adversely affected by airborne emissions from existing or planned industrial sources require an assessment of both criteria and non-criteria pollutant emissions. Therefore, an industrial source screening assessment was performed for the projected and potential development sites based on 2021 CEQR Technical Manual guidance.

The proposed actions would not introduce new industrial sources but would introduce new sensitive receptors within 400 feet of the existing industrial uses. Pollutants emitted from exhaust systems of existing permitted industrial facilities were examined to identify potential significant adverse impacts on the projected and potential development sites. Land use maps were reviewed to identify potential sources of emissions from manufacturing/industrial operations. A preliminary survey was conducted using the New York City Department of Environmental Protection's (NYCDEP's) Clean Air Tracking System to determine if there are any NYCDEP-issued permits for potential sources of air toxics concerns. A request was made to NYCDEP's Bureau of Environmental Compliance to obtain the most current information regarding the release of air pollutants from the existing manufacturing or industrial sources that were identified to have industrial permits within the 400-foot setback of the study area boundary. The air permit data provided was compiled into a database of source locations, air emission rates, and other data pertinent to determining source impacts.

Ten DEP issued air permits were identified within 400 feet of the study area. To determine the operating status of permitted industries, a field survey was conducted on August 5, 2024. Based on further review, two dry cleaning light industrial permits were screened out from analysis. **Table 14-6** provides the details of all small industrial sources identified in the study area.

Table 14-6: Light Industrial Sources in the Study Area

Name of Business	Address	Type of Business	DEP/DCP Air Permit ID	In Operation	Included in Analysis
Ben-Amun Co., Inc.	246 W 38 Street	Manufacturing; Jewelry Polishing Wheels	PA053085	Yes	Yes
Ben-Amun Co., Inc.	246 W 38 Street	Manufacturing; Jewelry (Tin) Metal Melting Pots	PA052985	Yes	Yes
J. Edlin Interiors, Ltd.	122 W 27 Street	Baghouse, Woodworking	PB031910	Yes	Yes
Gurfein Woodwork, Inc.	291 7 Avenue	Cyclone, Woodworking	PB033212	Yes	Yes
Apple Cleaners	149 West 24 th Street	Dry Cleaning	PB017212	Yes	No
Ny Penn Plaza Cleaners	160 West 30th Street	Dry Cleaning	PB019200	Yes	No
Tiffany & Co.	53 W 23 Street	Manufacturing; Jewelry	PW005417	Yes	Yes
Kennedy Fabrications Inc	247 W 37 Street	Manufacturing of Architectural Models	PB013111	Yes (permit expired)	Yes
Fodera Fine Art Conservation	115 W 30 Street	Artistic products paint works (Varnish), Spray booth	PB010707	Yes (permit expired)	Yes
Paul Cavazza	256 W 38 Street	Blue Printing	PB061501	Yes (permit expired)	Yes

All pollutants listed in the permits were analyzed. In addition, PM_{2.5} and PM₁₀ fractions from total particulate concentrations, as listed in the permits, were derived based on the generic PM fractions for specific operations⁶. Solids from spray booth emissions were considered as particulate matter and total solvent (VOC) emissions were broken down into different types of pollutants, as provided in the permits. **Table 14-7** shows the summary of estimated emission rates from the facility operations. Detailed emission rate calculations are included in Table 2 and Table 3 of Appendix F.

⁶ [https://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-\(pm\)-2.5-significance-thresholds-and-calculation-methodology/final_pm2_5methodology.pdf?sfvrsn=2](https://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-(pm)-2.5-significance-thresholds-and-calculation-methodology/final_pm2_5methodology.pdf?sfvrsn=2)

Table 14-7: Estimated Emission Rates from Light Industrial Sources

Facility	Description of Process	DEP Permit ID	Pollutant Name	CAS Number	Hourly Average Emissions (g/s)	Annual Average Emissions (g/s)	Toxicity
Ben-Amun Co., Inc.	Jewelry Polishing Wheels	PA053085	Particulates	NY075-00-0	1.68E-04	1.15E-04	-
			Tin	07440-31-5	2.52E-04	5.75E-05	-
			Lead	07439-92-1	1.26E-04	2.88E-05	HAP
			Cadmium	07440-43-9	1.26E-04	2.88E-05	HAP/ Carcinogenic
			Glycerin	00056-81-5	1.26E-04	2.88E-05	-
			Hydrogen Chloride	07647-01-0	1.26E-04	2.88E-05	HAP
			Antimony	07440-36-0	1.26E-04	2.88E-05	HAP
Ben-Amun Co., Inc.	Jewelry (Tin) Metal Melting Pots	PA052985	Particulates	NY075-00-0	0	0	-
J. Edlin Interiors	Wood Working	PB031910	Particulates (PM2.5)	NY075-02-5	1.24E-05	8.49E-06	-
			Particulates (PM10)	NY075-00-5	2.22E-05	1.52E-05	-
Gurfein Woodwork, Inc.	Wood Working	PB033212	Particulates (PM2.5)	NY075-02-5	1.55E-06	6.79E-06	-
			Particulates (PM10)	NY075-00-5	2.78E-06	1.22E-05	-
Tiffany & Amp Co.	Jewelry Manufacturing	PW005417	Particulates*	NY075-00-0	1.26E-05	1.30E-05	-
			Total VOC	NY998-00-0	6.30E-04	2.17E-04	-
			Isopropanol	67-63-0	5.04E-04	1.74E-04	-
			Methanol	67-56-1	1.26E-04	4.35E-05	HAP
			Sodium Bisulfate, anhydrous	7631-90-5	1.26E-05	4.35E-06	-
			Boric Acid	10043-35-3	2.52E-05	8.70E-06	-
Kennedy Fabrications Inc	Manufacturing of Artificial Models	PB013111	Particulates* (PM2.5)	NY075-02-5	2.94E-04	2.01E-04	-
			Particulates* (PM10)	NY075-00-5	3.78E-04	2.59E-04	-
Fodera Fine Art Conservation	Artistic Products Paint Works	PB010707	Total VOC	NY998-00-0	1.93E-02	4.40E-04	-
			Particulates/pigments *	NY075-02-5	4.20E-05	2.88E-06	-
			Turpentine	8006-64-2	1.64E-02	3.74E-04	-
			Butanol	78-92-2	1.26E-03	2.88E-05	-
			Ethanol	64-17-5	5.04E-04	1.15E-05	-
Paul Cavazza	Blue Printing	PB061501	Ammonia solution (Aqua)	01336-21-6	1.26E-05	2.30E-06	-

*Emission rates averaged over 24 hours and 365 days.

Table 17-3 of the 2021 *CEQR Technical Manual* was used to convert the corresponding initial pollutant emissions from the source to dispersed pollutant concentrations. The resulting concentrations of non-criteria pollutants were compared to the NYSDEC DAR-1 Short-term Guideline Concentration (SGC) and Annual Guideline Concentration (AGC) thresholds, the resulting concentrations of particulates were compared to NAAQS. **Table 14-8** shows the analysis results for DEP issued permits within 400 feet. All the pollutants are below the applicable guideline

concentrations except for Cadmium emitting from Ben-Amen CO., Inc., which exceeded the AGC threshold. Therefore, a refined air quality analysis for Cadmium was performed.

Table 14-8: Screening of Pollutants from Light Industrial Sources

Facility	Pollutant Name	CAS Number	Setback Distance (Ft)	Max 1-hr Concentration ($\mu\text{g}/\text{m}^3$) ¹	Maximum Annual Concentration ($\mu\text{g}/\text{m}^3$)	SGC/ NAAQS Criteria ($\mu\text{g}/\text{m}^3$) ²	AGC/ NAAQS Criteria ($\mu\text{g}/\text{m}^3$) ²	Exceed Screening Threshold?
Ben-Amun Co., Inc.	Particulates	NY075-00-0	106	0.64	0.058	35	9	NO
	Tin	07440-31-5	106	2.69	0.029	20	0.24	NO
	Lead	07439-92-1	106	1.35	0.014	N/A	0.038	NO
	Cadmium	07440-43-9	106	1.35	0.014	N/A	0.00024	YES
	Glycerin	00056-81-5	106	1.35	0.014	N/A	NA	NO
	Hydrogen Chloride	07647-01-0	106	1.35	0.014	2100	20	NO
	Antimony	07440-36-0	106	1.35	0.014	N/A	1.2	NO
Ben-Amun Co., Inc.	Particulates	NY075-00-0	106	0.000	0.000	35	9	NO
J. Edlin Interiors	Particulates (PM _{2.5})	NY075-02-5	50	0.243	0.023	35	9	NO
	Particulates (PM ₁₀)	NY075-00-5	50	0.436	0.041	150	N/A	NO
Gurfein Woodwork Inc.	Particulates (PM _{2.5})	NY075-02-5	30	0.059	0.036	35	9	NO
	Particulates (PM ₁₀)	NY075-00-5	30	0.106	0.064	150	N/A	NO
Tiffany & Amp Co.	Particulates	NY075-00-0	70	0.107	0.015	35	9	NO
	Total VOC	NY998-00-0	70	16.066	0.248	N/A	N/A	NO
	Isopropanol	67-63-0	70	12.852	0.198	98000	7000	NO
	Methanol	67-56-1	70	3.213	0.005	33000	4000	NO
	Sodium Bisulfate, anhydrous	7631-90-5	70	0.321	0.005	N/A	12	NO
	Boric Acid	10043-35-3	70	0.643	0.010	N/A	4.8	NO
Kennedy Fabrications Inc	Particulates (PM _{2.5})	NY075-00-5	108	1.079	0.098	35	9	NO
	Particulates (PM ₁₀)	NY075-00-5	108	1.387	0.126	150	N/A	NO
Fodera Fine Art Conservation	Total VOC	NY998-00-0	30	2406.777	2.311	N/A	N/A	NO
	Particulates/pigments	NY075-02-5	30	1.608	0.015	35	9	NO
	Turpentine	8006-64-2	30	2044.974	1.964	N/A	2700	NO
	Butanol	78-92-2	30	157.306	0.151	N/A	710	NO
	Ethanol	64-17-5	30	62.922	0.060	N/A	45000	NO
Paul Cavazza	Ammonia solution (Aqua)	01336-21-6	110	0.125	0.001	2400	500	NO

¹ PM_{2.5} and PM₁₀ concentrations are of 24-hour average. ²N/A denotes pollutant does not have DAR-1 threshold concentration.

Additional Sources (Large and Major Sources)

The *CEQR Technical Manual* requires an analysis of projects that may result in a significant adverse impact due to certain types of new uses located near a “large” or “major” emissions source. Major sources are defined as those located at facilities that have a Title V or Prevention of Significant Deterioration air permit, while large sources are defined as those located at facilities that require a State Facility Permit. To assess the potential effects of these existing sources on the projected and potential development sites, a comprehensive search was performed to identify New York State Department of Environmental Conservation (DEC) Title V, State Facility permits and permits listed in the EPA Envirofacts database.

Three large sources with DEC state ASF permits and one major source with a Title V permit were identified within 1,000 feet of the study area. The list of large and major sources identified are summarized in **Table 14-9**. Based on further review of large sources, Bank of America was eliminated from further analysis because the demand response generators at the facility operate less than 4200 hours per year in total in accordance with NYCDEP records (PB066807).

Table 14-9: Large and Major Sources within 1000 feet of the Study Area

Name of Business	Address	Type of Business	Source Type	DEP/DCP Air Permit ID	In Operation	Included in Analysis
New York Times Building Condominium	620 Eighth Ave	Generators	Large	2-6205-01696/00001	Yes	Yes
One Penn Plaza LLC	242 W 34 th Street	Generators	Large	2-6205-01736/00001	Yes	Yes
Bank of America	1111 6 th Ave	Demand Response Generators	Large	2-6202-01788/00001	Yes	No
Mutual Development Houses Inc	315 W 25 th Street	Generators, & boilers	Major	Title V, 2-6205-00182/00001	Yes	Yes

Table 14-10 shows the summary of estimated emission rates from large and major sources for the dispersion modeling analysis. Detailed emission rate calculations for New York Times Building Condominium are included in Table 3 of Appendix F. Emission rate calculations are prepared by DCP based on facility permits, facility annual emission statement reports, and facility annual fuel consumption and operation reports.

Table 14-10: Estimated Emission Rates from Large Source and Major Source

Facility	Description of Process	DEP Permit ID	Pollutant Name	CAS Number	Hourly Average Emissions (g/s)*	Annual Average Emissions (g/s)*
New York Times Building Condominium	Two Generators used for Cogeneration	State Facility Permit: 2-6205-01696/00001	NO ₂	NY210-00-0	1.63E-01	1.21E-01
			PM2.5	NY075-02-5	1.66E-02	1.66E-02
One Penn Plaza	Non-emergency Engine	2-6205-01736/00001	NO ₂	NY210-00-0	6.20E-01	6.20E-01
			PM2.5	NY075-02-5	7.66E-02	7.66E-02
Mutual Redevelopment Houses Inc.	Engine & Boilers	Title V, 2-6205-00182/00001	NO ₂	NY210-00-0	2.87E+00	2.87E+00
			PM2.5	NY075-02-5	2.00E-01	2.00E-01

*Emission rates averaged over 24 hours and 365 days.

A refined air quality analysis was performed for large and major sources using AERMOD dispersion model.

G. The Future without the Proposed Actions (No-Action Condition)

Mobile Sources

CO concentrations in the 2034 No-Action condition were determined using the methodology previously described. **Table 14-11** shows future maximum predicted 8-hour CO concentration, including the background concentration, at the analysis intersections in the No-Action condition. The values shown are the highest predicted concentrations for the receptor locations for any of the time periods analyzed.

Table 14-11: Maximum Predicted 1-Hour and 8-Hour Average CO No-Action Concentrations (Table revised for FEIS)

Analysis Site	Location	1-Hour Concentration (ppm)	8-Hour Concentration (ppm)
1	7 th Avenue and West 30 th Street	3.04	1.64
2	7 th Avenue and West 29 th Street	3.01	1.71

Notes:

1-hour standard (NAAQS) is 35 ppm, 8-hour standard (NAAQS) is nine ppm.

Concentration includes 8-hours background concentration 1.2 ppm, and 1-hour background concentration 1.7 ppm.

PM_{2.5} concentrations for the No-Action condition are not presented since impacts are assessed on an incremental basis for the Action condition only.

Stationary Sources

In the No-Action condition, current uses on the projected and potential development sites are assumed to either remain unchanged from existing conditions or become occupied by uses that are as-of-right under existing zoning and reflect current trends that are deemed likely to support more active uses. The Proposed Actions would likely result in more development, and therefore, the emissions from heat and hot water systems associated with the Proposed Actions could cumulatively be greater than the emissions from heat and hot water systems under the No Action condition. Therefore, the No-Action condition for stationary sources was not analyzed.

H. The Future with the Proposed Actions (With-Action Condition)

Mobile Sources

CO concentrations for the 2034 With-Action condition were predicted using the methodology previously described. **Table 14-12** shows the future maximum predicted 1-hour and 8-hour average CO concentrations at the study intersections. The values shown are the highest predicted concentrations including background. The Proposed Actions would not result in any violations of the 1-hour or 8-hour CO standard. In addition, the incremental increases in 8-hour average CO concentrations are small and consequently would not result in a violation of the *CEQR Technical Manual de minimis* CO criteria. Therefore, mobile source CO emissions from the Proposed Actions would not result in a significant adverse air quality impact.

Table 14-12: Maximum Predicted 1-Hour and 8-Hour Average CO With-Action Concentrations (ppm) (Table revised for FEIS)

Analysis Site	Location	1-Hour Concentration (ppm)	8-Hour Concentration (ppm)
1	7 th Avenue and West 30 th Street	3.05	1.65
2	7 th Avenue and West 29 th Street	3.05	1.75

Notes:

1-hour standard (NAAQS) is 35 ppm, 8-hour standard (NAAQS) is nine ppm.

Concentration includes 8-hours background concentration 1.2 ppm, and 1-hour background concentration 1.7 ppm.

Using the methodology previously described, maximum predicted 24-hour PM_{2.5} concentration increments were calculated so that they could be compared with the *de minimis* criteria. Based on

this analysis, the maximum predicted localized 24-hour average PM_{2.5} concentrations are presented in **Table 14-13**.

Table 14-13: 2034 Maximum Predicted 24-Hour Average PM_{2.5} Incremental and Total Concentrations (µg/m³) (Table revised for FEIS)

Analysis Site	Location	No Action Total Concentration	With Action Total Concentration	Project Increment	De minimis/ NAAQS
1	7 th Avenue and West 30 th Street	26.07	26.23	0.16	8.7/35
2	7 th Avenue and West 29 th Street	25.99	26.79	0.80	8.7/35

Notes: PM_{2.5} *de minimis* criterion—24-hour average, not to exceed more than half the difference between the background concentration (17.6 µg/m³) and the 24-hour standard of 35 µg/m³

The maximum annual PM_{2.5} concentration increments and total annual PM_{2.5} concentrations including the background at the intersections were calculated to be compared with the NAAQS and *de minimis* criteria. Analysis results are presented in **Table 14-14**.

Table 14-14: 2034 Maximum Predicted Annual Average PM_{2.5} Incremental and Total Concentrations (µg/m³) (Table revised for FEIS)

Analysis Site	Location	No Action Total Concentration	With Action Total Concentration	Project Increment	De minimis/ NAAQS
1	7 th Avenue and West 30 th Street	7.718	7.751	0.033	0.1/9
2	7 th Avenue and West 29 th Street	7.703	7.799	0.096	0.1/9

Note: PM_{2.5} *de minimis* criterion—annual (neighborhood scale), 0.1 µg/m³.

As shown in the tables, both PM_{2.5} 24-hour and neighborhood-scale annual incremental concentrations are below the 24-hour and annual *de minimis* criterion threshold; therefore, the results demonstrate that mobile source PM_{2.5} emissions from the Proposed Actions would not result in a significant adverse air quality impact.

Between the draft and final EIS, recommended traffic mitigation measures have been further reviewed and finalized. Additional analysis for the with-action with-mitigation condition indicates that changes to vehicle travel speeds would be insignificant and therefore, not affect the CO or PM_{2.5} emissions related to mobile sources. As such, should the recommended traffic mitigation measures be implemented, the CO and PM_{2.5} emission from the mobile source would not result in a significant adverse air quality impact.

Stationary Sources

Individual Heat and Hot Water Systems

Screening Analysis

The screening analysis was performed to evaluate whether potential air quality impacts from the heat and hot water systems associated with the projected and potential development sites could potentially impact other projected and potential development sites, or existing or other proposed buildings. Additional sites were screened out by applying a setback to the screening distance (these sites subsequently require an E-Designation).

A total of ~~2723~~ projected and 3 potential development sites failed the refined screening analysis using Figure 17-2 from the *CEQR Technical Manual*. Each of these development sites required a refined modeling analysis, using AERMOD, for the use of natural gas.

Refined Dispersion Analysis

As indicated above, ~~2630~~ projected and potential development sites required a refined modeling analysis to determine the potential for air quality impacts.

Table 14-15 presents a summary of the analysis results and proposed restrictions, with additional details provided in **Table 14-16** (projected development sites) and **Table 14-17** (potential development sites).

Table 14-15: Heating and Hot Water System Analysis Summary (Table revised for FEIS)

Analysis	Projected Development Sites		Potential Development Sites	
	Pass	Fail	Pass	Fail
Natural Gas Screening	19	42	4	3
Natural Gas and Stack Setback Requirement	15	27	0	3
Natural Gas Refined Analysis	0	27	0	3
Natural Gas Stack Location Restriction and Low NO _x 30 ppm Requirement	21	0	1	0
Natural Gas Stack Location Restriction and Low NO _x 15 ppm Requirement	<u>5</u>	0	2	0
Electric only heat	3	0	0	0

Overall, to preclude the potential for significant adverse air quality impacts on other projected and potential development sites, or existing buildings, from the heat and hot water system emissions, an (E) Designation (E-830), presented in Appendix F, would be assigned as part of the Proposed Actions for ~~5445~~ projected and potential development sites (including ~~4742~~ projected and ~~43~~ potential development sites). These designations specify the various restrictions, such as the use of low NO_x burners, electric heat or the distance that the vent stack on the building roof must be from its lot line(s).

Table 14-16: Heating and Hot Water System Analysis – Results for Projected Development Sites
(Table revised for FEIS)

Site	Building Height	Maximum Natural Gas Modeled Concentration ($\mu\text{g}/\text{m}^3$)					Requires (E) Designation (Yes/No)
		PM _{2.5} 24-Hour	PM _{2.5} Annual	NO ₂ 1-Hour ¹	NO ₂ Annual ¹	PM _{2.5} 24-Hour/ PM _{2.5} Annual/ NO ₂ 1-Hour Standard/ NO ₂ Annual	
1	215	8.2	0.3	187.1	30.9	8.7/0.3/188/100	Yes - 15 ppm Low NOx burner and restrict stack height and location to southeast corner of the lot.
2	415	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
3	345	Pass with E	Pass with E	Pass with E	Pass with E	8.7/0.3/188/100	Yes - Passes with setback from north lot line
4	325	Pass with E	Pass with E	Pass with E	Pass with E	8.7/0.3/188/100	Yes - Passes with setback from east lot line
5	315	4.0	0.2	170.3	30.6	8.7/0.3/188/100	Yes – restrict stack setback from south lot line
6	335	3.3	0.1	154.5	30.4	8.7/0.3/188/100	Yes – 30 ppm Low NOx burner and restrict stack setback from north lot line
7	345	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
8	215	7.0	0.2	141.0	30.2	8.7/0.3/188/100	Yes - 30 ppm Low NOx burner and ensure stack height is at least 230 feet. Restrict stack location setback from south lot line and west lot line.
9	305	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
10	335	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
11	325	1.8	0.1	141.8	30.2	8.7/0.3/188/100	Yes - 30 ppm Low NOx burner and restrict stack height to at least 331 feet
12	315	Pass with E	Pass with E	Pass with E	Pass with E	8.7/0.3/188/100	Yes - Passes with stack setback from west lot line
13	345	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
14	325	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
15	275	7.2	0.3	185.9	30.7	8.7/0.3/188/100	Yes - 15 ppm Low NOx burner and restrict stack setback from north lot line
16	275	8.7	0.2	176.8	30.6	8.7/0.3/188/100	Yes – 30 ppm Low NOx burner and restrict stack setback from north lot line
17	325	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
18	245	7.5	0.3	145.0	30.2	8.7/0.3/188/100	Yes - Heating must be Electric, Low NOx burner for hot water and restrict stack setback from south lot line
19	275	Pass with E	Pass with E	Pass with E	Pass with E	8.7/0.3/188/100	Yes - Passes with setback from west lot line and north lot line
20	275	7.1	0.3	184.8	30.3	8.7/0.3/188/100	Yes - 30 ppm Low NOx burner
21	335	Pass with E	Pass with E	Pass with E	Pass with E	8.7/0.3/188/100	Yes - Passes with stack setback from south lot line

Table 14-16: Heating and Hot Water System Analysis – Results for Projected Development Sites
(Table revised for FEIS)

Site	Building Height	Maximum Natural Gas Modeled Concentration ($\mu\text{g}/\text{m}^3$)					Requires (E) Designation (Yes/No)
		PM _{2.5} 24-Hour	PM _{2.5} Annual	NO ₂ 1-Hour ¹	NO ₂ Annual ¹	PM _{2.5} 24-Hour/ PM _{2.5} Annual/ NO ₂ 1-Hour Standard/ NO ₂ Annual	
22	265	5.4	0.1	167.0	30.2	8.7/0.3/188/100	Yes - 30 ppm Low NOx burner
23	255	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
24	N/A	N/A	N/A	N/A	N/A	N/A	Removed from analysis
25	265	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
26	275	4.6	0.1	160.9	30.2	8.7/0.3/188/100	Yes – 30 ppm Low NOx burner and stack setback from north lot line
27	265	Pass with E	Pass with E	Pass with E	Pass with E	8.7/0.3/188/100	Yes - Passes with stack setback from north lot line
28	265	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
29	265	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
30	265	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
31	255	7.5	0.2	171.2	30.4	8.7/0.3/188/100	Yes - Heating must be Electric and 30 ppm Low NOx burner for hot water system and stack setback from north lot line
32	345	Pass with E	Pass with E	Pass with E	Pass with E	8.7/0.3/188/100	Yes - Passes with stack setback from west lot line
33	435	7.5	0.2	136.4	30.1	8.7/0.3/188/100	Yes - 30 ppm Low NOx burner and restrict stack setback from east lot line
34	335	Pass with E	Pass with E	Pass with E	Pass with E	8.7/0.3/188/100	Yes- Passes with stack setback from north lot line
35	355	8.3	0.1	186.9	30.4	8.7/0.3/188/100	Yes - 30 ppm Low NOx burner
36	335	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
37	205	5.4	0.2	160.9	30.2	8.7/0.3/188/100	Yes - 30 ppm Low NOx burner and restrict stack setback from north lot line and west lot line
38	315	3.4	0.1	187.2	30.2	8.7/0.3/188/100	Yes - 30 ppm Low NOx burner and restrict stack setback from east lot line and the south lot line
39	335	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
40	475	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
41	325	4.5	0.2	172.6	30.5	8.7/0.3/188/100	Yes - 30 ppm Low NOx burner and restrict stack setback from east lot line
42	325	3.5	0.2	155.9	30.9	8.7/0.3/188/100	Yes - Heating must be Electric
43	375	5.7	0.3	178.6	30.7	8.7/0.3/188/100	Yes - 30 ppm Low NOx burner
44	195	Pass with E	Pass with E	Pass with E	Pass with E	8.7/0.3/188/100	Yes - Passes with stack setback from west lot line

Table 14-16: Heating and Hot Water System Analysis – Results for Projected Development Sites
(Table revised for FEIS)

Site	Building Height	Maximum Natural Gas Modeled Concentration ($\mu\text{g}/\text{m}^3$)					Requires (E) Designation (Yes/No)
		PM _{2.5} 24-Hour	PM _{2.5} Annual	NO ₂ 1-Hour ¹	NO ₂ Annual ¹	PM _{2.5} 24-Hour/ PM _{2.5} Annual/ NO ₂ 1-Hour Standard/ NO ₂ Annual	
45	325	4.6	0.2	183.2	30.9	8.7/0.3/188/100	Yes - 30 ppm Low NOx burner and restrict stack setback from south lot line and east lot line
46	325	Pass with E	Pass with E	Pass with E	Pass with E	8.7/0.3/188/100	Yes - Passes with stack setback from north lot line
47	335	8.1	0.1	180.5	30.9	8.7/0.3/188/100	Yes - 15 ppm Low NOx burner and restrict stack setback from east lot line and north lot line.
48	285	3.6	0.2	187.7	30.2	8.7/0.3/188/100	Yes - 30 ppm Low NOx burner and restrict stack location to the southwest corner or the northwest corner of the lot
49	455	4.1	0.2	171.0	30.4	8.7/0.3/188/100	Yes - 30 ppm Low NOx burner
50	325	Pass with E	Pass with E	Pass with E	Pass with E	8.7/0.3/188/100	Yes - Passes with stack setback from south lot line
51	335	6.8	0.3	187.8	30.6	8.7/0.3/188/100	Yes - 30 ppm Low NOx burner and restrict stack height and setback from east lot line
52	345	Pass with E	Pass with E	Pass with E	Pass with E	8.7/0.3/188/100	Yes - Passes with restriction of stack to southwest corner of the lot
53	325	4.3	0.2	132.9	30.3	8.7/0.3/188/100	Yes - 30 ppm Low NOx burner
54	325	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
55	345	7.9	0.2	187.7	30.5	8.7/0.3/188/100	Yes - 15 ppm Low NOx burner and restrict stack height and stack setback from the west lot line
56	325	6.9	0.1	187.3	30.7	8.7/0.3/188/100	Yes - 30 ppm Low NOx burner and restrict stack height and stack setback from north lot line
57	335	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
58	325	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
59	325	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
60	305	Pass with E	Pass with E	Pass with E	Pass with E	8.7/0.3/188/100	Yes - Passes with stack setback from north lot line
61	325	Pass with E	Pass with E	Pass with E	Pass with E	8.7/0.3/188/100	Yes - Passes with restricted stack height
62	335	Pass with E	Pass with E	Pass with E	Pass with E	8.7/0.3/188/100	Yes - Passes with stack setback from south lot line

¹Results include background concentrations of 100 and 29.8 for NO₂ hourly and annual, respectively.

Table 14-17: Heating and Hot Water System Analysis – Results for Potential Development Sites (Table revised for FEIS)

Site	Building Height	Maximum Natural Gas Modeled Concentration ($\mu\text{g}/\text{m}^3$)					Requires (E) Designation (Yes/No)
		PM _{2.5} 24-Hour	PM _{2.5} Annual	NO ₂ 1-Hour ¹	NO ₂ Annual ¹	PM _{2.5} 24-Hour/PM _{2.5} Annual/NO ₂ 1-Hour Standard/NO ₂ Annual	
A	325	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
B	315	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
C	325	4.5	0.1	171.1	30.5	8.7/0.3/188/100	Yes - 15 ppm Low NOx burner and restrict stack height and stack setback from south lot line and from east lot line
D	335	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
E	345	Pass	Pass	Pass	Pass	8.7/0.3/188/100	No
F	315	4.4	0.2	175.6	30.4	8.7/0.3/188/100	Yes - 30 ppm Low NOx burner and restrict stack setback from the north lot line
G	345	7.1	0.2	168.9	30.5	8.7/0.3/188/100	Yes - 15 ppm Low NOx burner and restrict stack height and stack setback from from the east lot line

¹ Results include background concentrations of 100 and 29.8 for NO₂ hourly and annual, respectively.

Cumulative Impacts from Heat and Hot Water Systems (Cluster Analysis)

An analysis was conducted to evaluate potential air quality impacts from groups or “clusters” of heat and hot water systems in close proximity with similar stack heights. One cluster was identified for refined dispersion analysis using AERMOD. The analysis was performed using the general assumptions and procedures outlined earlier for individual development sites. As shown in **Table 14-18**, the results for the cluster are below the applicable standards.

Table 14-18: Heating and Hot Water System Analysis – Results for Cluster Analysis (Table revised for FEIS)

Cluster	Cluster Height	Maximum Natural Gas Modeled Concentration ($\mu\text{g}/\text{m}^3$)					Requires (E) Designation (Yes/No)
		PM _{2.5} 24-Hour	PM _{2.5} Annual	NO ₂ 1-Hour ¹	NO ₂ Annual ¹	PM _{2.5} 24-Hour/PM _{2.5} Annual/NO ₂ 1-Hour Standard/NO ₂ Annual	
Projected Sites 41 and 42	325	4.5	0.3	172.6	31.1	8.7/0.3/188/100	Yes – For Site 41, 30 ppm Low NOx burner and stack setback. Site 42 heating must be Electric and 15 ppm Low NOx burner for hot water

¹ Results include background concentrations of 100 and 29.8 for NO₂ hourly and annual, respectively.

Light Industrial Sources

Analysis of Impacts from Existing Light Industrial Sources

Based on the light industrial source screening results, one pollutant, Cadmium, from city DEP permitted facility Ben-Amun Co., Inc., exceeded the Annual Guideline Concentrations (AGC) threshold criteria. Therefore, a refined air quality analysis was completed to further assess the emissions from the industrial operation using AERMOD dispersion modeling with the same meteorological data inputs used for the detailed HVAC analysis. Annual emission rates and stack parameters were adapted from the existing permits. The refined analysis covers the projected and potential development sites that fail to screen out AGC exceedance.

The projected and potential development sites are intended to be multi-story buildings. Therefore, multiple receptors of vertical and horizontal grids were placed along the facades of the buildings up to the respective building heights. A vertical separation of 10 feet and horizontal separation of 26 feet were placed between the receptors to correspond them with each floor of the buildings. A horizontal separation of 10 feet was used for development Site C, which is close to the source emitting Cadmium. The analysis was performed with and without building downwash and with the highest result reported.

The nearest projected and potential development sites to the industrial source emitting Cadmium are Site 14, Site 13, Site 11, and Site C, ~~and Site~~. AERMOD results predicted exceedance of Cadmium DAR-1 AGC threshold on ~~Site C~~, but not on other all of the analyzed sites. **Table 14-19** presents the modeled annual average concentration of Cadmium for each Site C. As the modeling results show, the Proposed Actions would have a significant adverse air quality impact due to the exposure of receptors to Cadmium released from an existing industrial source.

Table 14-19: Industrial Source Detailed Analysis Results (Table revised for FEIS)

Pollutant	CAS #	Projected Site	Avg Annual Concentration ($\mu\text{g}/\text{m}^3$)	AGC ($\mu\text{g}/\text{m}^3$)	Exceedance
Cadmium	07440-43-9	Site C	0.00232	0.00024	Yes
		Site 13	0.00582		Yes
		Site 14	0.00079		Yes
		Site 11	0.00066		Yes

Health Risk Assessment

A health risk assessment was conducted for pollutants in accordance with the approach described in the “Determining the Significance of Air Quality Impacts” section of this chapter. Using the predicted concentrations of each pollutant, the maximum hazard index and total cancer risk were calculated for the Proposed Actions. The hazard index approach was used to determine the effects of multiple non-carcinogenic compounds, and the cancer risk factors were used to determine the effects of carcinogenic compounds.

Tables 14-20 and 14-21 present the results of the assessment of cumulative non-carcinogenic and carcinogenic effects on the Proposed Actions, respectively. The maximum hazard index at an

individual receptor location is less than DEC's DAR-1 threshold level of 2.0. Therefore, based upon cumulative air toxics analysis, the Proposed Actions would not result in a significant hazard risk.

The DAR-1 AGC standard for Cadmium ($0.00024 \mu\text{g}/\text{m}^3$) corresponds to a one-in-a million cancer risk. According to DAR-1, the acceptable residual risk range for emissions must be less than 10-in-a-million cancer risk for non-criteria air pollutants identified as carcinogenic. Since Cadmium is the only carcinogen emitted from Ben-Amun Co. Inc., the cancer risk posed by Cadmium represents the total cancer risk resulting from the emissions from Ben-Amun Co. For Cadmium, the upper limit of acceptable cancer risk of 10-in-a-million corresponds to an annual concentration of $0.0024 \mu\text{g}/\text{m}^3$.

As such, locations with Cadmium annual average concentrations at or above $0.0024 \mu\text{g}/\text{m}^3$ would experience unacceptable cancer risk; locations with cadmium annual concentrations between $0.00024 \mu\text{g}/\text{m}^3$ and $0.0024 \mu\text{g}/\text{m}^3$ would experience significant air quality impacts based on DAR-1 standards, but not unacceptable cancer risk. According to the cancer risk assessment, modeled Cadmium emissions from Ben-Amun Co, Inc. exceed the cancer risk threshold. **Table 14-20** shows the total cancer risk assessment.

Table 14-20: Estimated Maximum Hazard Index

Pollutant	CAS Number	Estimated Annual Concentration ($\mu\text{g}/\text{m}^3$)	AGC ($\mu\text{g}/\text{m}^3$)	Pollutant Concentration to AGC Ratio
Lead	07439-92-1	0.014	0.04	0.38
Hydrogen Chloride	07647-01-0	0.014	20.00	0.00
Antimony	07440-36-0	0.014	1.20	0.01
Methanol	67-56-1	0.050	4000	0.00
Total Hazard Index				0.39
Hazard Index Threshold Value				2.0

Table 14-21: Estimated Maximum Cancer Risk

Pollutant	CAS Number	Estimated Annual Concentration ($\mu\text{g}/\text{m}^3$)	AGC ($\mu\text{g}/\text{m}^3$)	Pollutant Concentration to AGC Ratio
Cadmium	07440-43-9	0.00582	0.00024	24.3
Total Cancer Risk				24.3
Cancer Risk Threshold Value				10.0

To avoid unacceptable cancer risk caused by ambient Cadmium concentrations at the potential projected development site 13C, restrictions to prohibit operable windows or air intakes vents at some façade locations of the development site will be specified via E-Designation (E-810) that is presented in Appendix F. The more detailed façade locations will be further examined and finalized between the Draft and Final EIS. The general requirement of the restriction would be as follows:

Block ~~786~~787, Lot ~~68~~31 (~~Potential~~Projected Development Site ~~13G~~):

To preclude the potential for cancer risk impacts from Ben-Amun Co. Inc. located at 246 West 38th Street, if Cadmium emissions continue at this source, any new residential or commercial development on the above-mentioned property shall restrict operable windows or air intake vent(s) at the façade locations to be specified.

Between the DEIS and FEIS, further investigation ~~will be~~was conducted to quantify the emission rate of Cadmium from Ben-Amun Co Inc. ~~No R~~revision to the air quality impact analysis ~~will be~~was conducted ~~if~~since the investigation ~~indicates~~does not indicate different Cadmium emission rate compared to what is in the facility's current permit to reevaluate the possible air quality impact.

Light Industrial Use in the Projected and Potential Development Sites

The Proposed Actions would allow for manufacturing and residential uses in the same building. To protect occupants of mixed-use residential and manufacturing buildings and surrounding properties from smoke, dust, other particulate matter, odorous matter, and toxic noxious matter, any manufacturing uses of these buildings would need to adhere to the performance standards for M1 districts outlined in ZR 42-40 and additional conditions in ZR123-22(b). Manufacturing uses operating on the same story or above residential uses would also need to adhere to the environmental requirements of ZR 32-423, as referenced in ZR 123-31(c)(2) to minimize significant adverse air quality impacts. Therefore, in the case that manufacturing uses would be located at the projected for the potential development sites, they would not result in adverse air quality impact.

Analysis of Impacts from Large/Major Sources

Two large sources, the New York Times Building Condominium and One Penn Plaza, were included in the refined air quality analysis. In addition, one major source, Mutual Redevelopment Houses Inc. was also included in the refined air quality analysis. DCP conducted Refined dispersion modeling internal for these facilities.

Table 14-22 shows the 1-hour and annual modeling results for NO₂ emissions and 24-hour and annual modeling results for PM_{2.5} emissions from large and major sources. Results are compared with the 1-hour NO₂ and annual NO₂ NAAQS criteria, along with 24-hour and annual PM_{2.5} NAAQS criteria.

The modeled PM_{2.5} 24-hour and annual concentrations including the background concentrations are lower than the relevant NAAQS thresholds at all development sites for all analyzed large/major sources. NO₂ concentrations from New York Times Building Condominium exceed 1-hour NAAQS for Site 17 and Site G at around at multiple facades and different heights. Therefore, the Proposed Actions would have a significant air quality impact due to exposure of receptors to NO₂ emissions from the New York Times Building Condominium generators. Modeling results indicate that NO₂ concentrations at other development sites are below the NAAQS.

Table 14-22: Large and Major Source Detailed Analysis Results

Source	Development Site	Maximum Concentration (μm^3)				Exceedance
		PM _{2.5} 24-Hour ¹	PM _{2.5} Annual ¹	NO ₂ 1-Hour ²	NO ₂ Annual ²	
New York Times Building Condominium	1, 11, 14, 15, 16, 17, 18, G, & C	27.1	8.3	319	36.8	NO ₂ 1-Hour
One Penn Plaza	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 34, 35 & C	18.2	7.2	109.5	30.8	None
Mutual Redevelopment Buildings	Sites 2, 3 & 23	18.6	7.2	170.5	32.1	None
NAAQS		35	9	188	100	

¹ Results include 24-hour background of 17.6 μm^3 and annual background of 7.1 μm^3 for PM_{2.5}.

² Results include NO₂ seasonal hourly background concentrations and annual background concentration of 29.8 μm^3 .

To avoid significant adverse impacts from the New York Times Building Condominium's emission source, restrictions to prohibit operable windows or air intakes vents at some façade locations of projected development site 17 and potential development site G will be specified via E-Designation (E-830) that is presented in Appendix F. The more detailed façade locations will be ~~are~~ further examined and finalized ~~between the Draft and~~ for Final EIS. The general requirement of the restriction would be as follows:

Proposed (E) Designation Requirements

Block 789, Lot 60 (Projected Development Site 17):

To preclude the potential for significant adverse air quality impacts from the co-generation system located at 620 Eighth Avenue, any new residential or commercial development on the above-mentioned property shall restrict operable windows or air intake vent(s) at the façade locations to be specified.

Block 1012, Lots 25, 26 (Potential Development Site G):

To preclude the potential for significant adverse air quality impacts from the co-generation system located at 620 Eighth Avenue, any new residential or commercial development on the above-mentioned property shall restrict operable windows or air intake vent(s) at the façade locations to be specified.

With restriction of locations for operable windows and air intakes placed on projected development site 17 and potential development site G, the adverse air quality impact caused by New York Times Condominium co-generation system would be prevented.

Air Quality Impacts at Residential Conversions

For the area modeled for residential conversions, the extent of air quality impacts is unknown because of the non-site-specific nature of DCP's conversion model. Since actual locations of the 1,093,808 gsf RWCDs residential conversion development cannot be identified, location-specific air quality impact analysis is not performed for the residential conversion. As the light industrial source air quality impact analysis and large/major source air quality impact analysis indicate, without mitigation measures, some development sites in the study area would experience significant adverse air quality impact from existing light industrial sources or large/major sources. For residential conversion development sites also in the same area, the possibility of similar air quality impact cannot be precluded.

16.0 Noise

A. Introduction

This chapter discusses potential impacts to the neighborhood noise environment as a result of the Proposed Actions. Approval of the Proposed Actions would generate additional mobile sources (i.e., vehicular traffic) in the Affected Area. Therefore, a noise analysis is prepared to evaluate the potential effect of the Proposed Actions at projected and potential development sites and nearby noise sensitive locations in the Affected Area. Existing noise levels in the Affected Area are predominantly the result of vehicular traffic. Noise sensitive locations include residential, commercial, and open space uses.

In order to assess the potential for significant adverse noise impacts, the noise analysis considers changes in noise due to increases in traffic and the introduction of sensitive receptors into an area with high existing noise levels. 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 Actions; and (2) the location of new sensitive receptors and the degree to which window/wall attenuation would provide acceptable interior noise levels.

B. Principal Conclusions

The noise analysis concludes that the Proposed Actions would not generate sufficient traffic to have the potential to cause a significant noise impact on any of the 68 projected or potential development sites. At all the projected and potential development site noise receptor locations, the maximum noise level increase would be below three dBA between No-Action and With-Action conditions. Therefore, the noise analysis concludes that the traffic generated by the Proposed Actions would not have the potential to produce significant increases to noise levels at any sensitive receptors among the 68 projected and potential development sites within the Affected Area.

The Proposed Actions would introduce new sensitive receptors at projected and potential development sites and conversion to residential development within the Affected Area. Ambient noise levels adjacent to the projected and potential development sites were examined to determine whether building noise attenuation requirements for maintaining interior noise levels would be necessary due to an increase in vehicular traffic. The assessment finds that noise levels would range between the “marginally acceptable” and “marginally unacceptable” exterior CEQR noise exposure categories, resulting in a noise attenuation requirement range of 28 to 33 dBA to ensure noise levels within the projected and potential development sites would comply with applicable CEQR interior noise level target requirements. As a result, the Proposed Actions includes (E) designations for most of the projected and potential development sites. The window/wall attenuation levels required under the (E) designation (E-830) would avoid the potential for significant adverse noise impacts due to the Proposed Actions; see Appendix G, for the proposed (E) designation. Since the RWCDs conversion model is not site-specific, if located outside of the proposed Mixed Use Districts, residential conversion area could be located in areas with high ambient noise level and without appropriate attenuation measures to maintain CEQR

interior noise target level. Therefore, significant adverse noise impacts cannot be precluded for the residential conversion area.

Noise chapter and analyses will be revised based on more detailed evaluation between Draft and Final EIS.

C. Acoustical Fundamentals

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

“A” Weighted Sound Level

To establish a uniform noise measurement that simulates people’s perception of loudness and annoyance, the decibel measurement is weighted to account for those frequencies most audible to the human ear. This is known as the A-weighted sound level, or dBA, and it is the descriptor of noise levels most often used for community noise. As shown in **Table 16-1**, the threshold of human hearing is defined as 0 dBA; very quiet conditions (as in a library, for example) are approximately 40 dBA; levels between 50 dBA and 70 dBA define the range of noise levels generated by normal daily activity; levels above 70 dBA would be considered noisy, and then loud, intrusive, and deafening as the scale approaches 130 dBA.

Table 16-1: Typical Noise Values

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

Source: Cowan, James P. Handbook of Environmental Acoustics, Van Nostrand Reinhold, New York, 1994; Egan, M. David, Architectural Acoustics. McGraw-Hill Book Company, 1988.

Note: A 10 dBA increase in level appears to double in loudness, and a 10 dBA decrease halves the apparent loudness.

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

Noise Descriptors used in Impact Assessment

Because the sound pressure level unit of dBA describes a noise level at just one moment and very few noises are constant, other ways of describing noise over extended periods have been developed. 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., one hour, denoted by $L_{eq(1)}$, or 24 hours, denoted as $L_{eq(24)}$), conveys the same sound energy as the actual time-varying sound. The Day-Night Sound Level (i.e., L_{dn}) refers to a 24-hour average noise level with a 10 dB penalty applied to the noise levels during the hours between 10:00 p.m. and 7:00 a.m., due to increased sensitivity to noise levels

during these hours. Statistical sound level descriptors such as L_{10} , L_{50} , L_{90} , and L_x , are used to indicate noise levels that are exceeded 10, 50, 90, and x percent of the time, respectively.

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

The L_{dn} is the average noise level over a 24-hour period. The hourly noise level measurements between the hours of 10:00 p.m. and 7:00 a.m. are adjusted by 10 dB before averaging. This noise is weighted to take into account the decrease in community background noise of 10 dB during this period and accounts for the extra sensitivity people have to noise during typical sleeping hours. According to *CEQR Technical Manual* standards, it is recommended that the L_{dn} be used in the analysis of train noise. In some cases, assessing train noise using $L_{eq(1)}$ may be necessary, particularly when assessing peak hour levels or when determining cumulative effects of several noise sources, i.e., in combination with vehicle, aircraft, and/or industrial process noise.

For purposes of this noise assessment, the maximum one-hour equivalent sound level (i.e., $L_{eq(1)}$) has been selected as the noise descriptor to be used to quantify potential changes in noise levels under the no-action and with-action conditions. $L_{eq(1)}$ is the noise descriptor recommended for use in the *CEQR Technical Manual* for vehicular traffic and is used to provide an indication of highest expected sound levels. Depending on the dominant source of noise, L_{dn} or one-hour L_{10} is the noise descriptor used in the *CEQR Technical Manual* noise exposure guidelines for city environmental impact review classification.

D. Noise Exposure Standards and Criteria

In 1983, the New York City Department of Environmental Protection (DEP) adopted noise standards for exterior noise levels. These standards are used to classify noise exposure into four categories: Acceptable, Marginally Acceptable, Marginally Unacceptable, and Clearly Unacceptable (see **Table 16-2**).

Table 16-2: CEQR Noise Exposure Guidelines for Use in City Environmental Impact Review¹

Receptor Type	Time Period	Acceptable General External Exposure	Airport Exposure ³	Marginally Acceptable General External Exposure	Airport Exposure	Marginally Unacceptable General External Exposure	Airport Exposure	Clearly Unacceptable General External Exposure	Airport Exposure
1. Outdoor area requiring serenity and quiet ²		$L_{10} \leq 55$ dBA	----- DNL ≤ 60 dBA -----						
2. Hospital, Nursing Home		$L_{10} \leq 55$ dBA		$55 < L_{10} \leq 65$ dBA	----- 60 < DNL ≤ 65 dBA -----	$65 < L_{10} \leq 80$ dBA	----- 65 < DNL ≤ 75 dBA -----	$L_{10} > 80$ dBA	----- DNL > 75 dBA -----
3. Residence, residential hotel or motel	7 a.m.-10 p.m.	$L_{10} \leq 65$ dBA		$65 < L_{10} \leq 70$ dBA		$70 < L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
	10 p.m.-7 a.m.	$L_{10} \leq 55$ 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 a.m. – 10 p.m.)		Same as Residential Day (7 a.m. – 10 p.m.)		Same as Residential Day (7 a.m. – 10 p.m.)		Same as Residential Day (7 a.m. – 10 p.m.)	
5. Commercial or office		Same as Residential Day (7 a.m. – 10 p.m.)		Same as Residential Day (7 a.m. – 10 p.m.)		Same as Residential Day (7 a.m. – 10 p.m.)		Same as Residential Day (7 a.m. – 10 p.m.)	
6. Industrial, public areas only ⁴	Note 4	Note 4		Note 4		Note 4		Note 4	

Source: New York City DEP (1983).

Notes:

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

Note 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.

Note 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 sanatoriums and nursing homes.

Note 3. One may use Federal Aviation Administration (FAA)-approved land contours supplied by the Port Authority, or the noise contours may be computed from the Federally approved Integrated Noise Model ("INM") Computer Model using flight data supplied by the Port Authority of New York and New Jersey.

Note 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).

The *CEQR Technical Manual* defines attenuation requirements for buildings based on exterior noise levels (see **Table 16-3**). For dominant traffic noise, recommended noise attenuation values for buildings are designed to maintain interior L_{10} noise levels of 45 dBA or lower for residential and community facility uses and 50 dBA or lower for commercial office uses. For dominant train noise, recommended noise attenuation values for buildings are designed to maintain interior L_{dn} noise levels of 40 dBA or lower for residential uses.

Table 16-3: Required Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Unacceptable				Clearly Unacceptable
Vehicular Traffic	$70 < L_{10} \leq 73$	$73 < L_{10} \leq 76$	$76 < L_{10} \leq 78$	$78 < L_{10} \leq 80$	$80 < L_{10}$
Aircraft ^a	$65 < DNL \leq 68$	$68 < DNL \leq 71$	$71 < DNL \leq 73$	$73 < DNL \leq 75$	$75 < DNL$
Train	$65 < L_{dn} \leq 68$	$68 < L_{dn} \leq 71$	$71 < L_{dn} \leq 73$	$73 < L_{dn} \leq 75$	$75 < L_{dn}$
Attenuation ^b	(I) 28 dB(A)	(II) 31 dB(A)	(III) 33 dB(A)	(IV) 35 dB(A)	See note ^c

Source: New York City DEP (1983).

Notes:

^a DNL descriptor based on average values of L_{dn} over a year period.

^b The above composite window-wall attenuation values are for residential dwellings and community facility development. Commercial office spaces and meetings rooms would be 5 dB(A) less in each category. All of the above categories require a closed-window situation and hence an alternate means of ventilation.

^c The required attenuation value is the difference between L_{build} and $L_{interior}$, using the appropriate noise descriptor. Where: L_{build} is the projected noise level under the build condition rounded up to the whole number, and $L_{interior}$ is the designed interior noise level (45 dB(A) for vehicular noise, 40 dB(A) for aircraft and train noise).

New York City Noise Control Code

Specific noise standards for the projected and potential development sites would be governed by the 2005 New York City Noise Code. **Table 16-4** shows the permitted sound levels for sources operating in connection with any residential, commercial, or business enterprises. These noise levels do not apply to construction activities or equipment but do apply to mechanical systems which may be related to the Proposed Actions' operation.

Table 16-4: New York City Noise 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

Source: New York City Noise Code, 2005.

E. Environmental Conditions for Buildings in MX Districts

The Proposed Actions would rezone all or portions of existing M1-6 and M1-6D districts within the project area, eliminate the Special garment Center District from the zoning map, and establish a Special Midtown South Mixed-Use (MSMX) District comprised of M1-9A/R12, M1-8A/R12, and M1-8A/R11 districts that allow manufacturing and residential uses. Zoning Resolution (ZR) Section 123-32-Environmental Conditions requires that all new dwelling units (DUs) in Special Mixed-Use Districts be provided with a minimum of 35 dBA window-wall attenuation to maintain an interior noise level of 45 dBA or less. The 35 dBA window-wall attenuation is for a closed-window condition; consequently, a means of alternate ventilation that does not degrade the acoustical performance of the building facade is required for all residential developments. However, it is possible to review and alter the minimum attenuation requirements via a process overseen by the New York City Mayor's Office of Environmental Remediation (OER), which could be undertaken at a later time.

Noise from Manufacturing Use in the Same Building

The Proposed Actions would allow for manufacturing and residential uses in the same building. To protect occupants of mixed-use residential and manufacturing buildings and surrounding properties from vibrations and noise, any manufacturing uses operating on the ground floor of these buildings would need to adhere to the NYC Noise Code and the performance standards for

M1 districts outlined in ZR 42-40. Manufacturing uses operating on the same story or above residential uses would need to adhere to the environmental requirements of ZR 32-423, as referenced in ZR 133-31(c)(2) to ensure there would be no significant adverse noise impacts.

F. Existing Noise Levels

Selection of Noise Monitoring Locations

Information concerning specific land use in and around the projected and potential development sites, as well as trip assignments for potential future uses, were reviewed to select monitoring sites and assess future noise impacts on existing and future sensitive land uses. The 22 monitoring sites depicted in **Table 16-5** and shown on **Figure 16-1** are nearby sites of projected and potential development and are representative of the sensitive land uses in the Affected Area.

Figure 16-1: Noise Measurement Locations

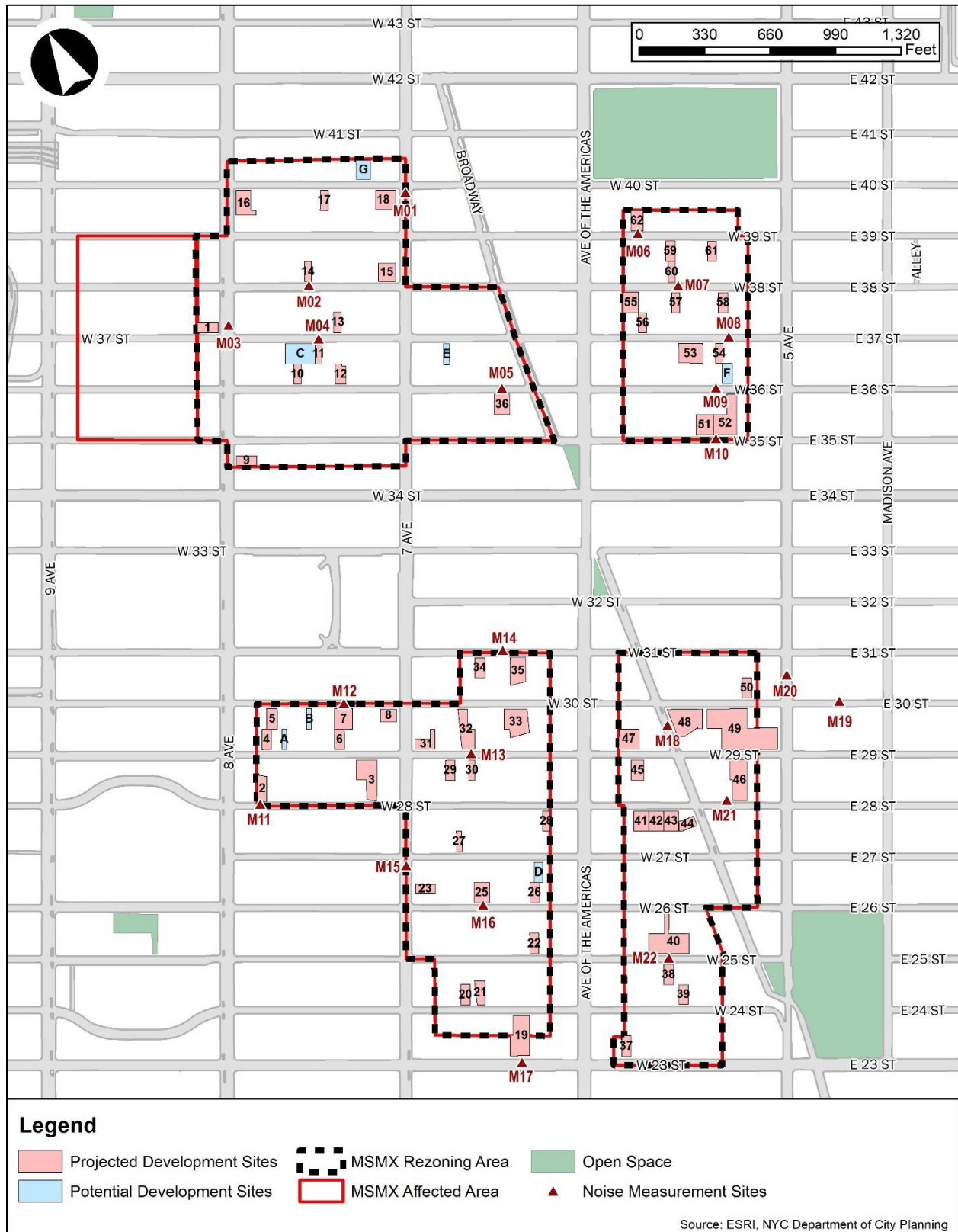


Table 16-5: Noise Monitoring Locations

Receptor	Location
M01	7 th Avenue Between W 39 th and W 40 th Streets
M02	W 38 th Street Between 7 th and 8 th Avenues
M03	Corner of 8 th Avenue and W 37 th Street
M04	W 37 th Street Between 7 th and 8 th Avenues
M05	W 36 th Street Between 7 th Avenue and Broadway
M06	W 39 th Street Between 5 th and 6 th Avenues
M07	W 38 th Street Between 5 th and 6 th Avenues
M08	W 37 th Street Between 5 th and 6 th Avenues
M09	W 36 th Street Between 5 th and 6 th Avenues
M10	W 35 th Street Between 5 th and 6 th Avenues
M11	W 28 th Street Between 7 th and 8 th Avenues
M12	W 30 th Street Between 7 th and 8 th Avenues
M13	W 29 th Street Between 6 th and 7 th Avenues
M14	W 31 st Street Between 6 th and 7 th Avenues
M15	Corner of 7 th Avenue and W 27 th Street
M16	W 26 th Street Between 6 th and 7 th Avenues
M17	W 23 rd Street Between 6 th and 7 th Avenues
M18	Broadway Between W 29 th and W 30 th Streets
M19	E 30 th Street Between 5 th Avenue and Madison Avenue
M20	5 th Avenue Between W 30 th and W 31 st Streets
M21	W 28 th Street Between 5 th Avenue and Broadway
M22	W 25 th Street Between Broadway and 6 th Avenue

Source: HMMH, 2024.

Noise Monitoring

Noise monitoring was performed on two weekdays and one weekend from September 11, 2024, to September 14, 2024. Time periods chosen for monitoring include the weekday AM (8:00 AM – 9:30 AM), Midday [MD] (1:30 PM – 3:30 PM), PM (4:00 PM – 6:30 PM), and Saturday Midday

(1:15 PM –3:15 PM) peak periods. Peak periods were identified based on the traffic peak hours identified as part of the traffic analysis for the proposed project and review of New York State Department of Transportation (NYSDOT) traffic count data. The peak hour noise monitoring took into account the peak weekday office, commercial, and school-related traffic, and the peak weekend commercial traffic. Measurements were conducted for a 20-minute time period so that the typical fluctuations in peak hour traffic could be properly accounted for.

In addition to $L_{eq}(h)$ and L_{10} noise levels, other statistical noise descriptors (L_{50} , L_{90} , L_{max} , and L_{min}) were sampled at all locations for all time periods. For the Proposed Actions, the analysis of potential noise impacts utilizes the L_{10} and $L_{eq}(h)$ descriptors. The other noise descriptors collected during the monitoring program are utilized to assist in the characterization of the existing noise environment. Typically, L_{50} tends to describe the statistical median noise value, while the L_{90} typically describes the residual background noise level in an environment.

Equipment Used During Noise Monitoring

Noise measurements were conducted with Bruel & Kjaer 2245, Bruel & Kjaer 2250, and Svantek Class I Sound Level Meters (SLMs). A windscreen was placed over the microphone for all measurements. The SLMs had laboratory calibration dates within the past year at the time of use, as is standard practice. The SLMs were also properly field-calibrated for all measurements using Bruel & Kjaer 4231 calibrators. There were no significant variances between the beginning and ending calibration measurements. To avoid interference with sound propagation, the measuring microphone was placed approximately six feet away from any reflecting surfaces and at a height of approximately five feet from the ground surface. Weather conditions during the measurement periods, with respect to temperature and wind conditions, were conducive to obtaining valid noise readings, per guidelines outlined in ANSI Standard S1.13-2005.

Existing Noise Levels at Noise Receptor Locations

Measured Noise Levels

The Affected Area is exposed to noise from vehicular traffic on local streets, car horns, and pedestrians talking. The dominant source of neighborhood noise comes from local vehicular traffic. Receptors which are exposed to the most noise are those which are in close proximity to principal and minor arterial streets such as Broadway and Fifth through Eighth Avenues. Extraneous events occurring during noise measurements were excluded from the data sets. Based on *CEQR Technical Manual* noise exposure criteria, receptors M01 through ~~M09~~M10, M11, M12, M15, M16, M17, M19, ~~and M20~~, and M22 would be in the “Marginally Unacceptable” category. Receptors ~~M10~~, M13, M14, M18, and M21, ~~and M22~~ would be within the “Marginally Acceptable” category. The results of the measurements of existing noise levels are summarized in **Table 16-6**.

Table 16-6: Measured Existing Noise Levels (in dBA) (Table revised for the FEIS)

Receptor	Measurement Location	Time	L _{eq}	L ₁₀	L ₅₀	L ₉₀	CEQR Category
M01	7th Avenue Between W 39th and W 40th Streets	AM	67.4	69.5	66.2	64.2	Marginally Acceptable
		MD	71.0	73.8	69.9	67.4	Marginally Unacceptable
		PM	69.7	71.7	68.7	67.1	Marginally Unacceptable
		SAT	66.8	69.6	65.4	63.1	Marginally Acceptable
M02	W 38th Street Between 7th and 8th Avenues	AM	66.7	68.9	65.1	62.7	Marginally Acceptable
		MD	66.4	68.2	65.1	63.7	Marginally Acceptable
		PM	66.3	68.3	65.5	63.9	Marginally Acceptable
		SAT	66.5	70.2	65.1	63.2	Marginally Unacceptable
M03 ¹	Corner of 8th Avenue and W 37th Street	AM	69.3	72.1	68.5	66.1	Marginally Unacceptable
		MD	71.1	73.7	70.2	68.0	Marginally Unacceptable
		PM	74.7	77.0	73.6	71.3	Marginally Unacceptable
		SAT	69.5	71.0	69.1	68.1	Marginally Unacceptable
M04	W 37th Street Between 7th and 8th Avenues	AM	67.3	70.4	66.0	62.6	Marginally Unacceptable
		MD	69.0	72.0	67.5	64.5	Marginally Unacceptable
		PM	67.3	70.2	66.1	63.5	Marginally Unacceptable
		SAT	67.9	71.4	67.2	62.9	Marginally Unacceptable
M05 ²	W 36th Street Between 7th Avenue and Broadway	AM	71.7	74.8	70.3	66.7	Marginally Unacceptable
		MD	71.9	75.2	70.3	67.8	Marginally Unacceptable
		PM	70.5	72.5	70.1	68.1	Marginally Unacceptable
		SAT	N/A				
M06	W 39th Street Between 5th and 6th Avenues	AM	69.5	72.6	67.7	64.1	Marginally Unacceptable
		MD	69.7	72.4	68.9	65.7	Marginally Unacceptable
		PM	67.2	69.2	66.1	64.7	Marginally Acceptable
		SAT	65.0	67.8	63.4	61.9	Marginally Acceptable
M07	W 38th Street Between 5th and 6th Avenues	AM	67.9	70.2	66.2	64.4	Marginally Unacceptable
		MD	68.0	69.7	67.5	66.1	Marginally Acceptable
		PM	66.8	68.9	65.5	64.2	Marginally Acceptable
		SAT	63.7	65.8	63.3	61.0	Marginally Acceptable
M08	W 37th Street Between 5th and 6th Avenues	AM	68.5	71.7	66.9	64.5	Marginally Unacceptable
		MD	68.1	70.3	66.3	64.6	Marginally Unacceptable
		PM	68.3	71.0	67.3	65.1	Marginally Unacceptable
		SAT	65.6	68.2	63.5	61.2	Marginally Acceptable

Receptor	Measurement Location	Time	L _{eq}	L ₁₀	L ₅₀	L ₉₀	CEQR Category
M09 ²	W 36th Street Between 5th and 6th Avenues	AM	69.4	72.4	67.0	63.2	Marginally Unacceptable
		MD	67.9	70.6	66.6	64.3	Marginally Unacceptable
		PM	67.3	69.8	65.6	63.4	Marginally Acceptable
		SAT	N/A				
M10 ^{1,2}	W 35th Street Between 5th and 6th Avenues	AM	66.3	69.4	64.7	62.2	Marginally Acceptable
		MD	69.4	69.9	65.7	63.7	Marginally Acceptable
		PM	70.7	72.7	69.2	66.9	Marginally Unacceptable
		SAT	N/A				
M11	W 28th Street Between 7th and 8th Avenues	AM	68.5	71.2	65.7	62.3	Marginally Unacceptable
		MD	65.9	68.3	64.3	62.7	Marginally Acceptable
		PM	65.4	68.1	63.4	61.6	Marginally Acceptable
		SAT	65.5	68.3	63.9	61.8	Marginally Acceptable
M12 ²	W 30th Street Between 7th and 8th Avenues	AM	67.6	69.8	66.8	63.0	Marginally Acceptable
		MD	69.8	72.1	69.1	66.8	Marginally Unacceptable
		PM	65.0	66.8	63.6	62.1	Marginally Acceptable
		SAT	N/A				
M13	W 29th Street Between 6th and 7th Avenues	AM	66.1	67.9	65.2	63.3	Marginally Acceptable
		MD	66.6	68.9	65.5	64.4	Marginally Acceptable
		PM	66.8	68.0	65.9	64.6	Marginally Acceptable
		SAT	67.0	69.3	64.6	63.0	Marginally Acceptable
M14	W 31st Street Between 6th and 7th Avenues	AM	67.3	69.1	66.3	64.7	Marginally Acceptable
		MD	67.6	68.7	66.0	65.2	Marginally Acceptable
		PM	67.7	69.4	67.2	65.9	Marginally Acceptable
		SAT	66.4	68.3	65.7	63.9	Marginally Acceptable
M15 ³	Corner of 7th Avenue and W 27th Street	AM	68.7	72.0	67.3	63.2	Marginally Unacceptable
		MD	68.5	71.4	67.1	64.0	Marginally Unacceptable
		PM	68.1	70.4	67.4	63.4	Marginally Unacceptable
		SAT	N/A				
M16 ³	W 26th Street Between 6th and 7th Avenues	AM	68.7	70.3	68.0	67.1	Marginally Unacceptable
		MD	70.4	71.4	70.0	69.2	Marginally Unacceptable
		PM	69.8	71.2	69.4	68.2	Marginally Unacceptable
		SAT	N/A				
M17 ³	W 23rd Street	AM	72.0	74.8	70.0	65.7	Marginally Unacceptable

Receptor	Measurement Location	Time	L _{eq}	L ₁₀	L ₅₀	L ₉₀	CEQR Category
	Between 6th and 7th Avenues	MD	69.0	71.7	67.2	63.3	Marginally Unacceptable
		PM	69.9	72.7	67.7	64.7	Marginally Unacceptable
		SAT	N/A				
M18	Broadway Between W 29th and W 30th Streets	AM	65.2	68.1	63.2	61.3	Marginally Acceptable
		MD	66.3	68.7	65.5	63.0	Marginally Acceptable
		PM	67.0	68.8	65.0	62.6	Marginally Acceptable
		SAT	66.0	67.8	64.4	62.1	Marginally Acceptable
M19	E 30th Street Between 5th Avenue and Madison Avenue	AM	66.2	68.3	65.3	63.3	Marginally Acceptable
		MD	68.5	70.8	67.5	65.8	Marginally Unacceptable
		PM	69.7	70.7	66.6	64.7	Marginally Unacceptable
		SAT	65.9	67.3	65.3	64.1	Marginally Acceptable
M20	5th Avenue Between W 30th and W 31st Streets	AM	72.1	74.8	69.9	67.4	Marginally Unacceptable
		MD	74.6	77.5	71.6	67.9	Marginally Unacceptable
		PM	72.9	74.3	70.7	67.7	Marginally Unacceptable
		SAT	71.0	73.6	68.9	66.2	Marginally Unacceptable
M21	W 28th Street Between 5th Avenue and Broadway	AM	68.0	69.9	66.9	65.0	Marginally Acceptable
		MD	66.6	68.0	65.5	64.1	Marginally Acceptable
		PM	67.4	69.4	66.0	64.0	Marginally Acceptable
		SAT	66.2	67.7	65.2	63.7	Marginally Acceptable
M22 ¹	W 25th Street Between Broadway and 6th Avenue	AM	66.3	68.2	62.3	60.5	Marginally Acceptable
		MD	66.2	68.7	64.8	62.6	Marginally Acceptable
		PM	68.6	71.4	67.0	64.2	Marginally Unacceptable
		SAT	64.6	66.5	64.0	62.3	Marginally Acceptable

Source: HMMH, 2024.

Notes:

1. Measurement Sites M03, M10, and M22 PM peak noise levels were adjusted to account for a significant difference between traffic counts associated with the traffic analysis and traffic counts conducted during the noise measurements. The adjusted noise metrics were calculated by adding the decibel increase from the traffic PCE comparison to each measured noise level for each noise metric.
- 1.2. Equipment failure occurred resulting in data loss for the Saturday MD peak period at Sites M05, M09, and M10. At Site M12, there was a street fair, which closed W. 30th street as well as several other surrounding streets. Therefore, valid measurements could not be obtained on W. 30th or surrounding streets.
- 2.3. M15, M16, and M17 – No measurement data available at these sites for the Saturday MD peak hour.
3. Measurement Site M22 PM peak noise levels were adjusted to account for a significant difference between traffic counts associated with the traffic analysis and traffic counts conducted during the noise measurements. The adjusted noise metrics were calculated by adding the decibel increase from the traffic PCE comparison to each measured noise level for each noise metric.

G. Methodology

Traffic Noise

In order to predict noise levels in the future with and without the Proposed Actions (No-Action and With-Action conditions), monitored noise levels are projected by using a proportional modeling procedure, per *CEQR Technical Manual* guidance. This procedure accounts for the changes in noise levels due to increases in traffic associated with area growth. Vehicular traffic volumes under the baseline and future conditions are converted to 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 is estimated to generate the noise equivalent of 47 cars. Future L_{eq} noise levels are calculated using the following equation:

$$\text{Future Noise Level} = 10 * \log (\text{Future PCE/Existing PCE}) + \text{Baseline Noise Level}$$

The calculation is conducted using the L_{eq} noise measurement results as the baseline noise level. No-action and With-action L_{10} values are calculated by adding the difference between the L_{10} and L_{eq} descriptors found to exist in the measurement program to the calculated future L_{eq} noise level. However, when Noise PCEs calculated using traffic data counted during noise measurements differ significantly from the Noise PCEs estimated using existing-condition traffic data from the Transportation study at the same location, and traffic on the immediately adjacent roadway segment is the dominant source of noise, the measured noise levels were adjusted based on the difference between existing Noise PCEs.

Train Noise

Based on *CEQR Technical Manual* guidance, train activity generally does not have a significant impact on new noise-sensitive land use unless those land uses are within 1,500 feet and have a direct line of sight to existing train activity. In addition, increases in existing train activity within a direct line of sight and 1,500 feet of a receptor may also result in a significant mobile source noise impact. Given the project's location in Midtown Manhattan, there are no above-ground train sources that would affect proposed noise-sensitive land use. Further, the Proposed Actions would not increase train trips. Therefore, a rail noise assessment is not warranted for the Proposed Actions.

Aircraft Noise

In accordance with *CEQR Technical Manual* guidance, when a new receptor is located within a 65 dBA DNL contour from nearby airports, an aircraft noise assessment may be warranted. Aircraft noise exposure screening was performed, which consists of reviewing Noise Exposure Maps (NEMs) for nearby airports to identify if the Proposed Actions create noise-sensitive receptors within the 65 DNL contours. NEMs were reviewed for the three major airports in the vicinity of the Proposed Actions, including Newark Liberty International Airport (EWR), JFK Airport (JFK), and LaGuardia Airport (LGA). The Affected Area is not within the 65 DNL contour for any of the three major airports; therefore, a detailed assessment of aircraft noise is not warranted.

Stationary Noise

Stationary sources of noise typically include building HVAC systems, loading docks, playgrounds, etc. In accordance with *CEQR Technical Manual* guidance, existing stationary sources of noise within 1,500 feet of a receptor and with a direct line of sight may result in the potential for noise impact. Sources of noise associated with the Proposed Action may also have the potential to impact existing noise-sensitive land use. Proposed HVAC systems are considered circulation devices and are therefore regulated by the NYC Noise Code. Based on CEQR guidance, new HVAC sources do not require a detailed quantitative assessment. Additionally, there are no major stationary sources of noise that would impact the Proposed Actions. Therefore, no detailed quantitative assessment of stationary noise sources is warranted.

H. The Future without the Proposed Actions (No-Action Condition)

Noise Impact Identification

Using the methodologies described in the methodology section, No-Action condition noise levels for the 2034 analysis year are calculated at 17 of the 22 noise measurement locations. The dominant source of neighborhood noise comes from local vehicular traffic. As such, these No-Action noise levels are shown in **Table 16-7** where vehicular traffic is the dominant noise source (in dBA). At receptors M01, M05, M06, M07, and M09, traffic analysis associated traffic counts were not conducted because total project-generated vehicle trips would be less than 50. It is also expected that there is no potential for significant PCE increases under the No-Action condition in these locations, and noise levels under the No-Action condition are likely to be similar to existing noise levels.

For receptor locations where traffic is the dominant noise source, the maximum L_{eq} noise level increase under the 2034 No-Action condition relative to the Existing condition would be 1.1 dBA at Receptor M02. All other receptor locations would encounter an increase between 0 and 0.9 dBA. ~~Between the draft and final EIS, existing noise PCEs calculated from the traffic study conducted for the project will be compared to existing noise PCEs calculated from traffic volumes documented during the noise measurement program. If significant differences between these two sets of existing noise PCEs are identified, existing noise levels will be adjusted accordingly.~~

Table 16-7: 2034 No-Action Condition Noise Levels where traffic is dominant noise source (dBA) (Table revised for the FEIS)

Site	Measurement Location	Time Period	Existing L_{eq}	No Action L_{eq}	No Action-Existing Delta	No Action L_{10}	CEQR Category
M01 ¹	7th Avenue Between W 39th and W 40th Streets	AM	67.4	67.4	0	69.5	Marginally Acceptable
		MD	71.0	71.0	0	73.8	Marginally Unacceptable
		PM	69.7	69.7	0	71.7	Marginally Unacceptable
		SAT	66.8	66.8	0	69.6	Marginally Acceptable
M02	W 38th Street	AM	66.7	67.6	0.9	69.8	Marginally Acceptable

Site	Measurement Location	Time Period	Existing L_{eq}	No Action L_{eq}	No Action-Existing Delta	No Action L_{10}	CEQR Category
	Between 7th and 8th Avenues	MD	66.4	67.5	1.1	69.3	Marginally Acceptable
		PM	66.3	66.8	0.5	68.8	Marginally Acceptable
		SAT	66.5	67.0	0.5	70.7	Marginally Unacceptable
M03 ²	Corner of 8th Avenue and W 37th Street	AM	69.3	69.6	0.3	72.4	Marginally Unacceptable
		MD	71.1	71.4	0.3	74.0	Marginally Unacceptable
		PM	74.7	74.9	0.2	77.2	Marginally Unacceptable
		SAT	69.5	69.7	0.2	71.2	Marginally Unacceptable
M04	W 37th Street Between 7th and 8th Avenues	AM	67.3	67.6	0.3	70.7	Marginally Unacceptable
		MD	69.0	69.3	0.3	72.3	Marginally Unacceptable
		PM	67.3	67.7	0.4	70.6	Marginally Unacceptable
		SAT	67.9	68.3	0.4	71.8	Marginally Unacceptable
M05 ^{1,23}	W 36th Street Between 7 th Avenue and Broadway	AM	71.7	71.7	0	74.8	Marginally Unacceptable
		MD	71.9	71.9	0	75.2	Marginally Unacceptable
		PM	70.5	70.5	0	72.5	Marginally Unacceptable
		SAT					
M06 ¹	W 39th Street Between 5th and 6th Avenues	AM	69.5	69.5	0	72.6	Marginally Unacceptable
		MD	69.7	69.7	0	72.4	Marginally Unacceptable
		PM	67.2	67.2	0	69.2	Marginally Acceptable
		SAT	65.0	65.0	0	67.8	Marginally Acceptable
M07 ¹	W 38th Street Between 5th and 6th Avenues	AM	67.9	67.9	0	70.2	Marginally Unacceptable
		MD	68.0	68.0	0	69.7	Marginally Acceptable
		PM	66.8	66.8	0	68.9	Marginally Acceptable
		SAT	63.7	63.7	0	65.8	Marginally Acceptable
M08	W 37th Street Between 5th and 6th Avenues	AM	68.5	69.0	0.5	72.2	Marginally Unacceptable
		MD	68.1	68.5	0.4	70.7	Marginally Unacceptable
		PM	68.3	68.6	0.3	71.3	Marginally Unacceptable
		SAT	65.6	66.0	0.4	68.6	Marginally Acceptable
M09 ^{1,23}	W 36th Street Between 5th Avenue and Madison Avenue	AM	69.4	69.4	0	72.4	Marginally Unacceptable
		MD	67.9	67.9	0	70.6	Marginally Unacceptable
		PM	67.3	67.3	0	69.8	Marginally Acceptable
		SAT					
M10 ^{2,3}	W 35th Street	AM	66.3	67.0	0.7	70.1	Marginally Unacceptable

Site	Measurement Location	Time Period	Existing L _{eq}	No Action L _{eq}	No Action-Existing Delta	No Action L ₁₀	CEQR Category
	Between 5th and 6th Avenues	MD	69.4	69.7	0.3	70.2	Marginally Unacceptable
		PM	67.1	70.7	0.1	72.8	Marginally Unacceptable
		SAT					
M11	W 28th Street Between 7th and 8th Avenues	AM	68.5	68.5	0.0	71.2	Marginally Unacceptable
		MD	65.9	65.9	0.0	68.3	Marginally Acceptable
		PM	65.4	65.4	0.0	68.1	Marginally Acceptable
		SAT	65.5	65.5	0.0	68.3	Marginally Acceptable
M12 ² M12 ³	W 30th Street Between 7th and 8th Avenues	AM	67.6	67.7	0.1	69.9	Marginally Acceptable
		MD	69.8	69.9	0.1	72.2	Marginally Unacceptable
		PM	65.0	65.0	0.0	66.8	Marginally Acceptable
		SAT					
M13	W 29th Street Between 6th and 7th Avenues	AM	66.1	66.2	0.1	68.0	Marginally Acceptable
		MD	66.6	66.8	0.2	69.1	Marginally Acceptable
		PM	66.8	66.9	0.1	68.1	Marginally Acceptable
		SAT	67.0	67.1	0.1	69.4	Marginally Acceptable
M14	W 31st Street Between 6th and 7th Avenues	AM	67.3	67.6	0.3	69.4	Marginally Acceptable
		MD	67.6	67.8	0.2	68.9	Marginally Acceptable
		PM	67.7	67.8	0.1	69.5	Marginally Acceptable
		SAT	66.4	66.7	0.3	68.6	Marginally Acceptable
M15 ³	Corner of 7th Avenue and W 27th Street	AM	68.7	68.8	0.1	72.1	Marginally Unacceptable
		MD	68.5	68.7	0.2	71.6	Marginally Unacceptable
		PM	68.1	68.3	0.2	70.6	Marginally Unacceptable
		SAT	N/A				
M16 ³	W 26th Street Between 6th and 7th Avenues	AM	68.7	68.7	0.0	70.3	Marginally Unacceptable
		MD	70.4	70.4	0.0	71.4	Marginally Unacceptable
		PM	69.8	69.8	0.0	71.2	Marginally Unacceptable
		SAT	N/A				
M17 ³	W 23rd Street Between 6th and 7th Avenues	AM	72.0	72.3	0.3	75.1	Marginally Unacceptable
		MD	69.0	69.4	0.4	72.1	Marginally Unacceptable
		PM	69.9	70.0	0.1	72.8	Marginally Unacceptable
		SAT	N/A				
M18	Broadway	AM	65.2	65.2	0.0	68.1	Marginally Acceptable

Site	Measurement Location	Time Period	Existing L_{eq}	No Action L_{eq}	No Action-Existing Delta	No Action L_{10}	CEQR Category
	Between W 29th and W 30th Streets	MD	66.3	66.3	0.0	68.7	Marginally Acceptable
		PM	67.0	67.0	0.0	68.8	Marginally Acceptable
		SAT	66.0	66.0	0.0	67.8	Marginally Acceptable
M19	E 30th Street Between 5th Avenue and Madison Avenue	AM	66.2	66.3	0.1	68.4	Marginally Acceptable
		MD	68.5	68.7	0.2	71.0	Marginally Unacceptable
		PM	69.7	69.8	0.1	70.8	Marginally Unacceptable
		SAT	65.9	66.1	0.2	67.5	Marginally Acceptable
M20	5th Avenue Between W 30th and W 31st Streets	AM	72.1	72.2	0.1	74.9	Marginally Unacceptable
		MD	74.6	74.7	0.1	77.6	Marginally Unacceptable
		PM	72.9	73.0	0.1	74.4	Marginally Unacceptable
		SAT	71.0	71.1	0.1	73.7	Marginally Unacceptable
M21	W 28th Street Between 5th Avenue and Broadway	AM	68.0	68.0	0.0	69.9	Marginally Acceptable
		MD	66.6	66.6	0.0	68.0	Marginally Acceptable
		PM	67.4	67.4	0.0	69.4	Marginally Acceptable
		SAT	66.2	66.2	0.0	67.7	Marginally Acceptable
M22 ³ M22 ²	W 25th Street Between Broadway and 6th Avenue	AM	66.3	66.4	0.1	68.3	Marginally Acceptable
		MD	66.2	66.3	0.1	68.8	Marginally Acceptable
		PM	68.7 6	68.7 6	0.0	71.5 4	Marginally Unacceptable
		SAT	64.6	64.6	0.0	66.5	Marginally Acceptable

Source: HMMH 2024.

Notes:

1. Based on the traffic analysis, project-generated vehicle trips would be less than 50 through intersections near Sites M01, M05, M06, M07, and M09. Therefore, a detailed traffic analysis was not conducted in these areas. Noise PCEs are not anticipated to double, and No Action noise levels would be similar to existing noise levels.
2. Measurement Sites M03, M10, and M22 PM peak noise levels were adjusted to account for a significant difference between traffic counts associated with the traffic analysis and traffic counts conducted during the noise measurements. The adjusted noise metrics were calculated by adding the decibel increase from the traffic PCE comparison to each measured noise level for each noise metric.
- 2-3. Equipment failure occurred resulting in data loss for the Saturday MD peak period at Sites M05, M09, and M10. At Site M12, there was a street fair, which closed W. 30th street as well as several other surrounding streets. Therefore, valid measurements could not be obtained on W. 30th or surrounding streets. Noise measurement data available for Saturday MD period at M15, M16, and M17.
3. Measurement Site M22 PM peak noise levels were adjusted to account for a significant difference between traffic counts associated with the traffic analysis and traffic counts conducted during the noise measurements. The adjusted noise metrics were calculated by adding the decibel increase from the traffic PCE comparison to each measured noise level for each noise metric.

I. The Future with the Proposed Actions (With-Action Condition)

Noise Impact Identification

Using the procedures described in the methodology section, With-Action noise levels are calculated at 17 of the 22 noise receptor locations for the 2034 analysis year. The With-Action noise levels for all receptors are shown in **Table 16-8** where traffic is the dominant noise source (in dBA). At receptors M01, M05, M06, M07, and M09, traffic counts were not conducted because total project-generated vehicle trips would be less than 50. Therefore, there is no potential for PCEs to double in these locations, and noise levels under the With Action condition are likely to be similar to existing and No Action noise levels.

For receptor locations where traffic is the dominant noise source, the maximum L_{10} noise levels decrease in many locations under the 2034 With-Action condition relative to the No-Action condition due to residential conversions (i.e., the conversion of office space to residential spaces would result in a net decrease in vehicle trips). With-Action noise levels are anticipated to decrease by as much as 0.6 dBA at receptor M02 and increase by a maximum of 0.9 dBA at receptors M13.

Table 16-8: 2034 With-Action Condition Noise Levels Where Traffic is the Dominant Noise Source (dBA) (Table revised for the FEIS)

Site	Measurement Location	Time Period	No Action L_{eq}	With Action L_{eq}	With Action-No Action Delta	With Action L_{10}	CEQR Category
M01 ¹	7th Avenue Between W 39th and W 40th Streets	AM	67.4	67.4	0	69.5	Marginally Acceptable
		MD	71.0	71.0	0	73.8	Marginally Unacceptable
		PM	69.7	69.7	0	71.7	Marginally Unacceptable
		SAT	66.8	66.8	0	69.6	Marginally Acceptable
M02	W 38th Street Between 7th and 8th Avenues	AM	67.6	67.2	-0.4	69.4	Marginally Acceptable
		MD	67.5	66.9	-0.6	68.7	Marginally Acceptable
		PM	66.8	66.8	0.0	68.8	Marginally Acceptable
		SAT	67.0	67.2	0.2	70.9	Marginally Unacceptable
M03 ²	Corner of 8th Avenue and W 37th Street	AM	69.6	69.4	-0.2	72.2	Marginally Unacceptable
		MD	71.4	71.2	-0.2	73.8	Marginally Unacceptable
		PM	74.9	75.0	0.1	77.3	Marginally Unacceptable
		SAT	69.7	69.9	0.2	71.4	Marginally Unacceptable
M04	W 37th Street Between 7th and 8th Avenues	AM	67.6	67.5	-0.1	70.6	Marginally Unacceptable
		MD	69.3	69.2	-0.1	72.2	Marginally Unacceptable
		PM	67.7	67.7	0.0	70.6	Marginally Unacceptable
		SAT	68.3	68.6	0.3	72.1	Marginally Unacceptable

Site	Measurement Location	Time Period	No Action L _{eq}	With Action L _{eq}	With Action-No Action Delta	With Action L ₁₀	CEQR Category
M05 ^{1,2,3}	W 36th Street Between 7 th Avenue and Broadway	AM	71.7	71.7	0	74.8	Marginally Unacceptable
		MD	71.9	71.9	0	75.2	Marginally Unacceptable
		PM	70.5	70.5	0	72.5	Marginally Unacceptable
		SAT	N/A				
M06 ¹	W 39th Street Between 5th and 6th Avenues	AM	69.5	69.5	0	72.6	Marginally Unacceptable
		MD	69.7	69.7	0	72.4	Marginally Unacceptable
		PM	67.2	67.2	0	69.2	Marginally Acceptable
		SAT	65.0	65.0	0	67.8	Marginally Acceptable
M07 ¹	W 38th Street Between 5th and 6th Avenues	AM	67.9	67.9	0	70.2	Marginally Unacceptable
		MD	68.0	68.0	0	69.7	Marginally Acceptable
		PM	66.8	66.8	0	68.9	Marginally Acceptable
		SAT	63.7	63.7	0	65.8	Marginally Acceptable
M08	W 37th Street Between 5th and 6th Avenues	AM	69.0	69.0	0.0	72.2	Marginally Unacceptable
		MD	68.5	68.5	0.0	70.7	Marginally Unacceptable
		PM	68.6	68.6	0.0	71.3	Marginally Unacceptable
		SAT	66.0	66.2	0.2	68.8	Marginally Acceptable
M09 ^{1,2,3}	W 36th Street Between 5th and 6th Avenues	AM	69.4	69.4	0	72.4	Marginally Unacceptable
		MD	67.9	67.9	0	70.6	Marginally Unacceptable
		PM	67.3	67.3	0	69.8	Marginally Acceptable
		SAT	N/A				
M10 ^{2,3}	W 35th Street Between 5th and 6th Avenues	AM	67.0	67.2	0.2	70.3	Marginally Acceptable
		MD	69.7	69.9	0.2	70.4	Marginally Acceptable
		PM	70.8	71.0	0.2	73.0	Marginally Unacceptable
		SAT	N/A				
M11	W 28th Street Between 7th and 8th Avenues	AM	68.5	68.7	0.2	71.4	Marginally Unacceptable
		MD	65.9	65.9	0.0	68.3	Marginally Acceptable
		PM	65.4	65.6	0.2	68.3	Marginally Acceptable
		SAT	65.5	65.7	0.2	68.5	Marginally Acceptable
M12 ³	W 30th Street Between 7th and 8th Avenues	AM	67.7	67.9	0.2	70.1	Marginally Unacceptable
		MD	69.9	70.1	0.2	72.4	Marginally Unacceptable
		PM	65.0	65.3	0.3	67.1	Marginally Acceptable
		SAT	N/A				

Site	Measurement Location	Time Period	No Action L_{eq}	With Action L_{eq}	With Action-No Action Delta	With Action L_{10}	CEQR Category
M13	W 29th Street Between 6th and 7th Avenues	AM	66.2	66.8	0.6	68.6	Marginally Acceptable
		MD	66.8	67.2	0.4	69.5	Marginally Acceptable
		PM	66.9	67.2	0.3	68.4	Marginally Acceptable
		SAT	67.1	68.0	0.9	70.3	Marginally Unacceptable
M14	W 31st Street Between 6th and 7th Avenues	AM	67.6	67.8	0.2	69.6	Marginally Acceptable
		MD	67.8	68.0	0.2	69.1	Marginally Acceptable
		PM	67.8	67.9	0.1	69.6	Marginally Acceptable
		SAT	66.7	67.1	0.4	69.0	Marginally Acceptable
M15 ³	Corner of 7th Avenue and W 27th Street	AM	68.8	68.8	0.0	72.1	Marginally Unacceptable
		MD	68.7	68.6	-0.1	71.5	Marginally Unacceptable
		PM	68.3	68.4	0.1	70.7	Marginally Unacceptable
		SAT	N/A				
M16 ³	W 26th Street Between 6th and 7th Avenues	AM	68.7	68.9	0.2	70.5	Marginally Unacceptable
		MD	70.4	70.4	0.0	71.4	Marginally Unacceptable
		PM	69.8	70.0	0.2	71.4	Marginally Unacceptable
		SAT	N/A				
M17 ³	W 23rd Street Between 6th and 7th Avenues	AM	72.3	72.4	0.1	75.2	Marginally Unacceptable
		MD	69.4	69.5	0.1	72.2	Marginally Unacceptable
		PM	70.0	70.1	0.1	72.9	Marginally Unacceptable
		SAT	N/A				
M18	Broadway Between W 29th and W 30th Streets	AM	65.2	65.1	-0.1	68.0	Marginally Acceptable
		MD	66.3	66.0	-0.3	68.4	Marginally Acceptable
		PM	67.0	67.3	0.3	69.1	Marginally Acceptable
		SAT	66.0	66.4	0.4	68.2	Marginally Acceptable
M19	E 30th Street Between 5th Avenue and Madison Avenue	AM	66.3	66.6	0.3	68.7	Marginally Acceptable
		MD	68.7	68.8	0.1	71.1	Marginally Unacceptable
		PM	69.8	69.9	0.1	70.9	Marginally Unacceptable
		SAT	66.1	66.6	0.5	68.0	Marginally Acceptable
M20	5th Avenue Between W 30th and W 31st Streets	AM	72.2	72.2	0.0	74.9	Marginally Unacceptable
		MD	74.7	74.7	0.0	77.6	Marginally Unacceptable
		PM	73.0	73.0	0.0	74.4	Marginally Unacceptable
		SAT	71.1	71.1	0.0	73.7	Marginally Unacceptable

Site	Measurement Location	Time Period	No Action L_{eq}	With Action L_{eq}	With Action-No Action Delta	With Action L_{10}	CEQR Category
M21	W 28th Street Between 5th Avenue and Broadway	AM	68.0	68.6	0.6	70.5	Marginally Unacceptable
		MD	66.6	66.8	0.2	68.2	Marginally Acceptable
		PM	67.4	67.7	0.3	69.7	Marginally Acceptable
		SAT	66.2	66.4	0.2	67.9	Marginally Acceptable
M22 ²	W 25th Street Between Broadway and 6th Avenue	AM	66.4	67	0.6	68.9	Marginally Acceptable
		MD	66.3	66.5	0.2	69.0	Marginally Acceptable
		PM	68.7 6	68.9	0.2	71.7 6	Marginally Unacceptable
		SAT	64.6	64.9	0.3	66.8	Marginally Acceptable

Source: HMMH 2024.

1. Based on the traffic analysis, project-generated vehicle trips would be less than 50 through intersections near Sites M01, M05, M06, M07, and M09. Therefore, a detailed traffic analysis was not conducted in these areas. Noise PCEs are not anticipated to double, and ~~No-With~~ Action noise levels would be similar to existing and No Action noise levels.
2. Measurement Sites M03, M10, and M22 PM peak noise levels were adjusted to account for a significant difference between traffic counts associated with the traffic analysis and traffic counts conducted during the noise measurements. The adjusted noise metrics were calculated by adding the decibel increase from the traffic PCE comparison to each measured noise level for each noise metric.
- 2.3. Equipment failure occurred resulting in data loss for the Saturday MD peak period at Sites M05, M09, and M10. At Site M12, there was a street fair, which closed W. 30th street as well as several other surrounding streets. Therefore, valid measurements could not be obtained on W. 30th or surrounding streets. No measurement data available for Saturday MD period at M15, M16, and M17.
3. Measurement Site M22 PM peak noise levels were adjusted to account for a significant difference between traffic counts associated with the traffic analysis and traffic counts conducted during the noise measurements. The adjusted noise metrics were calculated by adding the decibel increase from the traffic PCE comparison to each measured noise level for each noise metric.

In accordance with the *CEQR Technical Manual* noise exposure guidelines, if a proposed project is within an area where the noise levels are expected to exceed the marginally acceptable limit, a significant impact would occur, and mitigation measures would be necessary to bring its interior noise levels down to a level of 25 dB(A) or more below the maximum marginally acceptable levels (by receptor type). As a result, noise attenuation requirements are proposed as identified in the following section.

Noise Attenuation Measures

The *CEQR Technical Manual* has set noise attenuation requirements for buildings based on exterior noise levels. Where traffic noise dominates, recommended noise attenuation values for buildings are designed to maintain interior noise levels of 45 dBA or lower for residential uses and 50 dBA or lower for commercial office uses and are determined based on exterior $L_{10(1)}$ noise levels. As discussed above, the minimum 35 dBA of facade attenuation and the requirement for an alternate means of ventilation included in ZR Section 123-32, as enforced by the New York City Department of Buildings (DOB), would apply to all DUs. Further study under the purview of OER would be required to alter the attenuation requirements. Unless CEQR minimum required attenuation results in attenuation higher than 35 dBA, requirements of ZR Section 123-32 would be sufficient to ensure acceptable interior noise levels at all DUs. As ZR Section 123-32 would be

applicable to DUs only, other noise sensitive uses in the proposed Special MSMX district would need to meet the sufficient attenuation requirement as described in the noise E-Designation below. **Table 16-9** shows the minimum window/wall attenuation necessary to meet *CEQR Technical Manual* requirements for interior noise levels at each of the noise measurement locations. The With-Action $L_{10(1)}$ noise levels are calculated using the existing noise measurements and the traffic noise analysis for all receptor locations. Based on the values shown in **Table 16-9**, required attenuation levels are determined for all projected and potential development sites. These values are shown in Appendix G, Noise.

Table 16-9: Required Attenuation at Noise Measurement Locations (Table revised for the FEIS)

Site	Measurement Location	Maximum Calculated Total $L_{10(1)}$ Noise Level in dBA	CEQR Minimum Required Attenuation in dBA ¹
M01	7th Avenue Between W 39th and W 40th Streets	73.8	31
M02	W 38th Street Between 7th and 8th Avenues	70.9	28
M03	Corner of 8th Avenue and W 37th Street	77.3	33
M04	W 37th Street Between 7th and 8th Avenues	72.2	28
M05	W 36th Street Between 7 th Avenue and Broadway	75.2	31
M06	W 39th Street Between 5th and 6th Avenues	72.6	28
M07	W 38th Street Between 5th and 6th Avenues	70.2	28
M08	W 37th Street Between 5th and 6th Avenues	72.2	28
M09	W 36th Street Between 5th and 6th Avenues	72.4	28
M10	W 35th Street Between 5th and 6th Avenues	73.0	28
M11	W 28th Street Between 7th and 8th Avenues	71.4	28
M12	W 30th Street Between 7th and 8th Avenues	72.4	28

Site	Measurement Location	Maximum Calculated Total $L_{10(1)}$ Noise Level in dBA	CEQR Minimum Required Attenuation in dBA ¹
M13	W 29th Street Between 6th and 7th Avenues	70.3	28
M14	W 31st Street Between 6th and 7th Avenues	69.6	NA
M15	Corner of 7th Avenue and W 27th Street	72.1	28
M16	W 26th Street Between 6th and 7th Avenues	71.4	28
M17	W 23rd Street Between 6th and 7th Avenues	75.2	31
M18	Broadway Between W 29th and W 30th Streets	69.1	NA
M19	E 30th Street Between 5th Avenue and Madison Avenue	71.1	28
M20	5th Avenue Between W 30th and W 31st Streets	77.6	33
M21	W 28th Street Between 5th Avenue and Broadway	70.5	28
M22	W 25th Street Between Broadway and 6th Avenue	71.6	28

Source: HMMH 2024.

^a Attenuation values are shown for residential or community facility uses; commercial office uses would require 5 dBA less

The attenuation of a composite structure is a function of the attenuation provided by each of its component parts and the surface area of each part. Normally, a building facade consists of wall, window glazing, and any vents or louvers associated with the building mechanical systems in various ratios of area. The designs for the projected and potential development site's With-Action buildings would include acoustically rated windows and air conditioning (a means of alternate ventilation). The buildings would be designed, including these elements, to provide a composite Outdoor-Indoor Transmission Class (OITC) rating¹ greater than or equal to the values listed in Appendix G, Noise along with an alternative means of ventilation in all habitable rooms of the residential units.

To implement the attenuation requirements shown in Appendix G, Noise an (E) Designation for noise would be applied to all privately held projected and potential development sites specifying the appropriate amount of window/wall attenuation. The text of Noise (E) Designation **E-830** for window/wall attenuation would be as follows:

To ensure an acceptable interior noise environment, the building facade(s) or future development must provide minimum composite building facade attenuation as shown in Appendix G, Noise, to

¹ The OITC classification is defined by ASTM International (ASTM E1332) and provides a single-number rating that is used for designing a building façade including walls, doors, glazing, and combinations thereof. The OITC rating is designed to evaluate building elements by their ability to reduce the overall loudness of ground and air transportation noise.

maintain an interior L_{10} noise level not greater than 45 dBA for residential and community facility uses or not greater than 50 dBA for commercial office uses. To maintain a closed-window condition in these areas, an alternate means of ventilation that brings outside air into the building without degrading the acoustical performance of the building facade(s) must also be provided.

By adhering to the requirements specified in ZR 123-32 and the (E) Designation described above, buildings to be developed on the 68 projected and potential development sites as a result of the Proposed Actions would provide sufficient attenuation to achieve the *CEQR Technical Manual* interior L_{10} noise level guidelines of 45 dBA L_{10} for residential or community facility uses and 50 dBA L_{10} for commercial office uses.

J. Noise Impacts at Residential Conversion

As described in Chapter 1, “Project Description,” it is assumed that 1,093,808 gsf of existing nonresidential floor area would convert to residential use over the next decade, but this RWCDs residential conversion model is not site-specific. Due to the non-site-specific nature of the 1,093,808 gsf area modeled for residential conversion, a conversion’s proximity to mobile sources such as heavily trafficked roadways, rail lines or other rail infrastructure, within the path of aircraft, or near other stationary sources of noise, such as large boiler or generator systems, is not known. However, as ambient noise assessment evidenced that residential development in the Project Area would need to provide up to 33 dBA of window/wall attenuation requirement to meet the acceptable interior noise level, residential conversions in the proposed Midtown South Mixed-Use (MSMX) Districts would achieve the acceptable interior noise goal as any new dwelling units in the proposed Mixed-Use Districts would require minimum of 35 dBA of attenuation per ZR 123-3231(c)(2). On the other hand, while the majority of residential conversion is expected to be within the Mixed-Use Districts, project generated residential conversion is also assumed at portions of MSMX Affected Area in C6-4M Districts that would be outside of the proposed Mixed-Use District as shown in Figure 1-3. Therefore, as there are no mechanism to ensure adequate noise attenuation measures at project generated residential conversions to occur outside of the proposed Mixed-Use District, the potential for elevated interior noise levels (in the absence of sufficient building attenuation measures) cannot be ruled out, and significant adverse noise impacts could occur for the area modeled for residential conversion though it is expected that in order to maintain the marketability and attractiveness of new residential conversion, developers would consider window wall attenuation even when not required.

K. Mechanical Equipment

It is assumed that building mechanical systems (i.e., HVAC systems) for all buildings associated with the Proposed Actions would be designed to meet all applicable noise regulations (i.e., Subchapter 5, §24–227 of the New York City Noise Control Code, the New York City Department of Buildings Code) and to avoid producing levels that would result in any significant increase in ambient noise levels. Therefore, the Proposed Actions would not result in any significant adverse noise impacts related to building mechanical equipment.

9.0 Hazardous Materials

A. Introduction

This chapter evaluates the Proposed Actions' potential to lead to significant adverse impacts related to hazardous materials. It specifically examines the likelihood of hazardous materials being present at the 61 projected and seven potential development sites outlined in the RWCDs. Proposed measures aim to address and mitigate contamination issues to reduce exposure risks for future occupants and workers. These measures are integral components of the Proposed Actions, preventing the possibility of significant adverse impacts associated with hazardous materials. An analysis of potential impacts from hazardous materials was conducted for the projected and potential development sites, referring to properties where ground disturbance is expected to occur because of the Proposed Actions.

In accordance with the 2021 *CEQR Technical Manual*, hazardous materials are defined as substances posing threats to human health or the environment. Hazardous materials within (primarily historical) building materials and fixtures encompass asbestos-containing materials (ACM), lead-based paint (LBP), and mercury. Subsurface hazardous materials include volatile organic compounds (VOCs) commonly found in petroleum products and solvents; semi-volatile organic compounds (SVOCs) typically associated with petroleum products, coal, and ash; coal tar and other non-aqueous phase liquid (NAPL) byproducts of historically present manufactured gas plants (MGPs) in the area; heavy metals, including lead; and polychlorinated biphenyls (PCBs) usually associated with electrical transformers.

It is important to note that the mere presence of hazardous materials does not automatically indicate a threat to human health or the environment. An exposure pathway, the presence of a receptor, and an unacceptable dose must also be present to pose a threat. Without proper controls, hazardous materials could be released during the demolition or renovation of existing structures or during excavation or dewatering of a site. Human exposure to hazardous materials, primarily evaluated during construction, is most likely to occur through inhalation of VOCs, ingestion of particulate matter containing SVOCs or metals, or dermal (skin) contact with hazardous materials.

Therefore, a hazardous materials screening assessment was performed following the guidance in the 2021 *CEQR Technical Manual* to determine the potential for significant adverse impacts on hazardous materials.

B. Principal Conclusions

The Proposed Actions would not result in significant adverse impacts related to hazardous materials on projected and potential development sites with the placement of (E) Designation (E-830). However, significant adverse hazardous materials impacts cannot be precluded for potential conversions from non-residential use to residential use as a result of the Proposed Actions. An evaluation of potential hazardous materials impacts was conducted for the 61 projected and seven potential development sites. The assessment revealed environmental

concerns associated with each of these sites. Consequently, the proposed zoning map actions incorporate (E) designations for all privately owned projected and potential development sites. By implementing the (E) designation across all 68 projected and potential development sites, the potential presence of contaminated materials would not result in any impact. The adoption of preventive and remedial measures outlined in the (E) designation would avoid or eliminate the potential for significant adverse impacts related to hazardous materials on all projected and potential development sites during construction within the Rezoning Area resulting from the Proposed Actions.

Significant adverse impacts from hazardous materials cannot be precluded for the 1,093,808 gsf of non-residential area assumed for residential conversion. Because it is not possible to determine exactly where and to what extent an existing non-residential use might convert to a residential use, there are no specific sites and the extent of any additional in-ground disturbance that may occur for each residential conversion cannot be determined. In addition, since there are no specific development sites among the 1,093,808 gsf RWCDs residential conversion area, the absence of hazardous materials cannot be definitively demonstrated and the possibility of impacts cannot be eliminated. To mitigate potential residential exposure to soil vapor intrusion, newly developed residential buildings would need soil vapor barriers installed on the ground and sub-ground levels. Since development resulting from the Proposed Actions would be as-of-right, there would only be a mechanism for the City to require a hazardous materials assessment, or to mandate the remediation of such materials, on select parcels among the modeled residential conversion area that have already been (E) designated because of prior zoning actions. However, some pathways for hazardous materials exposure to humans and the environment are less likely for residential conversion parcels than projected and potential development sites. Residential conversion may require interior and exterior renovation; plumbing, electrical and gas work, and other construction to an existing building, but is less likely to involve soil disturbance or excavation that the demolition and new construction of projected and potential development sites would require.

C. Methodology

As described in the 2021 *CEQR Technical Manual*, the purpose of a hazardous materials assessment is to determine whether a proposed action could lead to potential increased human exposure to hazardous materials and whether the increased exposure could lead to significant public health or environmental impacts. This chapter's objective is to determine which, if any, of the projected and potential development sites identified as part of the RWCDs may have been adversely affected by current or historical uses on-site or in the vicinity. Chapter 24 of Title 15 of the RCNY outlines the criteria for deciding whether a specific site warrants an (E) designation. Section 24-04 delineates the initial screening process, involving a review of historical documentation to identify past or current uses that may have affected or continue to affect a planned or potential development site, as well as adjacent sites.

Hazardous materials may be present in the soil, groundwater, soil vapor, or buildings and on-site structures as the residue of past or current activities. Manufacturing processes and

commercial activities typically use, and thus require, storage and handling of hazardous materials, and leaking and misuse may release these materials to the environment.

For this assessment, the study area includes all projected and potential development sites within the Rezoning Area. Hazardous materials in (primarily historical) building materials and fixtures include ACM, LBP, and mercury. Subsurface hazardous materials include VOCs, commonly found in petroleum products and solvents; SVOCs, typically associated with petroleum products, coal, and ash; coal tar, a byproduct of the MGPs historically in the area; heavy metals, including lead; and PCBs, usually associated with electrical transformers. Because there are well-established regulatory programs addressing hazardous materials in existing buildings, the analysis in this chapter primarily focuses on subsurface hazardous materials. As part of this assessment, each site was evaluated for potential subsurface hazardous materials by (1) reviewing historical Sanborn fire insurance maps for the site and nearby properties; (2) reviewing environmental regulatory databases for the site and nearby properties; and (3) conducting site reconnaissance (from streets and other public rights-of way (because interior access was not available) to determine current occupants/uses and any indications of historical or current hazardous materials use or storage (e.g., signage or petroleum storage tank fill caps).

Sanborn Fire Insurance Map Review

Sanborn maps from 1890 to current were reviewed to assess site and nearby activities and operations, including those listed in Hazardous Materials Appendix 1 of the 2021 *CEQR Technical Manual*. This review included identifying automotive uses (e.g., fueling operations, garages with gasoline tanks, auto repair shops), industrial uses (e.g., various manufacturing, coal storage, MGPs, smelters, chemical laboratories, metal works, printing facilities, substations, foundries, paint manufacturers, junk yards, rail yards, motor freight stations), and other historical uses that may involve the use or generation of hazardous materials.

Database Review

A standard list of federal and state regulatory databases (per American Society of Testing Materials [ASTM] E1527-21) related to the potential for hazardous materials was reviewed, including the following:

- The New York State SPILLS database that lists sites where petroleum or chemical releases have been reported to the New York State Department of Environmental Conservation (NYSDEC) since April 1, 1986.
- The NYSDEC chemical bulk storage (CBS) database that contains registered (since July 15, 1998) facilities that store (non-petroleum) hazardous substances—as defined by 6 NYCRR Part 597—in aboveground tanks (ASTs) with capacity equal to or greater than 185 gallons and/or in underground tanks (USTs) of any size.
- The NYSDEC Petroleum Bulk Storage database (or BULK PETRO) that keeps track of properties that store petroleum products of greater than 1,100 gallons in aggregate.

- The NYSDEC Leaking Storage Tank Incident Reports that records leaking AST or UST incidents reported after April 1, 1986. The causes of releases may be tank test failures, tank failures, or tank overfills.
- The Hazardous Waste Generators database that uses both the NYSDEC manifest system for hazardous waste handlers and U.S. Environmental Protection Agency (EPA) records pursuant to the Resource Conservation and Recovery Act (RCRA), also referred to as the Resource Conservation and Recovery Information System database, and includes information on sites that generate, transport, store, treat, and/or dispose of hazardous waste as defined by RCRA.
- An air discharge facility database for air pollutant sources that are permitted with the EPA, NYSDEC, or the New York City Office of Environmental Remediation (OER).
- New York State Brownfield Cleanup Sites for sites on record with NYSDEC as abandoned, idle, or under-used industrial and commercial sites where redevelopment is being contemplated under the NYSDEC Brownfield Cleanup Program.
- Solid Waste Facilities sites that are included in a NYSDEC database with certain landfills, incinerators, transfer stations, recycling centers, and other sites that manage or managed solid waste.
- State Inactive Hazardous Waste Disposal Site Registry, which is a program (also known as State Superfund) listing information regarding a variety of sites likely requiring cleanup.
- An inventory of historical and current registered dry cleaning facilities compiled by Environmental Data Resources, Inc. of Shelton, Connecticut. Typical observations (noted in **Table 9-1**) include the nature of the visible operations; evidence of petroleum bulk storage tanks from either signs, fill ports, and/or vent pipes; roof or sidewall vents where potential air discharges occur; electrical transformers or large capacitors; monitoring wells, dry cleaning, automotive and other industrial uses; sheens, discoloration or staining of surfaces; topographical disturbances, including excavation and filling; stressed vegetation; and solid waste disposal practices.

Site Reconnaissance

Each site and nearby properties were observed to verify and potentially supplement literature and database records, identify existing environmental conditions, and note any potential evidence of historical conditions. Exterior site inspections were performed for each projected and potential development site to identify any visible monitoring wells; vent pipes; fill ports; and manufacturing, commercial, and industrial uses that could indicate environmental impacts. Because site interiors were not accessible, the reconnaissance was performed from public access areas such as streets and sidewalks.

Limitations

While the examinations of the Sanborn map and city directory adhered to the procedures delineated in the ASTM-E-1527-21 standard, it is crucial to underscore that, because of the private ownership status of all the anticipated and potential development sites, the plan's scope was confined to gathering and analyzing limited information essential for determining a hazardous materials (E) designation. The review of Sanborn maps and city directories specifically focused on properties and their adjacent counterparts within the Rezoning Area. The regulatory database scrutiny also followed the protocols outlined in the ASTM-E-1527-21 standard, encompassing the site itself and a 400-foot buffer zone surrounding each site or cluster of sites. However, components of a Phase I Environmental Site Assessment (ESA) and procedures outlined in the 2021 *CEQR Technical Manual* (such as examinations of building department and fire department records, a title deed search, and interviews with current and former employees and owners) were intentionally excluded from the assessment.

D. Existing Conditions, Topography, and Hydrogeology

The study area has been primarily occupied by residential, commercial, and office uses for over 100 years. In the late 1800s, Midtown was mostly low-rise residential and commercial properties. By the early 1900s, the low-rise buildings began to be replaced by mid- and high-rise buildings. Select industrial properties were interspersed with the residential, commercial, and office buildings, and were mostly replaced by office buildings by the mid-1900s. Much of the Midtown landscape has remained unchanged since the mid-1900s and remains primarily mid- and high-rise office/multi-tenant buildings with commercial spaces. More residential properties are interspersed between office buildings in Midtown South, both as low-rise buildings and apartment buildings.

Based on reports compiled by the U.S. Geological Survey, ground elevation in the study area ranges from 32 to 61 feet above sea level. Groundwater is expected to be encountered below grade at or a few feet above sea level and flow generally to the west-southwest toward the Hudson River, presuming it follows the topography.

Overview of Historical Uses General Area History

Northwest Quadrant

In the late 1890s, the northwest quadrant is primarily occupied by low-rise buildings (i.e. five stories or fewer), including both residential dwellings and commercial properties. The NY State Arsenal is located on the northeast corner of West 35th Street and Seventh Avenue. Additional properties present include churches, schools, stables, a theatre, and a hotel.

In the early 1900s, the northwest quadrant continues to be occupied primarily by residential and commercial buildings, with the addition of office buildings and garages. The NY State Arsenal is described as a location for the storage of cartridges, military, and naval supplies. A picture frame factory is adjacent to the north of the Arsenal. A lumber yard is present on the south side of West 38th Street, and warehouses are present on the south side of West 35th Street and the north side of West 37th Street.

By 1930, most low-rise residential and commercial buildings have been replaced with mid- and high-rise office/multi-tenant buildings. A substation, owned by NY Edison Co., is present near the southwest corner of West 37th Street and Eighth Avenue. Multiple printing and publishing buildings are present, as well as garment-related establishments. The New York Telephone Company is located along the south side of West 37th Street, near Seventh Avenue. The Arsenal Building no longer appears to be operating as a military arsenal.

The mid- and high-rise buildings constructed by 1930 continue to remain substantially unchanged today. Most buildings are operated as office buildings, along with commercial properties, hotels, churches, parking garages, and schools. The latest Sanborn maps (2005) show tanks present in most mid- and high-rise buildings; these tanks are presumed to remain in the buildings.

Northeast Quadrant

In the late 1890s, the northeast quadrant is primarily low-rise buildings (i.e. five stories or fewer), including residential dwellings and commercial properties. Additional properties present include hotels, churches, and a theater.

By the early 1900s, a silversmith stock and showroom is present on the southwest corner of West 36th Street and Fifth Avenue. The remainder of properties continue to be primarily residential and commercial.

Between 1910 and 1930, many buildings were converted to mid- and high-rise buildings, operated as office buildings, multi-tenant buildings, and department stores. Tanks are noted in many buildings. By 1950, the Grey Line Terminal is present spanning from West 36th Street to West 37th Street near Sixth Avenue; the terminal was replaced by two parking garages by 1968.

The majority of the northeast quadrant is currently mid- and high-rise office buildings and multi-tenant buildings, garages, and hotels. Tanks are shown on maps in most mid- and high-rise buildings through the latest Sanborn maps (2005) and are presumed to remain in the buildings. Low rise buildings continue to be present, primarily along West 36th Street and West 39th Street.

Southwest Quadrant

In the late 1890s, the southwest quadrant is primarily low-rise buildings (i.e. five stories or fewer), including both residential dwellings and commercial properties, interspersed with manufacturing related facilities. A chocolate manufacturing facility is present to the west of Sixth Avenue, spanning from West 24th Street to West 25th Street, and a manufacturer of “magicians apparatus” is located along Sixth Avenue from West 29th Street to West 30th Street. A lumberyard is present near the northeast corner of West 26th Street and Seventh Avenue, and a hardware factory is located on the northside of 29th Street near Seventh Avenue. A paper manufacturer, wire works facility, insulated wire works facility, carpet cleaning works facility, and a mill are present on the block from Seventh to Eighth Avenue,

West 28th to West 29th Street. Additional properties present include stables, churches, theaters, and schools.

By the early 1900s, a machine shop, two laundry facilities, a paint facility, and a wood working facility are constructed on the block from Sixth to Seventh Avenue, West 28th Street to West 29th Street. A mattress factory and an unnamed factory with multiple tanks are located on the adjacent block to the south. Many low-rise buildings have been converted to high-rise office/multi-tenant buildings, most of which include tanks.

By 1950, most of the aforementioned manufacturing and industrial properties are replaced by high-rise buildings with tanks, interspersed with low-rise commercial and residential properties. Multiple garages with tanks are also present.

The southwest quadrant is currently a mix of high-, mid-, and low-rise buildings, including offices, residential, and commercial properties. Tanks are shown on maps in most mid- and high-rise buildings through the latest Sanborn maps (2005) and are presumed to remain in the buildings.

Southeast Quadrant

In the late 1890s, the southeast quadrant is primarily low-rise buildings (i.e., five stories or fewer), including both residential dwellings and commercial properties. Additional properties present include hotels, churches, clubs, museums, and theaters.

By the early 1900s, low-rise buildings are being replaced by mid- and high-rise buildings; a trend that continues into the mid-1900s. Most buildings are depicted with tanks. A NY Con Edison substation is present between West 26th Street and West 27th Street, near Sixth Avenue. By 1968, large parking structures/areas are present along Sixth Avenue, spanning West 24th Street to West 26th Street, as well as along the north side of West 25th Street.

The southeast quadrant is currently a mix of high-, mid-, and low-rise buildings, including offices, residential, and commercial properties. Tanks are shown on maps in most mid- and high-rise buildings through the latest Sanborn maps (2005) and are presumed to remain in the buildings. The parking structures have all been replaced by apartment buildings.

E. Hazardous Materials Analysis

Table 9-1 summarizes the findings of the hazardous materials evaluation for each of the projected and potential development sites. The final column of the table includes the recommendation to place hazardous materials (E) designations for all privately owned projected and potential development sites because they all could have been adversely affected by current or historical uses on-site, adjacent to, or within 400 feet of the site. In evaluating whether the placement of an (E) designation for hazardous materials was necessary, current site conditions and previous on-site uses were prioritized, followed by the adjacent site use history and conditions within 400 feet.

Figures 9-1 through 9-4 identifies risk sites revealed through a thorough examination of the database. The database report and historical documents are included as Appendix D.

The evaluation of hazardous materials within this plan's scope has led to the categorization of sites into different risk statuses based on the presence and potential impact of contamination. High-risk status designations indicate sites with confirmed contamination or those strongly suspected to have varying levels of contamination that could significantly affect proposed or potential sites. Sites designated with a moderate risk status suggest potential contamination that may impact the Rezoning Area.

The environmental database report identified more than 2,000 sites within one mile of the Rezoning Area. Based on a thorough review of database searches, historical documents, and the City directory's risk statuses of sites, sites were assessed based on their ability to affect environmental conditions a potential or planned site. The presumed regional groundwater flow is west-southwest; therefore, the neighboring properties of the greatest concern are located to the east-northeast of the projected and potential development sites.

Hazardous Materials Implications

The Rezoning Area was developed prior to 1900 and has been redeveloped various times throughout the century. During this time, it was commonplace to use fill material of unknown origin following demolition or during construction and redevelopment. In Manhattan, this fill is typically from urban fill material, which commonly contains contaminants such as ash, cinder, slag, metals, and general SVOCs. Due to the unknown source of fill material, the potential exists for contamination from the use of fill material.

As mentioned previously, the study area currently includes office building in addition to a mix of residential and commercial facilities. Based on the age of most of the structures in the Rezoning Area (pre-1970), building materials are likely to include ACM, LBP, and/or PCBs. Most of these buildings have active or historical fuel oil tanks, either underground or aboveground. Historical operations included garages, manufacturing facilities, and substations. Subsurface contamination in the study area is likely to be principally associated with the following: auto-related, transportation, industrial or utility uses (e.g., garages, substations, and other uses noted in Hazardous Materials Appendix 1 of the 2021 *CEQR Technical Manual*), and the presence/operation of USTs or ASTs.

Subsurface Disturbance

An (E) designation for hazardous materials would be placed on the privately owned projected and potential development sites. This would require (pursuant to Section 11-15 of the New York City Zoning Resolution—Environmental Requirements) that prior to construction, further assessment of each site would be performed. This would start with preparation of a Phase I ESA in accordance with ASTM Standard E1527-21 and would be followed by preparation of a subsurface investigation protocol for review by OER. The scope of the investigation (the Remedial Investigation) would be determined based on the findings of the Phase I ESA. Upon approval of the protocol by OER, the investigation (typically including laboratory

analysis of soil, groundwater, and soil vapor samples from the site) would be implemented, and a report would be prepared for OER.

Following the issuance of the Final Environmental Impact Statement (FEIS) on June 6, 2025, clerical errors were identified in Table 9-1 related to the Block and Lot information for sites proposed to receive (e) designations. This chapter has been updated to correct Table 9-1.

Table 9-1. Hazardous Materials - Projected and Potential Development Sites (Table revised for the FEIS)

Site Number	Site Type	Quadrant	Block	Lot	Address	Existing Zoning	Zoning Special District	Property Owner	Sanborn Map Concern	On-site Database Listing	Concerns within a 400-foot radius	On-site Environmental Concern (Historical or Current)	<u>Institutional Control</u>
1	Projected	NW	761	31	539 8 Avenue	M1-6	GC	541 Construction Corp			X		<u>E-Designation</u>
	Projected	NW	761	32	543 8 Avenue	M1-6	GC	541 Construction Corp			X		<u>E-Designation</u>
2	Projected	SW	778	7	253 West 28 Street	M1-6D		253 W 28Th St Corp C/O A Michael Tyler Realty Corp		X	X	X	<u>E-Designation</u>
3	Projected	SW	778	34	207 West 28 Street	M1-6D		Yung Brothers Real Estate Co., Inc.		X	X	X	<u>E-Designation</u>
	Projected	SW	778	46	210 West 29 Street	M1-6D		210 West 29th Street Corp.		X	X	X	
	Projected	SW	778	47	212 West 29 Street	M1-6D		Kopatsos		X	X	X	
4	Projected	SW	779	8	253 West 29 Street	M1-6D		8th Ave Lumber Yard Corp		X	X	X	<u>E-Designation</u>
5	Projected	SW	779	69	250 West 30 Street	M1-6D		HW Development 3 LLC		X	X	X	<u>E-Designation</u>
6	Projected	SW	779	25	225 West 29 Street	M1-6D		Gavartins		X	X	X	<u>E-Designation</u>
	Projected	SW	779	26	223 West 29 Street	M1-6D		Rover-NYC, LLC		X	X	X	
7	Projected	SW	779	53	216 West 30 Street	M1-6D		216 West 30 LLC		X	X	X	<u>E-Designation</u>
	Projected	SW	779	55	220 West 30 Street	M1-6D		220 West 30 LLC		X	X	X	
	Projected	SW	779	56	222 West 30 Street	M1-6D		Hemat Realty Corp		X	X	X	
8	Projected	SW	779	43	356 7 Avenue	M1-6		Corner Realty 30/7 Inc			X		<u>E-Designation</u>
	Projected	SW	779	44	358 7 Avenue	M1-6		Corner Realty 30/7 Inc			X		
	Projected	SW	779	45	360 7 Avenue	M1-6		Corner Realty 30/7 Inc			X		
9	Projected	NW	784	80	490 8 Avenue	M1-6	GC	McDonald's Real Estate Company			X		<u>E-Designation</u>
10	Projected	NW	786	18	247 West 36 Street	M1-6	GC	247 Realty Associates LLC			X		<u>E-Designation</u>
11	Projected	NW	786	66	232 West 37 Street	M1-6	GC	232 Associates, LLC			X		<u>E-Designation</u>
12	Projected	NW	786	29	225 West 36 Street	M1-6	GC	S.L.H. Group, Inc.			X		<u>E-Designation</u>
	Projected	NW	786	31	223 West 36 Street	M1-6	GC	223-227 West 36th Street Realty Co.,			X		
13	Projected	NW	787	31	221 West 37 Street	M1-6	GC	221 W 37th Street Realty Group LLC		X	X		<u>E-Designation</u>
14	Projected	NW	788	24	243 West 38 Street	M1-6	GC	Rafael Inc.		X	X	X	<u>E-Designation</u>
15	Projected	NW	788	43	207 West 38 Street	M1-6	GC	E&J Green 38 LLC			X		<u>E-Designation</u>

Site Number	Site Type	Quadrant	Block	Lot	Address	Existing Zoning	Zoning Special District	Property Owner	Sanborn Map Concern	On-site Database Listing	Concerns within a 400-foot radius	On-site Environmental Concern (Historical or Current)	Institutional Control
	Projected	NW	788	44	205 West 38 Street	M1-6	GC	205 Property Co., LLC			X		
	Projected	NW	788	45	203 West 38 Street	M1-6	GC	203 Property Co., LLC			X		
	Projected	NW	788	46	526 7 Avenue	M1-6	GC	SMC 526 Seventh, LLC			X		
16	Projected	NW	789	5	608 8 Avenue	M1-6	GC	608 8th Ave Corp. C/O			X		<u>E-Designation</u>
	Projected	NW	789	78	618 8 Avenue	M1-6	GC	618 Eight Avenue, LLC			X		
	Projected	NW	789	79	612 8 Avenue	M1-6	GC	Hata Realty Corp		X	X		
	Projected	NW	789	82	610 8 Avenue	M1-6	GC	610 Eighth Ave Corp			X		
17	Projected	NW	789	60	236 West 40 Street	M1-6	GC	236 W. 40th St. Corp.		X	X	X	<u>E-Designation</u>
18	Projected	NW	789	40	552 7 Avenue	M1-6	GC	Dayan 26-552		X	X		<u>E-Designation</u>
	Projected	NW	789	42	556 7 Avenue	M1-6	GC	Golden Arch Realty Corp			X		
	Projected	NW	789	43	558 7 Avenue	M1-6	GC	200 West 40 LLC			X		
19	Projected	SW	799	24	131 West 23 Street	C6-3X/M1-6		127 West 23rd Owner, LLC			X		<u>E-Designation</u>
20	Projected	SW	800	14	147 West 24 Street	M1-6		147 West 24th Owner LLC		X	X		<u>E-Designation</u>
	Projected	SW	800	15	145 West 24 Street	M1-6		145 West 24th Street Corp			X		
21	Projected	SW	800	19	139 West 24 Street	M1-6		G&G Electric Realty Corporation			X		<u>E-Designation</u>
22	Projected	SW	801	28	117 West 25 Street	M1-6		Jjha Morak and Associates 25 LLC			X		<u>E-Designation</u>
	Projected	SW	801	29	115 West 25 Street	M1-6		Jjha Morak and Associates 25 LLC			X		
23	Projected	SW	802	3	287 7 Avenue	M1-6		287th Ave Realty, LLC		X	X		<u>E-Designation</u>
	Projected	SW	802	4	289 7 Avenue	M1-6		Doreen LLC		X	X		
25	Projected	SW	802	14	147 West 26 Street	M1-6		Justatone Building Inc			X		<u>E-Designation</u>
	Projected	SW	802	17	141 West 26 Street	M1-6		Fumoha Development Corp			X		
26	Projected	SW	802	29	117 West 26 Street	M1-6		The West Paramont, L			X		<u>E-Designation</u>
27	Projected	SW	803	11	149 West 27 Street	M1-6		149 West 27th St LLC			X		<u>E-Designation</u>
28	Projected	SW	803	46	108 West 28 Street	M1-6/C6-4X		FPK Realty Corp C/O			X		<u>E-Designation</u>
	Projected	SW	803	47	110 West 28 Street	M1-6		Thiha LLC			X		
29	Projected	SW	804	68	154 West 29 Street	M1-6		Nympheas, LLC			X		<u>E-Designation</u>
	Projected	SW	804	69	156 West 29 Street	M1-6		Aja Family LLC		X	X		

Site Number	Site Type	Quadrant	Block	Lot	Address	Existing Zoning	Zoning Special District	Property Owner	Sanborn Map Concern	On-site Database Listing	Concerns within a 400-foot radius	On-site Environmental Concern (Historical or Current)	Institutional Control
30	Projected	SW	804	63	142 West 29 Street	M1-6		Ratna Realty Inc			X		E-Designation
31	Projected	SW	805	1	341 7 Avenue	M1-6		Empire 345 Seventh LLC			X		E-Designation
	Projected	SW	805	2	343 7 Avenue	M1-6		Empire 345 Seventh LLC			X		
	Projected	SW	805	5	167 West 29 Street	M1-6		Empire 345 Seventh LLC			X		
32	Projected	SW	805	87	140 West 30 Street	M1-6		140 Ab LLC			X		E-Designation
33	Projected	SW	805	75	122 West 30 Street	M1-6		Afghan House Inc		X	X		E-Designation
34	Projected	SW	806	63	140 West 31 Street	M1-6		1-S Realty Corp			X		E-Designation
35	Projected	SW	806	54	120 West 31 Street	M1-6		Montana Bay Inc		X	X		E-Designation
	Projected	SW	806	56	124 West 31 Street	M1-6		124 West 31 St Street			X		
36	Projected	NW	811	47	124 West 36 Street	M1-6	GC	Dosol Corp			X		E-Designation
	Projected	NW	811	49	128 West 36 Street	M1-6	GC	Ever Bright Realty Corp			X		
37	Projected	SE	825	7	69 West 23 Street	M1-6		Ttmh Nyc Holdings I, LLC		X	X	X	E-Designation
	Projected	SE	825	8	67 West 23 Street	M1-6		Ttmh Nyc Holdings I, LLC			X		
38	Projected	SE	826	61	32 West 25 Street	M1-6		HMH Special LLC		X	X		E-Designation
39	Projected	SE	826	24	25 West 24 Street	M1-6		23 West 24th Street Owner LLC			X		E-Designation
	Projected	SE	826	25	23 West 24 Street	M1-6		23 West 24th Street Owner LLC			X		
40	Projected	SE	827	14	39 West 25 Street	M1-6		Aljud Estates LLC			X		E-Designation
	Projected	SE	827	16	35 West 25 Street	M1-6		L & M 25th Street			X		
	Projected	SE	827	17	29 West 25 Street	M1-6		L & M 25th Street			X		
	Projected	SE	827	20	25 West 25 Street	M1-6		25 West 25th LLC			X		
41	Projected	SE	829	65	38 West 28 Street	M1-6		Fareny-1 Management, LLC		X	X		E-Designation
	Projected	SE	829	66	40 West 28 Street	M1-6		W28 Street Holding LLC		X	X		
	Projected	SE	829	67	42 West 28 Street	M1-6		Jeon America, Inc			X		
42	Projected	SE	829	62	32 West 28 Street	M1-6		Justin Indust Inc		X	X	X	E-Designation
	Projected	SE	829	63	34 West 28 Street	M1-6		34 West 28th LLC			X		
	Projected	SE	829	64	36 West 28 Street	M1-6		36 West Associates, LLC			X		
43	Projected	SE	829	59	24 West 28 Street	M1-6		Real Evergreen International, Inc.			X		E-Designation

Site Number	Site Type	Quadrant	Block	Lot	Address	Existing Zoning	Zoning Special District	Property Owner	Sanborn Map Concern	On-site Database Listing	Concerns within a 400-foot radius	On-site Environmental Concern (Historical or Current)	Institutional Control
44	Projected	SE	829	61	26 West 28 Street	M1-6		Real Evergreen International, Inc.		X	X	X	<u>E-Designation</u>
	Projected	SE	829	55	1177 Broadway	M1-6		Jtre 1177 Nomad Llc			X		
	Projected	SE	829	56	1179 Broadway	M1-6		AEP Properties Inc			X		
45	Projected	SE	830	69	36 West 29 Street	M1-6		40 West 29 LLC		X	X	X	<u>E-Designation</u>
46	Projected	SE	830	32	West 28 Street	M1-6		Drucker Mitchel			X		<u>E-Designation</u>
	Projected	SE	830	34	7 West 28 Street	M1-6		Drucker Realities			X		
	Projected	SE	830	48	6 West 29 Street	M1-6		Philmar Realty Corp			X		
	Projected	SE	830	51	10 West 29 Street	M1-6		Drucker Realities			X		
47	Projected	SE	831	9	43 West 29 Street	M1-6		Koreana Trading Inc			X		<u>E-Designation</u>
	Projected	ES	831	7	45 West 29 Street	M1-6		Hyung Hyang Realty Corp			X		
	Projected	SE	831	10	39 West 29 Street	M1-6		39 West 29th Street Owners Corp.		X	X		
48	Projected	SE	831	19	1204 Broadway	M1-6		1204 Broadway de LLC		X	X		<u>E-Designation</u>
	Projected	SE	831	55	28 West 30 Street	M1-6		Fantasia World			X		
	Projected	SE	831	59	1214 Broadway	M1-6		1214-1216 Broadway de LLC		X	X		
	Projected	SE	831	61	1212 Broadway	M1-6		1212 Broadway de LLC			X		
49	Projected	SE	831	28	11 West 29 Street	M1-6		HFZ KIK 30th Street Owner LLC		X	X		<u>E-Designation</u>
	Projected	SE	831	29	9 West 29 Street	M1-6		HFZ KIK 30th Street Owner LLC			X		
	Projected	SE	831	30	3 West 29 Street	M1-6		HFZ KIK 30th Street Owner LLC			X		
	Projected	SE	831	33	270 5 Avenue	C5-2/M1-6		Collegiate Reform Chu		X	X	X	
	Projected	SE	831	48	8 West 30 Street	M1-6		HFZ KIK 30th Street Owner LLC		X	X	X	
	Projected	SE	831	49	16 West 30 Street	M1-6		HFZ KIK 30th Street Owner LLC			X		
	Projected	SE	831	50	18 West 30 Street	M1-6		HFZ KIK 30th Street Owner LLC			X		
	Projected	SE	831	51	20 West 30 Street	M1-6		HFZ KIK 30th Street Owner LLC		X	X		
	Projected	SE	831	52	22 West 30 Street	M1-6		HFZ KIK 30th Street Owner LLC		X	X		
50	Projected	SE	832	36	5 West 30 Street	M1-6		S Axelrod Co LLC		X	X		<u>E-Designation</u>
	Projected	SE	832	37	3 West 30 Street	M1-6		R.T.H. Realty Corp.		X	X		

Site Number	Site Type	Quadrant	Block	Lot	Address	Existing Zoning	Zoning Special District	Property Owner	Sanborn Map Concern	On-site Database Listing	Concerns within a 400-foot radius	On-site Environmental Concern (Historical or Current)	Institutional Control
51	Projected	NE	837	26	27 West 35 Street	M1-6		27 West 35th Streetcorp.			X		<u>E-Designation</u>
	Projected	NE	837	27	25 West 35 Street	M1-6		23-25 West 35 St Realty LLC		X	X		
	Projected	NE	837	28	23 West 35 Street	M1-6		23-25 West 35 St Realty LLC			X		
	Projected	NE	837	29	21 West 35 Street	M1-6		21 W 35 LLC			X		
52	Projected	NE	837	30	9 West 35 Street	M1-6		9 West 35th Street LLC		X	X		<u>E-Designation</u>
53	Projected	NE	838	65	26 West 37 Street	M1-6		Yael 26 Realty Corp			X		<u>E-Designation</u>
	Projected	NE	838	66	28 West 37 Street	M1-6		28-30 West 37th Street			X		
	Projected	NE	838	68	32 West 37 Street	M1-6		Chimos, Peter			X		
	Projected	NE	838	69	34 West 37 Street	M1-6		34 West 37th Street Realty			X		
54	Projected	NE	838	60	16 West 37 Street	M1-6		Eider Realty Corp			X		E-Designation
	Projected	NE	838	61	18 West 37 Street	M1-6		Manzi Realty Enterprises,			X		
55	Projected	NE	839	78	58 West 38 Street	M1-6		Adien Realty, LLC			X		E-Designation
	Projected	NE	839	79	60 West 38 Street	M1-6/C6-6	Mid	Heskel's West 38th Street Corp		X	X		
56	Projected	NE	839	14	47 West 37 Street	M1-6		37th Street Management Inc			X		<u>E-Designation</u>
	Projected	NE	839	15	45 West 37 Street	M1-6		45 West 37th St. Realty Corp.			X		
57	Projected	NE	839	68	38 West 38 Street	M1-6		38th Street Realty		X	X		<u>E-Designation</u>
	Projected	NE	839	69	40 West 38 Street	M1-6		Sarco Realty LLC			X		
58	Projected	NE	839	58	18 West 38 Street	M1-6		Z.D. Jasper Realty, Inc.			X		<u>E-Designation</u>
	Projected	NE	839	59	20 West 38 Street	M1-6		Bravo Management LLC			X		
59	Projected	NE	840	69	38 West 39 Street	M1-6		38 West 39 Realty Corp			X		<u>E-Designation</u>
	Projected	NE	840	70	40 West 39 Street	M1-6		174 Orchard St Realty		X	X		
60	Projected	NE	840	21	35 West 38 Street	M1-6		Flame Realty			X		<u>E-Designation</u>
61	Projected	NE	840	60	20 West 39 Street	M1-6		Crest Realty			X		<u>E-Designation</u>
62	Projected	NE	841	12	49 West 39 Street	M1-6		Kendor Development LLC			X		<u>E-Designation</u>
	Projected	NE	841	13	47 West 39 Street	M1-6		Kendor Development LLC		X	X		
	Projected	NE	841	14	45 West 39 Street	M1-6		West 39th Associates, LLC			X		

Site Number	Site Type	Quadrant	Block	Lot	Address	Existing Zoning	Zoning Special District	Property Owner	Sanborn Map Concern	On-site Database Listing	Concerns within a 400-foot radius	On-site Environmental Concern (Historical or Current)	Institutional Control
A	Potential	SW	779	12	247 West 29 Street	M1-6D		249 W 29 Owners Corp		X	X	X	<u>E-Designation</u>
B	Potential	SW	779	62	234 West 30 Street	M1-6D		Grokash Realty Associates, LLC		X	X	X	<u>E-Designation</u>
C	Potential	NW	786	68	240 West 37 Street	M1-6	GC	FPP TIC LLC		X	X	X	E-Designation
D	Potential	SW	802	50	112 West 27 Street	M1-6		Miklos Real Estate			X		E-Designation
E	Potential	NW	812	68	144 West 37 Street	M1-6	GC	Filco Realty LLC			X		<u>E-Designation</u>
F	Potential	NE	838	34	13 West 36 Street	M1-6		1336 Venture LLC		X	X	X	<u>E-Designation</u>
	Potential	NE	838	35	11 West 36 Street	M1-6		Eternal Sino International Development Condo LLC			X		
G	Potential	NW	1012	25	213 West 40 Street	M1-6	MID	Future 40th Street Realty LLC			X		<u>E-Designation</u>
	Potential	NW	1012	26	209 West 40 Street	M1-6	MID	211 West 40th Street, Inc.		X	X	X	

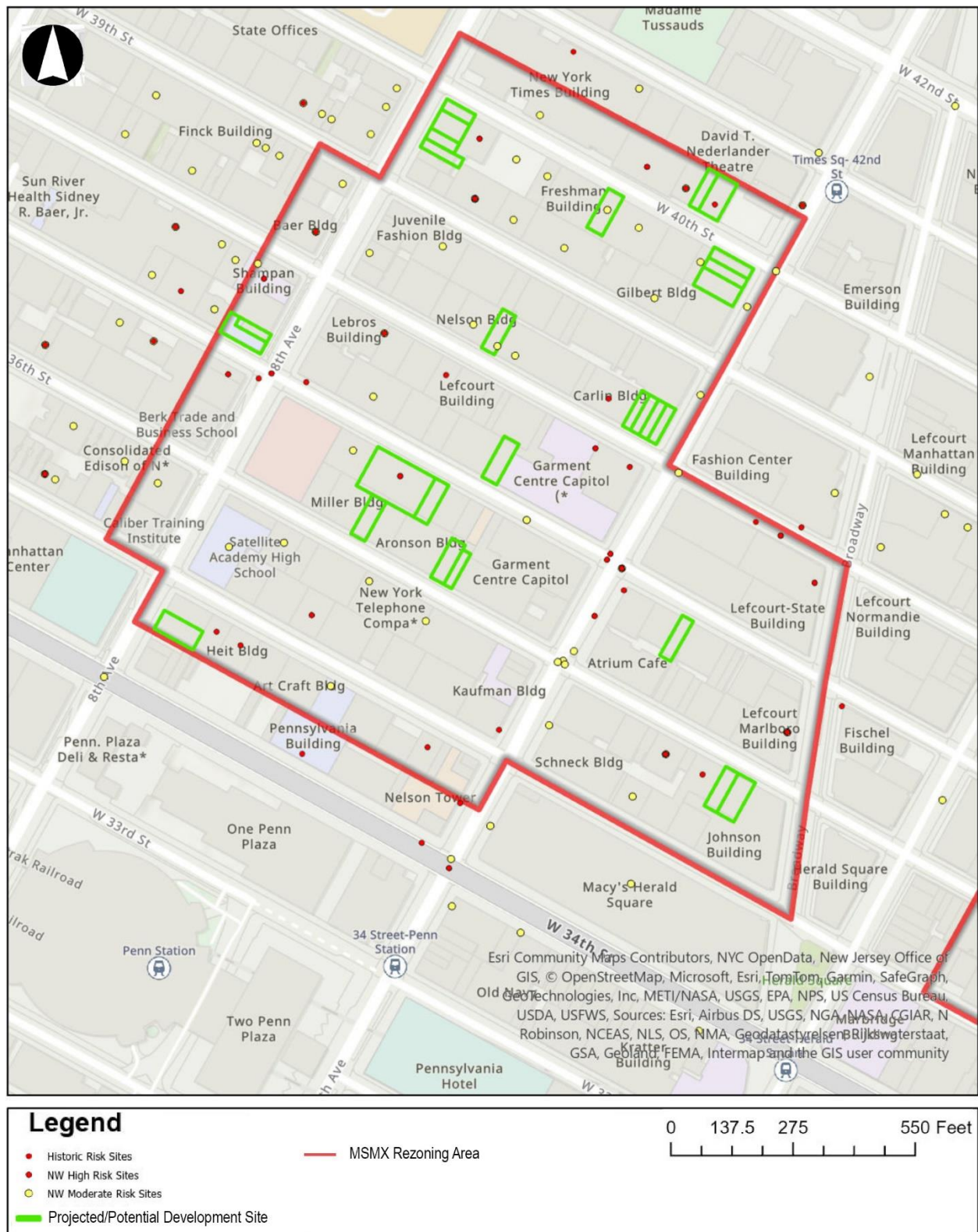
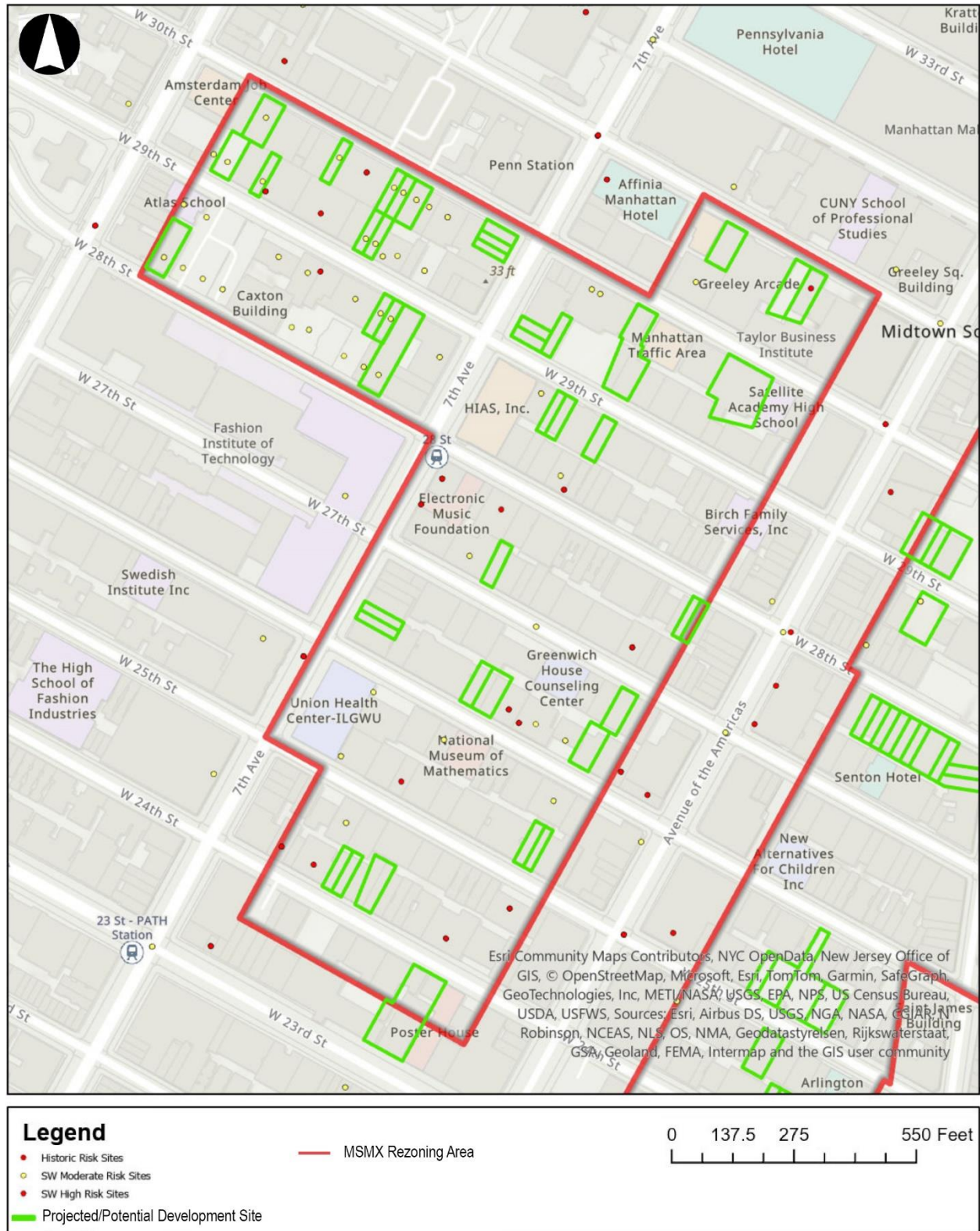
Figure 9-1. Hazardous Materials Risk Sites – Northwest Quadrant

Figure 9-2. Hazardous Materials Risk Sites – Northeast Quadrant

Figure 9-3. Hazardous Materials Risk Sites – Southeast Quadrant

Figure 9-4. Hazardous Materials Risk Sites – Southwest Quadrant

No-Action Condition

In the future without the Proposed Actions (No-Action condition), the projected and potential development sites are assumed to remain unchanged from existing conditions.

Absent the Proposed Actions, development would occur on potentially contaminated sites with no mechanism in place, such as an (E) designation, to require testing and remediation. Any construction involving soil disturbance could create or increase pathways for human exposure to any subsurface hazardous materials present. Because no (E) designations (which require the owner of a property to assess potential hazardous material impacts prior to construction) currently exist on any of the projected or potential development sites, soil disturbance would not necessarily be conducted in accordance with the procedures (e.g., for conducting testing before commencing excavation and implementation of health and safety plans during construction) described in the following section. Catalyzing redevelopment with the Proposed Actions, including the placement of (E) designations in connection with the amended zoning, is essential to the remediation of contaminated sites. However, the NYSDEC regulatory requirements pertaining to any identified petroleum tanks and/or spills, disturbance and handling of suspect LBP and ACM, and off-site disposal of soil/fill would need to be followed. As such, without the Proposed Actions, the amount of soil disturbance would be less, but the controls would not be as stringent as those described for the Proposed Actions.

With-Action Condition

In the future with the Proposed Actions, 61 projected development sites are considered more likely to be developed by the 2034 analysis year, and seven potential development sites are considered less likely to be developed over the same period. The development of all projected and potential sites may result in demolition and construction activities that could increase the exposure of workers and nearby residents to contamination materials. **Table 9-1** describes the potential presence of contaminated materials on and within 400 feet of each of the projected and potential development sites and identifies the regulatory controls that would be placed on the site to ensure further investigation and remediation (if required).

The assessment of hazardous materials concludes that each of the projected and potential development sites raises concerns regarding environmental conditions. Consequently, the proposed zoning map amendments encompass (E) designations for all of these sites. This strategic approach aims to address identified or suspected environmental issues and mitigate potential adverse impacts on human health and the environment resulting from the Proposed Actions.

The proposed (E) designations, illustrated in **Table 9-1**, are strategically placed based on a thorough screening process using historical documentation and regulatory databases. Prior to demolition and/or construction, a Phase I ESA would be performed on each site, in accordance with all relevant ASTM standards. Phase I ESAs would be followed by Phase II subsurface investigations, if warranted. Any demolition or renovation with the potential to disturb properties with LBP would be performed in accordance with relevant Occupational

Safety and Health Administration standards. Any properties that may contain asbestos would be surveyed to confirm the presence of ACM, which would be subsequently stabilized or removed in accordance with relevant state and federal regulations. Soil excavated from construction sites in the study area would be managed and transported offsite in accordance with applicable regulatory requirements. On-site ASTs and USTs (including unforeseen tanks discovered on-site during demolition or construction) would be closed and/or removed in accordance with all applicable requirements. The (E) designation would require that the fee owner of the site conduct a testing and sampling protocol and have an approved remediation plan where appropriate to the satisfaction of the OER. The NYC Department of Buildings typically issues foundation permits when OER approves the remedial action work plan – the actual remediation is usually done concurrently with the construction. The remediation plan provided to OER to satisfy the (E) designation must also include a mandatory OER-approved construction-related health and safety plan. Regulatory oversight by OER is integral to this process, ensuring compliance with Section 11-15 of the ZR. Ultimately, the (E) designation serves as a proactive approach to address and mitigate potential environmental concerns associated with the proposed development.

Through the assignment of (E) designations (E-830) on sites with recognized environmental concerns, the likelihood of adverse effects on human health and the environment would be minimized or prevented. Additionally, the implementation of the Proposed Actions would lead to the cleanup of a greater number of sites compared to the No-Action condition, with the cleanup typically being more rigorous due to the stipulations of the (E) designations. These requirements reduce the potential for human exposure during development and contribute to diminishing contaminants beneath the projected and potential development sites.

Significant adverse impacts from hazardous materials cannot be precluded for the 1,093,808 gsf of non-residential area modeled for residential conversion. For this area, the extent of hazardous materials are unknown because of the non-site specific nature of DCP's conversion model and because it is not possible to determine exactly where and to what extent additional in-ground disturbance may occur for each residential conversion. Since there are no specific development sites among the 1,093,808 gsf RWCDs residential conversion area, the absence of hazardous materials cannot be definitively demonstrated and the possibility of impacts cannot be eliminated. To mitigate potential residential exposure to soil vapor intrusion, newly developed residential buildings would need soil vapor barriers installed on the ground and sub-ground levels. Since development resulting from the Proposed Actions would be as-of-right, there would only be a mechanism for the City to require a hazardous materials assessment, or to mandate the remediation of such materials, on select parcels among the modeled residential conversion area that have already been (E) designated because of prior zoning actions.

F. Conclusion

With the implementation of the preventive and remedial measures outlined above and the (E) designation to ensure these measures are implemented, the potential for significant

adverse impacts related to hazardous materials on the projected and potential development sites would be avoided.