1601 DeKalb Avenue Rezoning

Environmental Assessment Statement

CEQR No. 18DCP061K

Prepared for:
1601 DeKalb Owner LLC

Prepared by:
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City Environmental Quality Review
ENVIRONMENTAL ASSESSMENT STATEMENT (EAS) SHORT FORM

FOR UNLISTED ACTIONS ONLY • *Please fill out and submit to the appropriate agency* (see instructions)

Part I: GENERAL INFORMATION

1. *Does the Action Exceed Any Type I Threshold in 6 NYCRR Part 617.4 or 43 RCNY §6-15(A) (Executive Order 91 of 1977, as amended)?* ☐ YES ☒ NO

If "yes," **STOP** and **complete the FULL EAS FORM**.

2. *Project Name* 1601 DeKalb Avenue Rezoning

3. *Reference Numbers*

CEQR REFERENCE NUMBER (to be assigned by lead agency)	BSA REFERENCE NUMBER (if applicable)
18DCP061K	
ULURP REFERENCE NUMBER (if applicable)	OTHER REFERENCE NUMBER(S) (if applicable) (*e.g.*, legislative intro, CAPA)
180148 ZMK, N 180149 ZRK	

4a. *Lead Agency Information*			**4b. *Applicant Information***		
NAME OF LEAD AGENCY			NAME OF APPLICANT		
New York City Department of City Planning			1601 DeKalb Owner LLC		
NAME OF LEAD AGENCY CONTACT PERSON			NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON		
Robert Dobruskin, AICP, Director, Environmental Review and Assessment Division			Steven Sinacori, Akerman LLP		
ADDRESS 120 Broadway, 31st Floor			ADDRESS 666 Fifth Avenue		
CITY New York	STATE NY	ZIP 10271	CITY New York	STATE NY	ZIP 10103
TELEPHONE 212.720.3423	EMAIL rdobrus@planning.nyc.gov		TELEPHONE 212.880.3800	EMAIL steven.sinacori@akerman.com	

5. *Project Description*

1601 DeKalb Owner LLC (the "Applicant") is seeking a zoning map amendment that would rezone a portion of Brooklyn Block 3237 in the northwest Bushwick neighborhood of Brooklyn Community District 4, and a related zoning text amendment to Appendix F of the New York City Zoning Resolution (ZR) to establish the proposed R7A and R7A/C2-4 portion of the rezoning area as a Mandatory Inclusionary Housing (MIH) Area subject to the affordability requirements of Option 1 of the MIH program (collectively "the Proposed Actions"). The proposed zoning map amendment would change the zoning of an approximately 62,767 square-foot (sf) portion of Block 3237, comprising Lots 21, 22, 23, 27, 31, 33, 38, 41, 47, & 48 from R6 and M1-1 to R6B, R7A, and R7A/C2-4. The proposed rezoning area occupies the northern portion of the block, and is bounded by Wyckoff Avenue to the north, DeKalb Avenue to the east, Hart Street to the west, and, to the south, a line 350 feet north of, and parallel to, Irving Avenue.

The Proposed Actions would facilitate the redevelopment of 1601 DeKalb Avenue (Block 3237, Lots 23, 47, and 48, a.k.a. the "proposed development site"). The Applicant-owned proposed development site is an approximately 25,000 sf through lot on the midblock between DeKalb Avenue and Hart Street, which is currently occupied by a 100-space public parking lot. Whereas Lots 47 and 48 are located within an existing R6 zoning district, Lot 23, which comprises most of the proposed development site, is currently located in an M1-1 district, which does not permit residential uses.

In the future with the Proposed Actions, the Applicant proposes to construct two new nine-story residential buildings on the proposed development site, with a total of approximately 125,252 gross square feet (gsf) with a floor area ratio (FAR) of 4.08, and a maximum building height of 89'6" (nine stories). It is anticipated that the proposed development would contain a total of 118,378 gsf (102,000 zsf) of residential space with 122 dwelling units (DUs), as well as approximately 46 accessory parking spaces. As the proposed development would maximize the site's FAR under the proposed zoning, it is considered to be the reasonable worst-case development scenario (RWCDS) for the proposed development site for environmental analysis purposes. Twenty-five percent of the residential floor area on Lot 23 of the development site (equivalent to 27 DUs) would be affordable units pursuant to the MIH Program. As the proposed

development is located in a Designated Transit Zone, no accessory parking would be required for the affordable housing units, whereas accessory parking would be required for 50 percent of the market-rate units.

The RWCDS also assumes that two other sites in the proposed rezoning area would likely be redeveloped with residential and retail uses under future conditions with the Proposed Actions, in accordance with the proposed R7A zoning district, C2-4 commercial overlay, and MIH Area. Refer to Attachment A, "Project Description" for additional details. The analysis year for the RWCDS associated with the Proposed Actions is 2022.

Project Location

BOROUGH Brooklyn	COMMUNITY DISTRICT(S) 4	STREET ADDRESS 1601 DeKalb Avenue
TAX BLOCK(S) AND LOT(S) Block 3237, Lots 21, 22, 23, 27, 31, 33, 38, 41, 47, 48		ZIP CODE 11237

DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS Rezoning area is bounded by Wyckoff Avenue to the north, DeKalb Avenue to the east, Hart Street to the west, and, to the south, a line 350 feet north of, and parallel to, Irving Avenue

EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY M1-1 | ZONING SECTIONAL MAP NUMBER 13b

6. *Required Actions or Approvals* (check all that apply)

***City Planning Commission*:** ☒ YES ☐ NO ☒ UNIFORM LAND USE REVIEW PROCEDURE (ULURP)

☐ CITY MAP AMENDMENT	☐ ZONING CERTIFICATION	☐ CONCESSION
☒ ZONING MAP AMENDMENT	☐ ZONING AUTHORIZATION	☐ UDAAP
☒ ZONING TEXT AMENDMENT	☐ ACQUISITION—REAL PROPERTY	☐ REVOCABLE CONSENT
☐ SITE SELECTION—PUBLIC FACILITY	☐ DISPOSITION—REAL PROPERTY	☐ FRANCHISE
☐ HOUSING PLAN & PROJECT	☐ OTHER, explain:	

☐ SPECIAL PERMIT (if appropriate, specify type: ☐ modification; ☐ renewal; ☐ other); EXPIRATION DATE:
SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION

***Board of Standards and Appeals*:** ☐ YES ☒ NO

☐ VARIANCE (use)
☐ VARIANCE (bulk)
☐ SPECIAL PERMIT (if appropriate, specify type: ☐ modification; ☐ renewal; ☐ other); EXPIRATION DATE:
SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION

***Department of Environmental Protection*:** ☐ YES ☒ NO If "yes," specify:

Other City Approvals Subject to CEQR (check all that apply)

☐ LEGISLATION	☐ FUNDING OF CONSTRUCTION, specify:
☐ RULEMAKING	☐ POLICY OR PLAN, specify:
☐ CONSTRUCTION OF PUBLIC FACILITIES	☐ FUNDING OF PROGRAMS, specify:
☐ 384(b)(4) APPROVAL	☐ PERMITS, specify:
☐ OTHER, explain:	

Other City Approvals Not Subject to CEQR (check all that apply)

☐ PERMITS FROM DOT'S OFFICE OF CONSTRUCTION MITIGATION AND COORDINATION (OCMC)	☐ LANDMARKS PRESERVATION COMMISSION APPROVAL
	☐ OTHER, explain:

***State or Federal Actions/Approvals/Funding*:** ☐ YES ☒ NO If "yes," specify:

7. *Site Description:* *The directly affected area consists of the project site and the area subject to any change in regulatory controls. Except where otherwise indicated, provide the following information with regard to the directly affected area.*

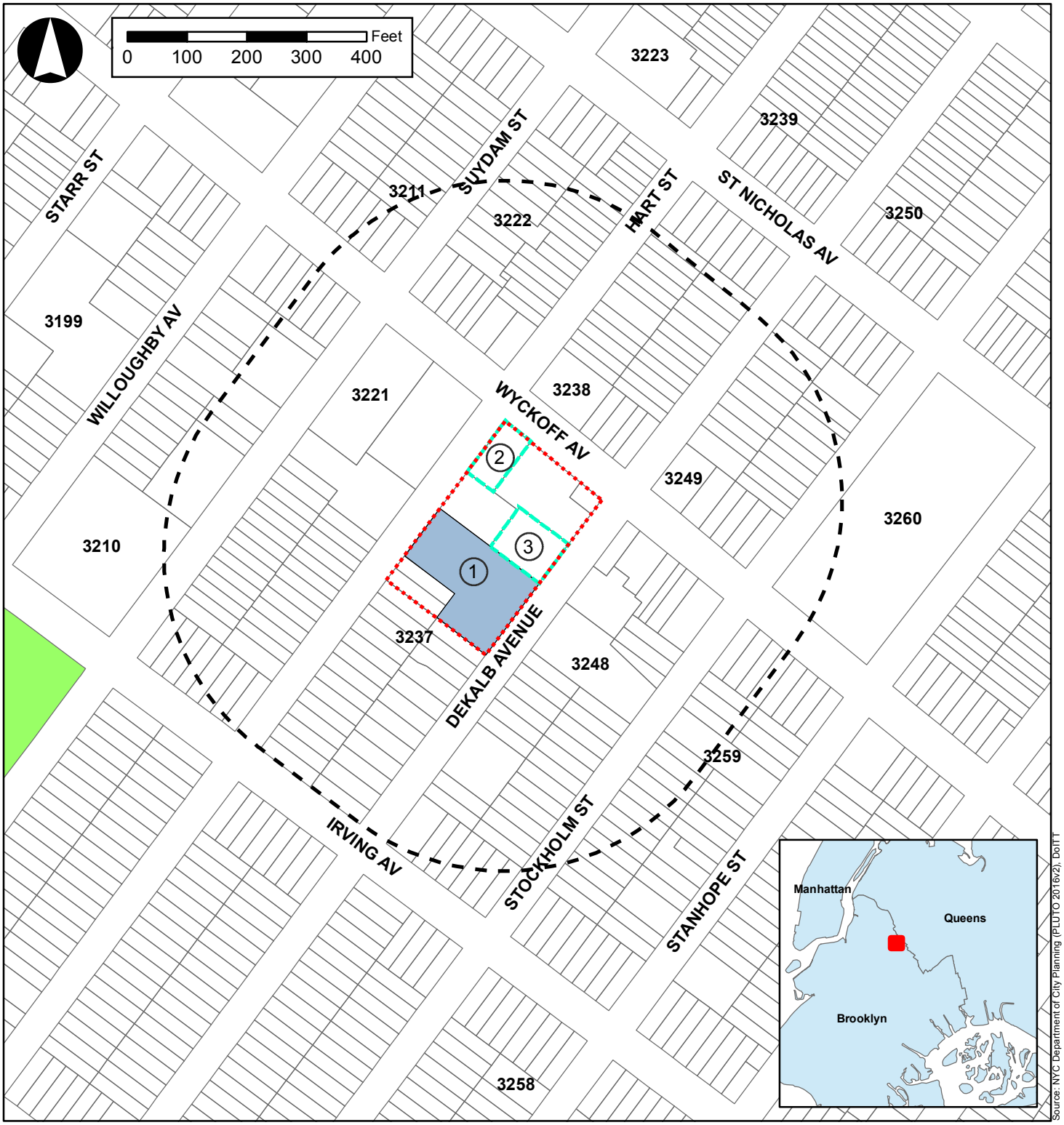
***Graphics*:** *The following graphics must be attached and each box must be checked off before the EAS is complete. Each map must clearly depict the boundaries of the directly affected area or areas and indicate a 400-foot radius drawn from the outer boundaries of the project site. Maps may not exceed 11 x 17 inches in size and, for paper filings, must be folded to 8.5 x 11 inches.*

☒ SITE LOCATION MAP ☒ ZONING MAP ☒ SANBORN OR OTHER LAND USE MAP
☒ TAX MAP ☐ FOR LARGE AREAS OR MULTIPLE SITES, A GIS SHAPE FILE THAT DEFINES THE PROJECT SITE(S)
☒ PHOTOGRAPHS OF THE PROJECT SITE TAKEN WITHIN 6 MONTHS OF EAS SUBMISSION AND KEYED TO THE SITE LOCATION MAP

Physical Setting (both developed and undeveloped areas)

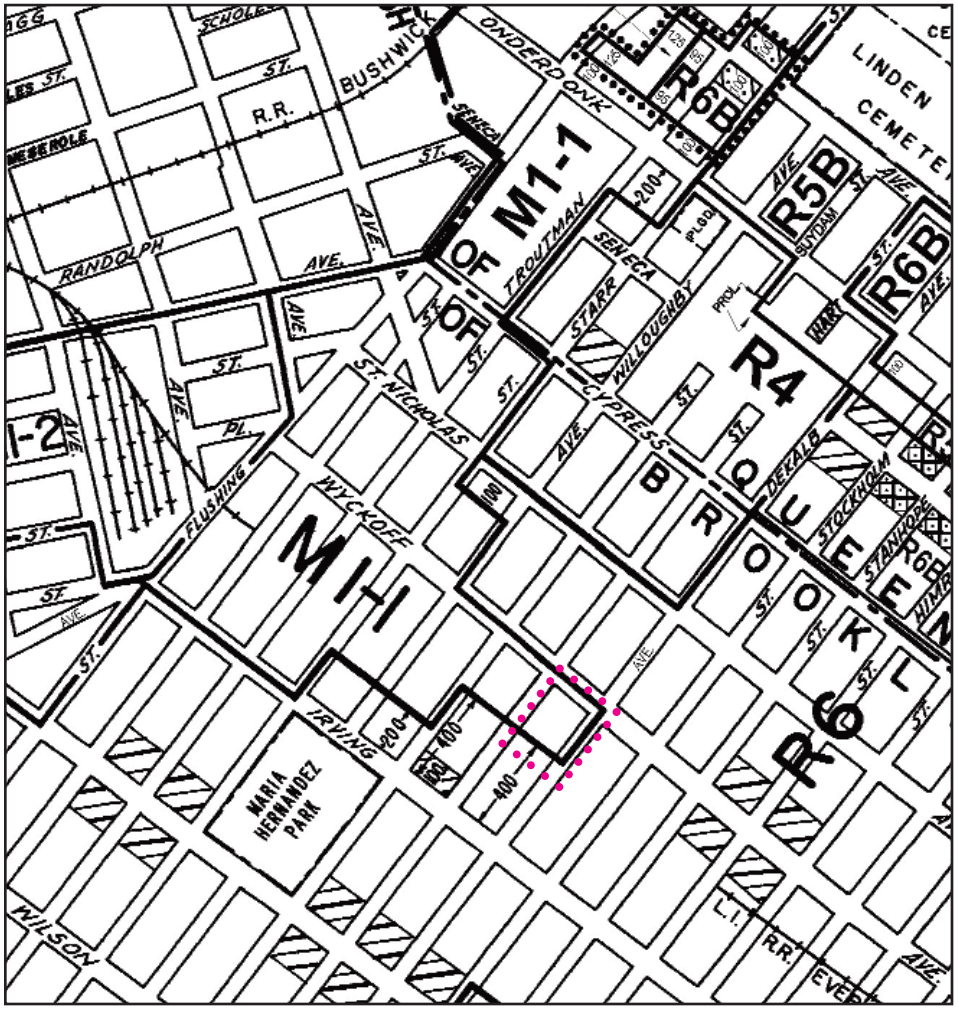
Total directly affected area (sq. ft.): 62,767 sf (rezoning area) Waterbody area (sq. ft) and type: N/A
Roads, buildings, and other paved surfaces (sq. ft.): 62,767 sf Other, describe (sq. ft.): N/A

8. *Physical Dimensions and Scale of Project* (if the project affects multiple sites, provide the total development facilitated by the action)

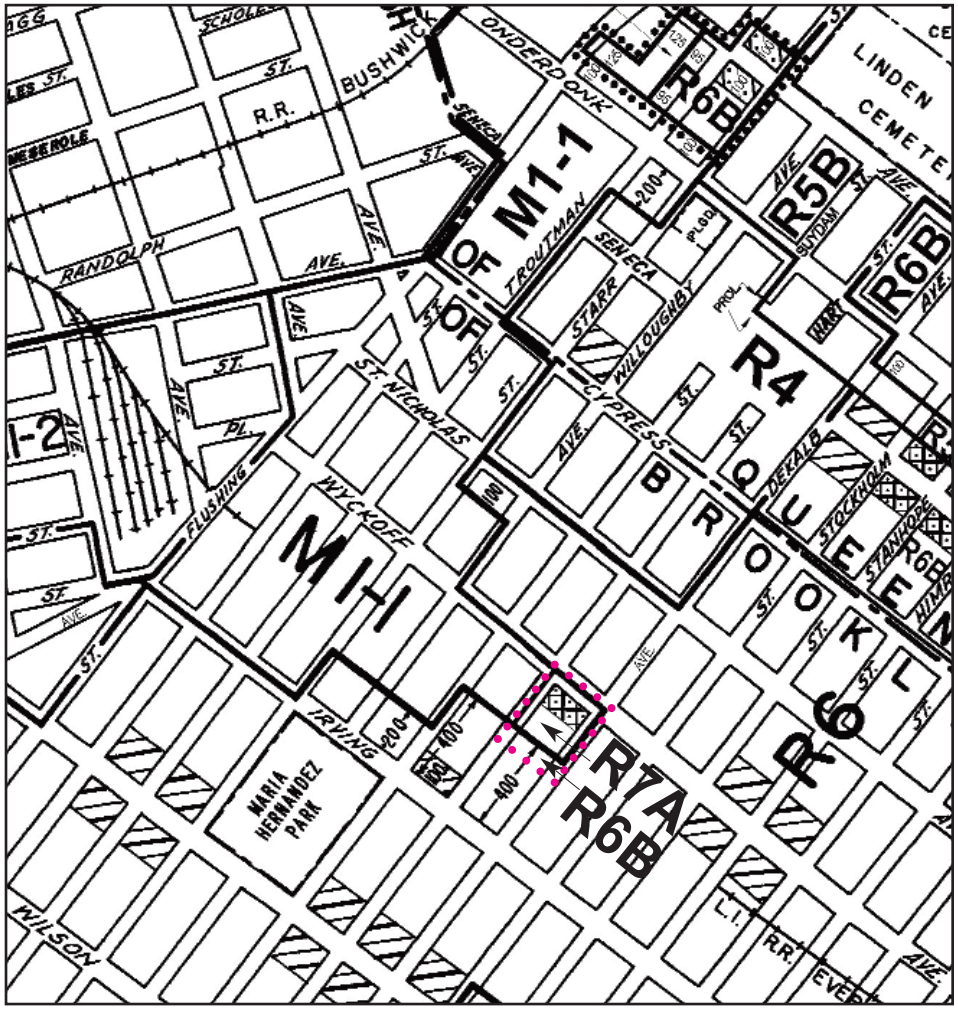


Legend

Proposed Rezoning Area
1 Proposed Development Site
3 Projected Development Sites
3237 Tax Blocks
400-Foot Radius



EXISTING ZONING



PROPOSED ZONING

Proposed Rezoning Area

N

C1-1 C1-2 C1-3 C1-4 C1-5 C2-1 C2-2 C2-3 C2-4 C2-5

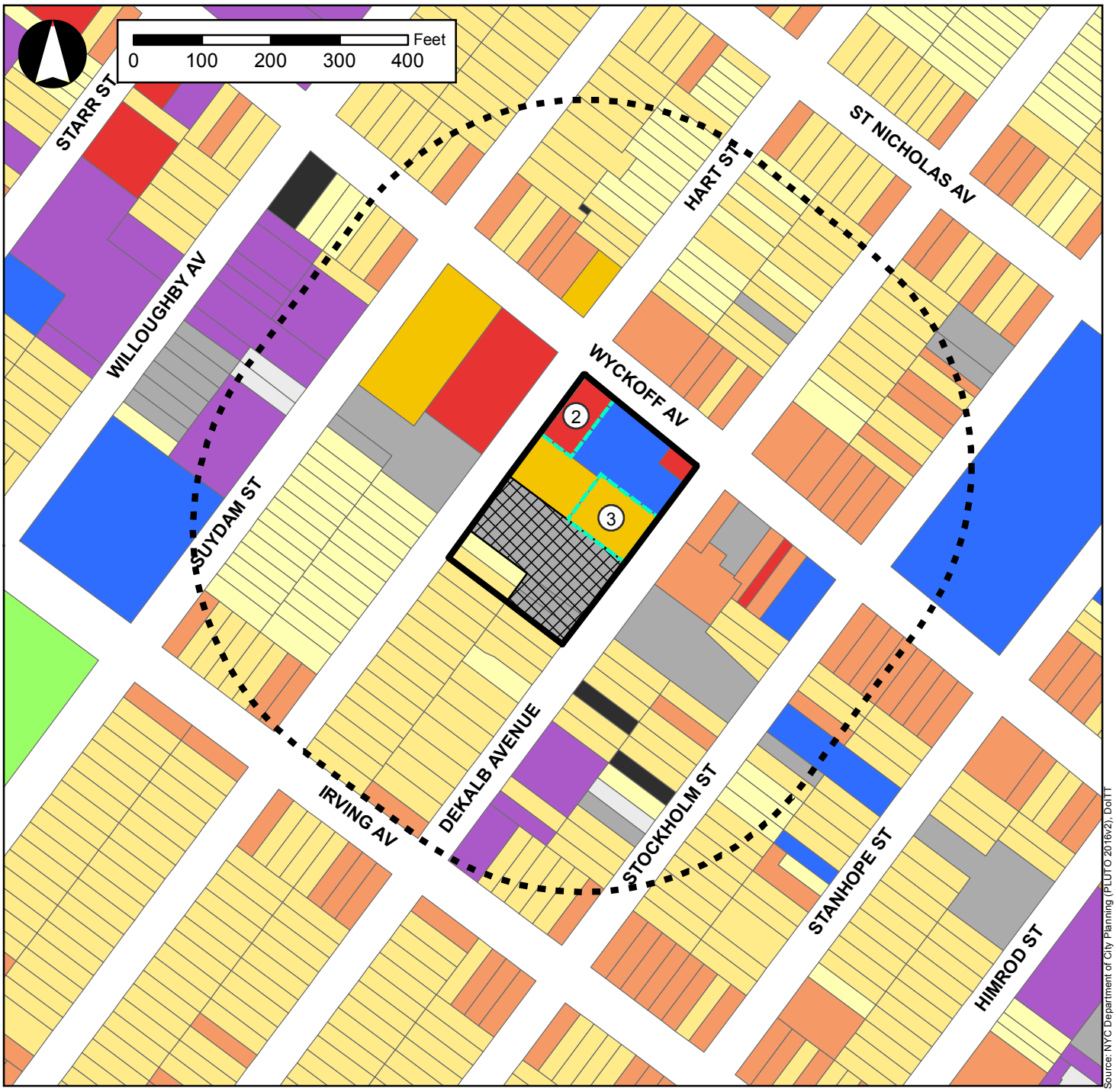
NOTE: Where no dimensions for zoning district boundaries appear on the zoning maps, such dimensions are determined in Article VII, Chapter 6 (Location of District Boundaries) of the Zoning Resolution

Figure 2
Proposed Zoning Map Change



1601 DeKalb Avenue Rezoning EAS

Figure 3
Tax Map



Legend

- Proposed Rezoning Area
- 400-Foot Radius
- Proposed Development Site
- ③ Projected Development Sites
- One & Two Family Buildings
- Multi-Family Walk-Up Buildings
- Multi-Family Elevator Buildings
- Mixed Residential/Commercial
- Commercial/Office Buildings
- Industrial/Manufacturing
- Transportation/Utility
- Public Facilities & Institutions
- Open Space
- Parking Facilities
- Vacant Land
- All Others or No Data

SIZE OF PROJECT TO BE DEVELOPED (gross square feet): 180,808 gsf (total RWCDS)

NUMBER OF BUILDINGS: 4 (2 on Applicant's site, 1 on projected development site 2, 1 on projected development site 3)

GROSS FLOOR AREA OF EACH BUILDING (sq. ft.): Applicant's site: Building A: 68,376 gsf, Building B: 56,876 gsf
Projected Development Site 2: 26,032 gsf
Projected Development Site 3: 40,480 gsf

HEIGHT OF EACH BUILDING (ft.): 50'-89'6"

NUMBER OF STORIES OF EACH BUILDING: 9

Does the proposed project involve changes in zoning on one or more sites? ☒ YES ☐ NO

If "yes," specify: The total square feet owned or controlled by the applicant: 25,000 sf

The total square feet not owned or controlled by the applicant: 27,767 sf

Does the proposed project involve in-ground excavation or subsurface disturbance, including, but not limited to foundation work, pilings, utility lines, or grading? ☒ YES ☐ NO

If "yes," indicate the estimated area and volume dimensions of subsurface permanent and temporary disturbance (if known):

AREA OF TEMPORARY DISTURBANCE: 25,000 sq. ft. (width x length) VOLUME OF DISTURBANCE: TBD cubic ft. (width x length x depth)

AREA OF PERMANENT DISTURBANCE: 25,000 sq. ft. (width x length)

Description of Proposed Uses (please complete the following information as appropriate)

	Residential	***Commercial***	***Community Facility***	***Industrial/Manufacturing***
Size (in gross sq. ft.)	180,808	4,082	0	0
Type (*e.g.,* retail, office, school)	193 units	Local Retail	N/A	N/A

Does the proposed project increase the population of residents and/or on-site workers? ☒ YES ☐ NO

If "yes," please specify: NUMBER OF ADDITIONAL RESIDENTS: 589 NUMBER OF ADDITIONAL WORKERS: 12

Provide a brief explanation of how these numbers were determined: The number of additional residents is based on the average household size of Brooklyn Community District 4 (3.05 persons/household from the 2010 Census). The number of additional workers is based on the rate of 3 workers/1,000 sf of retail space and 1 worker for every 25 DUs.

Does the proposed project create new open space? ☐ YES ☒ NO If "yes," specify size of project-created open space: sq. ft.

Has a No-Action scenario been defined for this project that differs from the existing condition? ☒ YES ☐ NO

If "yes," see Chapter 2, "Establishing the Analysis Framework" and describe briefly: No-Action Scenario would include 8,000 sf of office use on Lot 41. The uses remaining lots within the rezoning area would remain the same as the existing condition.

9. *Analysis Year* CEQR Technical Manual Chapter 2

ANTICIPATED BUILD YEAR (date the project would be completed and operational): 2022

ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS: 24 Months

WOULD THE PROJECT BE IMPLEMENTED IN A SINGLE PHASE? ☒ YES ☐ NO IF MULTIPLE PHASES, HOW MANY? N/A

BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE: All construction would be complete by 2022

10. *Predominant Land Use in the Vicinity of the Project* (check all that apply)

☒ RESIDENTIAL ☒ MANUFACTURING ☒ COMMERCIAL ☐ PARK/FOREST/OPEN SPACE ☒ OTHER, specify: institutional uses, parking

Part II: TECHNICAL ANALYSIS

INSTRUCTIONS: For each of the analysis categories listed in this section, assess the proposed project's impacts based on the thresholds and criteria presented in the CEQR Technical Manual. Check each box that applies.

- If the proposed project can be demonstrated not to meet or exceed the threshold, check the "no" box.
- If the proposed project will meet or exceed the threshold, or if this cannot be determined, check the "yes" box.
- For each "yes" response, provide additional analyses (and, if needed, attach supporting information) based on guidance in the CEQR Technical Manual to determine whether the potential for significant impacts exists. Please note that a "yes" answer does not mean that an EIS must be prepared—it means that more information may be required for the lead agency to make a determination of significance.
- The lead agency, upon reviewing Part II, may require an applicant to provide additional information to support the Short EAS Form. For example, if a question is answered "no," an agency may request a short explanation for this response.

	YES	NO
1. *LAND USE, ZONING, AND PUBLIC POLICY*: CEQR Technical Manual Chapter 4		
(a) Would the proposed project result in a change in land use different from surrounding land uses?	☐	☒
(b) Would the proposed project result in a change in zoning different from surrounding zoning?	☒	☐
(c) Is there the potential to affect an applicable public policy?	☐	☒
(d) If "yes," to (a), (b), and/or (c), complete a preliminary assessment and attach.		
(e) Is the project a large, publicly sponsored project?	☐	☒
o If "yes," complete a PlaNYC assessment and attach.		
(f) Is any part of the directly affected area within the City's Waterfront Revitalization Program boundaries?	☐	☒
o If "yes," complete the Consistency Assessment Form.		
2. *SOCIOECONOMIC CONDITIONS*: CEQR Technical Manual Chapter 5		
(a) Would the proposed project:		
o Generate a net increase of 200 or more residential units?	☐	☒
o Generate a net increase of 200,000 or more square feet of commercial space?	☐	☒
o Directly displace more than 500 residents?	☐	☒
o Directly displace more than 100 employees?	☐	☒
o Affect conditions in a specific industry?	☐	☒
3. *COMMUNITY FACILITIES*: CEQR Technical Manual Chapter 6		
(a) Direct Effects		
o Would the project directly eliminate, displace, or alter public or publicly funded community facilities such as educational facilities, libraries, hospitals and other health care facilities, day care centers, police stations, or fire stations?	☐	☒
(b) Indirect Effects		
o **Child Care Centers:** Would the project result in 20 or more eligible children under age 6, based on the number of low or low/moderate income residential units? (See Table 6-1 in Chapter 6)	☐	☒
o **Libraries:** Would the project result in a 5 percent or more increase in the ratio of residential units to library branches? (See Table 6-1 in Chapter 6)	☐	☒
o **Public Schools:** Would the project result in 50 or more elementary or middle school students, or 150 or more high school students based on number of residential units? (See Table 6-1 in Chapter 6)	☒	☐
o **Health Care Facilities and Fire/Police Protection:** Would the project result in the introduction of a sizeable new neighborhood?	☐	☒
4. *OPEN SPACE*: CEQR Technical Manual Chapter 7		
(a) Would the proposed project change or eliminate existing open space?	☐	☒
(b) Is the project located within an under-served area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island?	☒	☐
o If "yes," would the proposed project generate more than 50 additional residents or 125 additional employees?	☒	☐
(c) Is the project located within a well-served area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island?	☐	☒
o If "yes," would the proposed project generate more than 350 additional residents or 750 additional employees?	☐	☐
(d) If the project in located an area that is neither under-served nor well-served, would it generate more than 200 additional residents or 500 additional employees?	☐	☐

	YES	NO
5. *SHADOWS*: CEQR Technical Manual Chapter 8		
(a) Would the proposed project result in a net height increase of any structure of 50 feet or more?	☒	☐
(b) Would the proposed project result in any increase in structure height and be located adjacent to or across the street from a sunlight-sensitive resource?	☐	☒
6. *HISTORIC AND CULTURAL RESOURCES*: CEQR Technical Manual Chapter 9		
(a) Does the proposed project site or an adjacent site contain any architectural and/or archaeological resource that is eligible for or has been designated (or is calendared for consideration) as a New York City Landmark, Interior Landmark or Scenic Landmark; that is listed or eligible for listing on the New York State or National Register of Historic Places; or that is within a designated or eligible New York City, New York State or National Register Historic District? (See the GIS System for Archaeology and National Register to confirm)	☐	☒
(b) Would the proposed project involve construction resulting in in-ground disturbance to an area not previously excavated?	☒	☐
(c) If "yes" to either of the above, list any identified architectural and/or archaeological resources and attach supporting information on whether the proposed project would potentially affect any architectural or archeological resources. See Appendix A for New York City Landmarks Preservation Commission Environmental Review Letter.		
7. *URBAN DESIGN AND VISUAL RESOURCES*: CEQR Technical Manual Chapter 10		
(a) Would the proposed project introduce a new building, a new building height, or result in any substantial physical alteration to the streetscape or public space in the vicinity of the proposed project that is not currently allowed by existing zoning?	☒	☐
(b) Would the proposed project result in obstruction of publicly accessible views to visual resources not currently allowed by existing zoning?	☐	☒
8. *NATURAL RESOURCES*: CEQR Technical Manual Chapter 11		
(a) Does the proposed project site or a site adjacent to the project contain natural resources as defined in Section 100 of Chapter 11?	☐	☒
o If "yes," list the resources and attach supporting information on whether the proposed project would affect any of these resources.		
(b) Is any part of the directly affected area within the Jamaica Bay Watershed?	☐	☒
o If "yes," complete the Jamaica Bay Watershed Form, and submit according to its instructions.		
9. *HAZARDOUS MATERIALS*: CEQR Technical Manual Chapter 12		
(a) Would the proposed project allow commercial or residential uses in an area that is currently, or was historically, a manufacturing area that involved hazardous materials?	☒	☐
(b) Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to hazardous materials that preclude the potential for significant adverse impacts?	☐	☒
(c) Would the project require soil disturbance in a manufacturing area or any development on or near a manufacturing area or existing/historic facilities listed in Appendix 1 (including nonconforming uses)?	☒	☐
(d) Would the project result in the development of a site where there is reason to suspect the presence of hazardous materials, contamination, illegal dumping or fill, or fill material of unknown origin?	☒	☐
(e) Would the project result in development on or near a site that has or had underground and/or aboveground storage tanks (*e.g.*, gas stations, oil storage facilities, heating oil storage)?	☐	☒
(f) Would the project result in renovation of interior existing space on a site with the potential for compromised air quality; vapor intrusion from either on-site or off-site sources; or the presence of asbestos, PCBs, mercury or lead-based paint?	☐	☒
(g) Would the project result in development on or near a site with potential hazardous materials issues such as government-listed voluntary cleanup/brownfield site, current or former power generation/transmission facilities, coal gasification or gas storage sites, railroad tracks or rights-of-way, or municipal incinerators?	☐	☒
(h) Has a Phase I Environmental Site Assessment been performed for the site?	☒	☐
o If "yes," were Recognized Environmental Conditions (RECs) identified? Briefly identify: See Attachment G	☐	☐
10. *WATER AND SEWER INFRASTRUCTURE*: CEQR Technical Manual Chapter 13		
(a) Would the project result in water demand of more than one million gallons per day?	☐	☒
(b) If the proposed project located in a combined sewer area, would it result in at least 1,000 residential units or 250,000 square feet or more of commercial space in Manhattan, or at least 400 residential units or 150,000 square feet or more of commercial space in the Bronx, Brooklyn, Staten Island, or Queens?	☐	☒
(c) If the proposed project located in a separately sewered area, would it result in the same or greater development than the amounts listed in Table 13-1 in Chapter 13?	☐	☒
(d) Would the proposed project involve development on a site that is 5 acres or larger where the amount of impervious surface would increase?	☐	☒
(e) If the project is located within the Jamaica Bay Watershed or in certain specific drainage areas, including Bronx River, Coney Island Creek, Flushing Bay and Creek, Gowanus Canal, Hutchinson River, Newtown Creek, or Westchester Creek, would it	☐	☒

	YES	NO
involve development on a site that is 1 acre or larger where the amount of impervious surface would increase?		
(f) Would the proposed project be located in an area that is partially sewered or currently unsewered?	☐	☒
(g) Is the project proposing an industrial facility or activity that would contribute industrial discharges to a Wastewater Treatment Plant and/or generate contaminated stormwater in a separate storm sewer system?	☐	☒
(h) Would the project involve construction of a new stormwater outfall that requires federal and/or state permits?	☐	☒
11. *SOLID WASTE AND SANITATION SERVICES*: CEQR Technical Manual Chapter 14		
(a) Using Table 14-1 in Chapter 14, the project's projected operational solid waste generation is estimated to be (pounds per week): 9,657 (net)		
o Would the proposed project have the potential to generate 100,000 pounds (50 tons) or more of solid waste per week?	☐	☒
(b) Would the proposed project involve a reduction in capacity at a solid waste management facility used for refuse or recyclables generated within the City?	☐	☒
12. *ENERGY*: CEQR Technical Manual Chapter 15		
(a) Using energy modeling or Table 15-1 in Chapter 15, the project's projected energy use is estimated to be (annual BTUs): 20,501,386 (net)		
(b) Would the proposed project affect the transmission or generation of energy?	☐	☒
13. *TRANSPORTATION*: CEQR Technical Manual Chapter 16		
(a) Would the proposed project exceed any threshold identified in Table 16-1 in Chapter 16?	☐	☒
(b) If "yes," conduct the screening analyses, attach appropriate back up data as needed for each stage and answer the following questions:		
o Would the proposed project result in 50 or more Passenger Car Equivalents (PCEs) per project peak hour?	☐	☐
If "yes," would the proposed project result in 50 or more vehicle trips per project peak hour at any given intersection? ***It should be noted that the lead agency may require further analysis of intersections of concern even when a project generates fewer than 50 vehicles in the peak hour. See Subsection 313 of Chapter 16 for more information.*	☐	☐
o Would the proposed project result in more than 200 subway/rail or bus trips per project peak hour?	☐	☐
If "yes," would the proposed project result, per project peak hour, in 50 or more bus trips on a single line (in one direction) or 200 subway trips per station or line?	☐	☐
o Would the proposed project result in more than 200 pedestrian trips per project peak hour?	☐	☐
If "yes," would the proposed project result in more than 200 pedestrian trips per project peak hour to any given pedestrian or transit element, crosswalk, subway stair, or bus stop?	☐	☐
14. *AIR QUALITY*: CEQR Technical Manual Chapter 17		
(a) *Mobile Sources*: Would the proposed project result in the conditions outlined in Section 210 in Chapter 17?	☐	☒
(b) *Stationary Sources*: Would the proposed project result in the conditions outlined in Section 220 in Chapter 17?	☒	☐
o If "yes," would the proposed project exceed the thresholds in Figure 17-3, Stationary Source Screen Graph in Chapter 17? (Attach graph as needed)	☒	☐
(c) Does the proposed project involve multiple buildings on the project site?	☒	☐
(d) Does the proposed project require federal approvals, support, licensing, or permits subject to conformity requirements?	☐	☒
(e) Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to air quality that preclude the potential for significant adverse impacts?	☐	☒
15. *GREENHOUSE GAS EMISSIONS*: CEQR Technical Manual Chapter 18		
(a) Is the proposed project a city capital project or a power generation plant?	☐	☒
(b) Would the proposed project fundamentally change the City's solid waste management system?	☐	☒
(c) If "yes" to any of the above, would the project require a GHG emissions assessment based on the guidance in Chapter 18?	☐	☒
16. *NOISE*: CEQR Technical Manual Chapter 19		
(a) Would the proposed project generate or reroute vehicular traffic?	☐	☒
(b) Would the proposed project introduce new or additional receptors (see Section 124 in Chapter 19) near heavily trafficked roadways, within one horizontal mile of an existing or proposed flight path, or within 1,500 feet of an existing or proposed rail line with a direct line of site to that rail line?	☐	☒
(c) Would the proposed project cause a stationary noise source to operate within 1,500 feet of a receptor with a direct line of sight to that receptor or introduce receptors into an area with high ambient stationary noise?	☐	☒
(d) Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to	☐	☒

	YES	NO
noise that preclude the potential for significant adverse impacts?		
17. *PUBLIC HEALTH*: CEQR Technical Manual Chapter 20		
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Air Quality; Hazardous Materials; Noise?	☒	☐
(b) If "yes," explain why an assessment of public health is or is not warranted based on the guidance in Chapter 20, "Public Health." Attach a preliminary analysis, if necessary. As discussed in the EAS, the Proposed Actions would not result in significant adverse Air Quality, Hazardous Materials, or Noise impacts. Therefore, an assessment of public health is not warranted.		
18. *NEIGHBORHOOD CHARACTER*: CEQR Technical Manual Chapter 21		
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Land Use, Zoning, and Public Policy; Socioeconomic Conditions; Open Space; Historic and Cultural Resources; Urban Design and Visual Resources; Shadows; Transportation; Noise?	☒	☐
(b) If "yes," explain why an assessment of neighborhood character is or is not warranted based on the guidance in Chapter 21, "Neighborhood Character." Attach a preliminary analysis, if necessary. The proposed project does not have the potential to result in significant adverse impacts to land use, zoning, and public policy, socioeconomic conditions, open space, historic and cultural resources, urban design and visual resources, shadows, transportation, or noise. Nor would the proposed project result in a combination of moderate effects to several elements that cumulatively may affect neighborhood character. Therefore, an assessment of neighborhood character is not warranted.		
19. *CONSTRUCTION*: CEQR Technical Manual Chapter 22		
(a) Would the project's construction activities involve:		
○ Construction activities lasting longer than two years?	☐	☒
○ Construction activities within a Central Business District or along an arterial highway or major thoroughfare?	☐	☒
○ Closing, narrowing, or otherwise impeding traffic, transit, or pedestrian elements (roadways, parking spaces, bicycle routes, sidewalks, crosswalks, corners, *etc.*)?	☒	☐
○ Construction of multiple buildings where there is a potential for on-site receptors on buildings completed before the final build-out?	☐	☒
○ The operation of several pieces of diesel equipment in a single location at peak construction?	☐	☒
○ Closure of a community facility or disruption in its services?	☐	☒
○ Activities within 400 feet of a historic or cultural resource?	☐	☒
○ Disturbance of a site containing or adjacent to a site containing natural resources?	☐	☒
○ Construction on multiple development sites in the same geographic area, such that there is the potential for several construction timelines to overlap or last for more than two years overall?	☐	☒
(b) If any boxes are checked "yes," explain why a preliminary construction assessment is or is not warranted based on the guidance in Chapter 22, "Construction." It should be noted that the nature and extent of any commitment to use the Best Available Technology for construction equipment or Best Management Practices for construction activities should be considered when making this determination. Construction on the development site may result in temporary disruptions including noise, dust and traffic associated with the delivery of materials and arrival of workers to the site. These effects, however, would be temporary (lasting approximately 24 months) and are therefore not considered significant.		

20. *APPLICANT'S CERTIFICATION*

I swear or affirm under oath and subject to the penalties for perjury that the information provided in this Environmental Assessment Statement (EAS) is true and accurate to the best of my knowledge and belief, based upon my personal knowledge and familiarity with the information described herein and after examination of the pertinent books and records and/or after inquiry of persons who have personal knowledge of such information or who have examined pertinent books and records.

Still under oath, I further swear or affirm that I make this statement in my capacity as the applicant or representative of the entity that seeks the permits, approvals, funding, or other governmental action(s) described in this EAS.

APPLICANT/REPRESENTATIVE NAME	DATE
Steven Sinacori, Akerman LLP	02/08/2018

SIGNATURE Steven Sinacori

PLEASE NOTE THAT APPLICANTS MAY BE REQUIRED TO SUBSTANTIATE RESPONSES IN THIS FORM AT THE DISCRETION OF THE LEAD AGENCY SO THAT IT MAY SUPPORT ITS DETERMINATION OF SIGNIFICANCE.

Part III: DETERMINATION OF SIGNIFICANCE (To Be Completed by Lead Agency)

INSTRUCTIONS: In completing Part III, the lead agency should consult 6 NYCRR 617.7 and 43 RCNY § 6-06 (Executive Order 91 or 1977, as amended), which contain the State and City criteria for determining significance.

1. For each of the impact categories listed below, consider whether the project may have a significant adverse effect on the environment, taking into account its (a) location; (b) probability of occurring; (c) duration; (d) irreversibility; (e) geographic scope; and (f) magnitude.

IMPACT CATEGORY	Potentially Significant Adverse Impact: YES	NO
Land Use, Zoning, and Public Policy	☐	☑
Socioeconomic Conditions	☐	☑
Community Facilities and Services	☐	☑
Open Space	☐	☑
Shadows	☐	☑
Historic and Cultural Resources	☐	☑
Urban Design/Visual Resources	☐	☑
Natural Resources	☐	☑
Hazardous Materials	☐	☑
Water and Sewer Infrastructure	☐	☑
Solid Waste and Sanitation Services	☐	☑
Energy	☐	☑
Transportation	☐	☑
Air Quality	☐	☑
Greenhouse Gas Emissions	☐	☑
Noise	☐	☑
Public Health	☐	☑
Neighborhood Character	☐	☑
Construction	☐	☑

2. Are there any aspects of the project relevant to the determination of whether the project may have a significant impact on the environment, such as combined or cumulative impacts, that were not fully covered by other responses and supporting materials? ☐ YES ☑ NO

If there are such impacts, attach an explanation stating whether, as a result of them, the project may have a significant impact on the environment.

3. Check determination to be issued by the lead agency:

☐ **Positive Declaration:** If the lead agency has determined that the project may have a significant impact on the environment, and if a Conditional Negative Declaration is not appropriate, then the lead agency issues a *Positive Declaration* and prepares a draft Scope of Work for the Environmental Impact Statement (EIS).

☐ **Conditional Negative Declaration:** A *Conditional Negative Declaration* (CND) may be appropriate if there is a private applicant for an Unlisted action AND when conditions imposed by the lead agency will modify the proposed project so that no significant adverse environmental impacts would result. The CND is prepared as a separate document and is subject to the requirements of 6 NYCRR Part 617.

☑ **Negative Declaration:** If the lead agency has determined that the project would not result in potentially significant adverse environmental impacts, then the lead agency issues a *Negative Declaration*. The *Negative Declaration* may be prepared as a separate document (see template) or using the embedded Negative Declaration on the next page.

4. ***LEAD AGENCY'S CERTIFICATION***

TITLE	LEAD AGENCY
Director, Environmental Assessment and Review Division	Department of City Planning
NAME	**DATE**
Robert Dobruskin, AICP	February 9, 2018

SIGNATURE Robert Dobruskin

I. INTRODUCTION

1601 DeKalb Owner LLC (the "Applicant") is seeking two discretionary actions in order to facilitate the redevelopment of 1601 DeKalb Avenue (Block 3237, Lots 23, 47, and 48) in the northwest Bushwick neighborhood of Brooklyn Community District 4 (the "proposed development site") (refer to **Figure A-1**, "Project Location"). The discretionary actions include: (i) a zoning map amendment to rezone the northern portion of Brooklyn Block 3237 (the "proposed rezoning area") from R6 and M1-1 districts to R6B, R7A, and R7A/C2-4 districts (refer to **Figure A-2**, "Existing and Proposed Zoning"); and, (ii) a zoning text amendment to ZR Appendix F to designate the R7A and R7A/C2-4 portion of the proposed rezoning area as a Mandatory Inclusionary Housing (MIH) Area. Collectively, the zoning map amendment and the zoning text amendment are the "Proposed Actions" for the purposes of the environmental analysis.

As shown in **Figure A-3**, "Tax Map," the proposed rezoning area consists of the northern portion of Brooklyn Block 3237 Lots 21, 22, 23 27, 31, 33, 38, 41, 47, and 48. In total, the proposed rezoning area comprises approximately 62,767 square feet (sf) of lot area bounded by Wyckoff Avenue to the north, DeKalb Avenue to the east, Hart Street to the west, and, to the south, a line 350 feet north of, and parallel to, Irving Avenue.

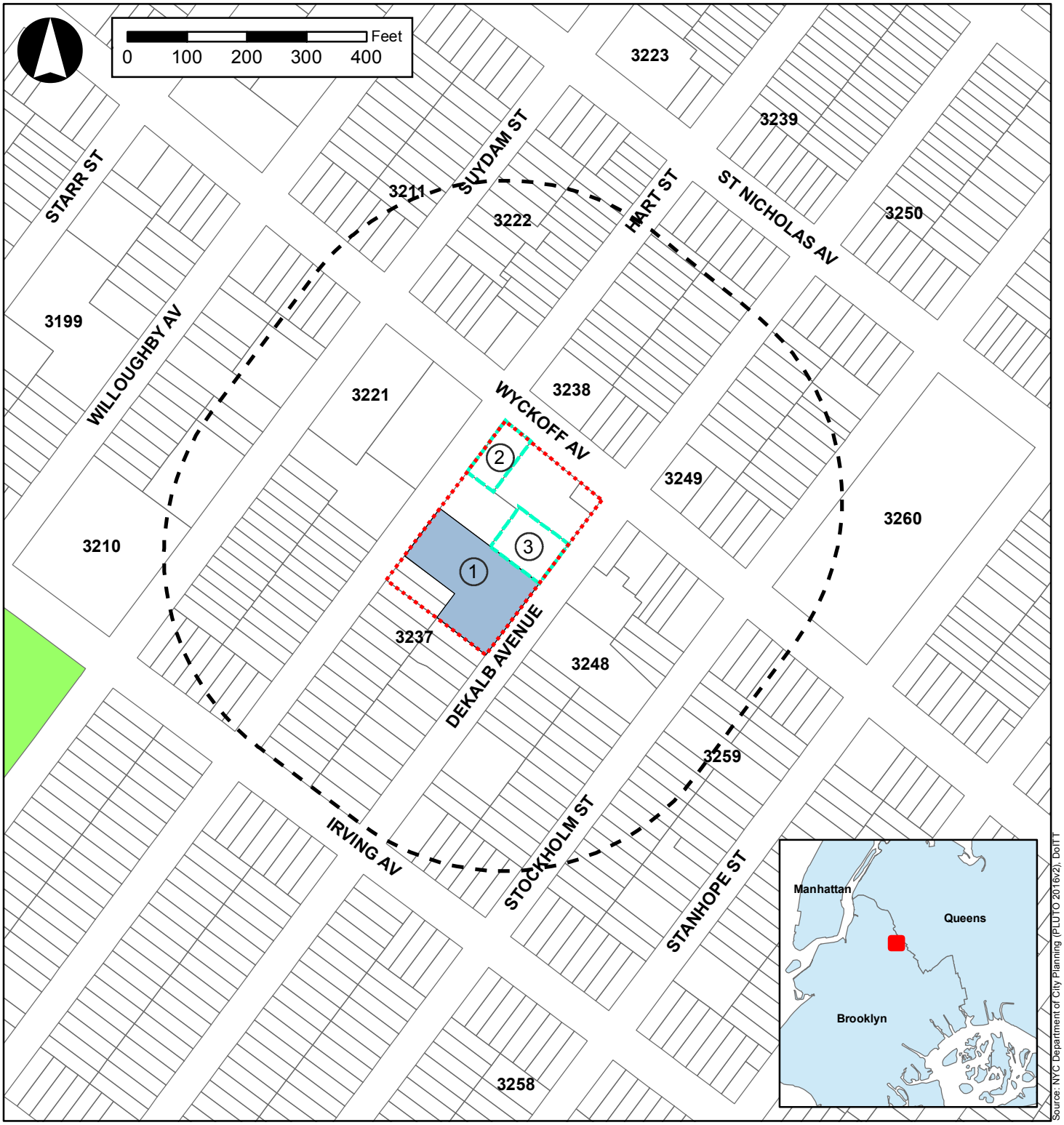
As shown in **Figure A-3**, the Applicant-owned proposed development site on Lots 23, 47, and 48 is an approximately 25,000 sf through lot on the mid-block between DeKalb Avenue and Hart Street. The site is currently occupied by a 100-space public parking lot for monthly parkers, and was part of the former right-of-way for the Evergreen Branch of the Long Island Railroad (LIRR), which was terminated more than 44 years ago[1]. Whereas Lots 47 and 48 are located within an existing R6 zoning district, Lot 23, which comprises most of the proposed development site, is currently located in an M1-1 district, which does not permit residential uses.

In the future with the Proposed Actions, the Applicant proposes to construct two new nine-story residential buildings on the proposed development site, with a total of approximately 125,252 gross square feet (gsf) (102,000 zoning square feet [zsf]), with a floor area ratio (FAR) of 4.08. It is anticipated that the two proposed buildings would contain a total of 118,378 gsf (102,000 zsf) of residential space with 122 dwelling units (DUs), as well as approximately 46 accessory parking spaces. Twenty-five percent of the residential floor area on Lot 23 (equivalent to 27 DUs) would be affordable units pursuant to Option 1 of the MIH Program[2].

This attachment provides a summary and description of the Proposed Actions, including proposed rezoning area location, existing conditions of the proposed rezoning area, project purpose and need, project description, reasonable worst-cast development scenario (RWCDS) under No-Action and With-Action conditions, and the governmental approvals required. The attached supplemental studies examine the potential for the Proposed Actions to result in impacts in any City Environmental Quality Review (CEQR) technical areas, including separate attachments with detailed analyses of land use, zoning, and

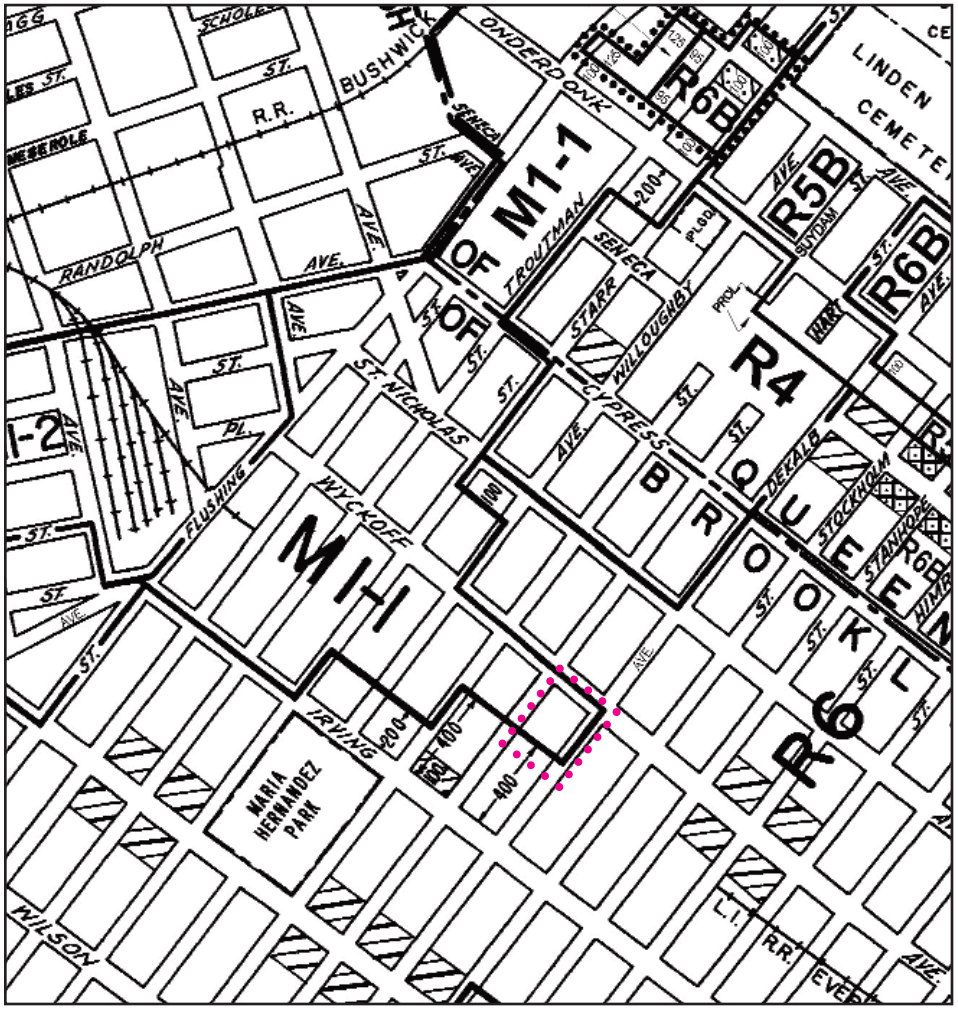
[1] LIRR's interest in the ROW was officially terminated on 10/25/1972; however the site has not been used for railroad or railroad accessory use since before 9/27/1962 and the enactment of the Zoning Resolution.

[2] The proposed MIHA would be coterminous with the R7A and R7A/C2-4 portion of the area being rezoned, and would therefore only cover Lot 23 of the Applicant-owned proposed development site. As such, the calculation of 25% of the residential floor area applies to Lot 23 only, even though the development is combined with Lots 47 and 48.

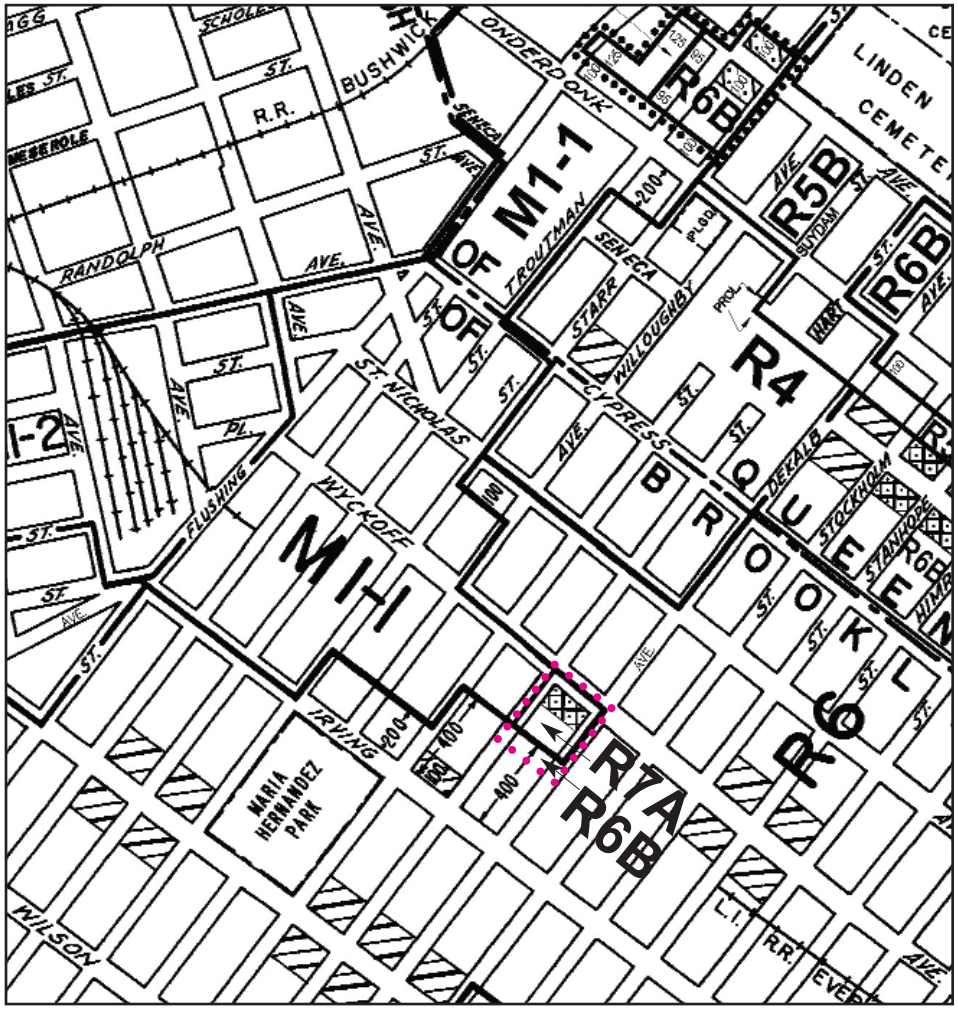


Legend

Proposed Rezoning Area
1 Proposed Development Site
3 Projected Development Sites
3237 Tax Blocks
400-Foot Radius



EXISTING ZONING



PROPOSED ZONING

Proposed Rezoning Area

N

C1-1 C1-2 C1-3 C1-4 C1-5 C2-1 C2-2 C2-3 C2-4 C2-5

NOTE: Where no dimensions for zoning district boundaries appear on the zoning maps, such dimensions are determined in Article VII, Chapter 6 (Location of District Boundaries) of the Zoning Resolution


FINANCE
NEW • YORK
MARTHA E. STARK
COMMISSIONER
NYC Digital Tax Map
Effective Date : 12-05-2008 17:09:48
End Date : Current
Brooklyn Block: 3237
Legend
Streets
Miscellaneous Text
Possession Hooks
Boundary Lines
Lot Face Possession Hooks
Regular
Underwater
Tax Lot Polygon
Condo Number
Tax Block Polygon
Proposed Rezoning Area
Proposed Applicant-Owned Development Site 1
Projected Development Sites 2 & 3
3210
3221
3220
3236
3238
3249
3248
3259
3237
SUYDAM ST
HART ST
IRVING AV
DEKALB AV
WYCKOFF AV
STOCKHOLM ST
350'

public policy; community facilities; open space; urban design and visual resources; hazardous materials; air quality; and noise in Attachments C through I, respectively. All other preliminary screening assessments are summarized in Attachment B, "Supplemental Screening."

II. BACKGROUND AND EXISTING CONDITIONS

Applicant-Owned Proposed Development Site

The Applicant-owned proposed development site at 1601 DeKalb Avenue (Brooklyn Block 3237, Lots 23, 47, and 48) is a mid-block through-lot with approximately 100 feet of frontage along Hart Street to the west and approximately 150 feet of frontage along DeKalb Avenue to the east (refer to **Figures A-1** and **A-3**). Whereas Lots 47 and 48 are located within an existing R6 zoning district, Lot 23, which comprises eighty percent of the proposed development site, is currently located in an M1-1 district. The approximately 25,000 sf proposed development site is currently occupied by a public parking lot with a licensed capacity of 100 spaces.

Proposed Rezoning Area

The zoning map amendment would rezone the northern portion of Brooklyn Block 3237 from R6 and M1-1 zoning districts to R6B, R7A, and R7A/C2-4 zoning districts (refer to **Figure A-2**). The approximately 62,767 sf proposed rezoning area fronts Wyckoff Avenue between Hart Street and DeKalb Avenue. In addition to the Applicant-owned Lots 23, 47, and 48, the proposed rezoning area encompasses all of Lots 21, 22, 27, 31, 33, 38, and 41 on Block 3237 (refer to **Table A-1**).

TABLE A-1:
Proposed Rezoning Area – Existing Conditions on Block 3237

Lot	Total Lot Area SF	Address	Owner	Zoning	Land Use	Building SF	Built FAR
23,47, 48	25,000	946 Hart Street / 1601 DeKalb Avenue	Two Guys From Glendale Inc.	R6; M1-1	Public Parking Lot	0	0
21	2,500	932 Hart Street	Anderson Ramdat	R6	Residential	3,000	1.2
22	2,500	936 Hart Street	Lai Wah Lung	R6	Residential	1,938	0.78
27	7,500	950 Hart Street	RS JZ 950 Hart, LLC	M1-1	Residential	17,550	2.34
31	5,183	958 Hart Street	Crystal Realty Inc.		Retail	7,210	1.39
33	10,908	88 Wyckoff Avenue	USPS		Post Office	8,970	0.82
38	1,176	96 Wyckoff Avenue	William Chan, As Trustee		Retail	1,176	1.0
41	8,000	1615 DeKalb Avenue	Mela Burhan		Residential	18,900	2.36
	62,767						

Notes: The Applicant-owned proposed development site is highlighted.
Sources: NYC DCP 2016 PLUTO Data (v2); PHA Site Visit (January 2017).

As shown in **Figure A-3**, Lots 27 and 41 are midblock lots located immediately to the north of the proposed development site, with Lot 27 fronting on Hart Street (7,500 sf lot area) and Lot 41 fronting on DeKalb Avenue (8,000 sf lot area). Both Lots 27 and 41 are occupied by 3-story residential buildings (refer to **Figures A-4a** and **A-4b**) that have been converted to residential uses, with each building containing 21 residential units. As shown in **Table A-1**, Lot 27 has a built FAR of 2.34, and Lot 41 has a built FAR of 2.36. Although the two buildings on Lots 27 and 41 were both illegally converted to residential use, Lot 27 is in the process of legalization through the Loft Law and is currently under the jurisdiction of the Loft Board. No certificate of occupancy for Lot 27 has been issued yet. The New York City Loft Law was enacted in



1. View of residential building (Tax Lot 41) looking west from DeKalb Avenue.



2. View of commerical building located on Tax Lot 38 looking west from northeast corner of DeKalb and Wyckoff Avenues.



3. View of USPS post office located on Tax Lot 33 looking southwest from Wyckoff Avenue.

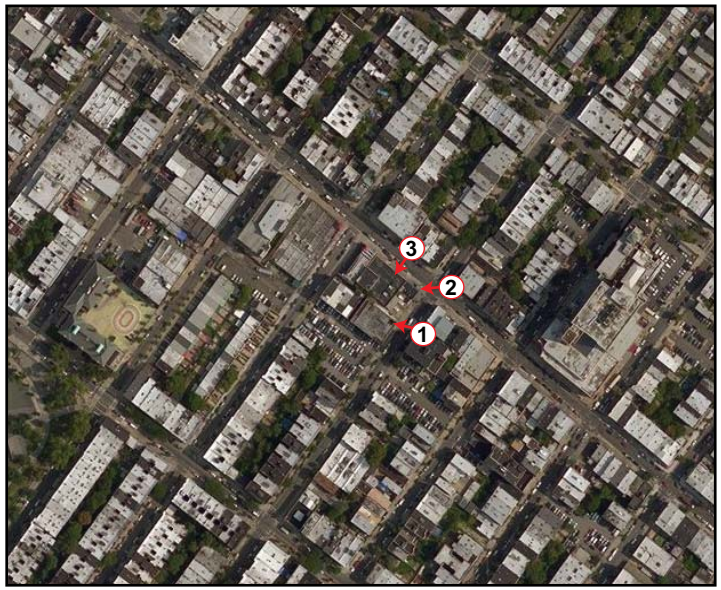


Figure A-4a
Existing Conditions
Photos taken January 2017



4. View of residential building (Tax Lot 41) looking west from DeKalb Avenue.



5. View of commerical building located on Tax Lot 38 looking west from northeast corner of DeKalb and Wyckoff Avenues.



6. View of residential building located on Tax Lot 27 looking southeast from Hart Street.

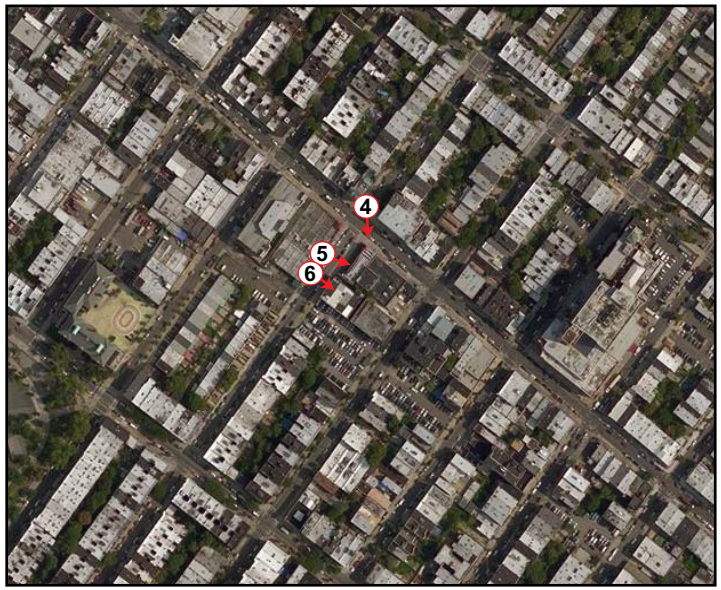


Figure A-4b
Existing Conditions
Photos taken January 2017

1982 to allow the legal conversion of certain lofts in the city from commercial/manufacturing use to residential use. Article 7-C of the Loft Law created a new classification of buildings in New York City known as interim multiple dwellings (IMD). Generally, this classification encompasses formerly commercial and manufacturing loft spaces that were used as residences by at least three independent families during the period of April 1, 1980 through December 1, 1981. In June of 2010 and again in January of 2013, the Loft Law was amended to include units in a commercial or manufacturing building where three or more families have lived independently from one another for 12 consecutive months from 1/1/08 through 12/21/09, in a building that lacks a residential certificate of occupancy. In addition, the amended Loft Law requires that units covered under the expanded window period must have at least one window that faces a street, legal yard or legal courtyard; must be at least 400 square feet and may not be located in a basement or cellar; or in an industrial business zone (other than Greenpoint or Williamsburg, North Brooklyn and certain areas of the Long Island City industrial business zone).[3]

Lot 21 is an approximately 2,500 sf midblock lot located along Hart Avenue. Lot 21 is occupied by a two-story residential building that contains 4 DUs. As shown in **Table A-1**, the existing building comprises approximately 3,000 sf (1.2 FAR).

Lot 22 is an approximately 2,500 sf midblock lot located along Hart Avenue. Lot 22 is occupied by a two-story 2-family residential building. As shown in **Table A-1**, the existing building comprises 1,938 sf (0.78 FAR).

Lot 31 is an approximately 5,183 sf corner lot located at the southeast corner of Hart Street and Wyckoff Avenue. As shown in **Figure A-4b**, Lot 31 is occupied by a two-story commercial building, with a laundry/dry cleaning business (Heaven Scent Laundry) on the first floor and a community center (Brotherhood Boxing Club) on the second floor. As shown in **Table A-1**, the existing building comprises approximately 7,210 sf (1.39 FAR).

Lot 33 is an irregularly-shaped approximately 10,908 sf lot, with frontage on both Wyckoff and DeKalb Avenues (refer to **Figure A-3)**. As shown in **Figure A-4a**, this lot is occupied by the United States Postal Service's (USPS) Wyckoff Station post office, which is a two-story building comprising approximately 8,970 sf (0.82 FAR).

Lot 38 is an approximately 1,176 sf corner lot located at the southwest corner of DeKalb and Wyckoff Avenues. As shown in **Figure A-4a**, Lot 38 is occupied by a one-story building that houses a restaurant/diner (Sazón Nunez). As shown in **Table A-1**, the existing building comprises approximately 1,176 sf (1.0 FAR).

Surrounding Area and Context

The proposed rezoning area is located in the northwestern Bushwick neighborhood of Brooklyn Community District 4, which is just east of Brooklyn Community District 1 (Greenpoint-Williamsburg) and south of Queens Community District 5 (Ridgewood). As shown in **Figure A-2**, the surrounding area within an approximate 400-foot radius is predominately zoned R6 with an M1-1 zone mapped along Wyckoff Avenue, and consists of a mix of residential, commercial, and industrial uses. Wyckoff Avenue is an active commercial corridor featuring one to four story commercial and mixed-use buildings. East and south of the proposed rezoning area, building types and uses are typified by three to four-story multi-family walk-ups and one-story industrial buildings. Three blocks west of the proposed rezoning area is the North

[3] Source: nyc.gov/loftboard.

Brooklyn Industrial Business Zone, a section of Community Districts 1 and 4 dominated by manufacturing uses and zoned M1-1, M1-2, and M3-1.

Maria Hernandez Park, which at 6.87 acres is the largest park in Brooklyn Community District 4, is located approximately two blocks southwest of the proposed rezoning area. Wyckoff Heights Medical Center, a 350-bed teaching hospital, is located approximately one block to the northeast of the proposed rezoning area on Wyckoff Avenue. The surrounding area also includes two schools: J.H.S. 162 located approximately two blocks to the northwest of the proposed rezoning area, and P.S. 123 which is located two blocks to the southwest of the proposed rezoning area. A FDNY facility housing Battalion 28/Engine 271/Ladder 124 is located approximately four blocks to the northeast of the proposed rezoning area. In addition, the L train runs along Wyckoff Avenue and the nearest subway station is the DeKalb Avenue station, with an entrance located at the corner of DeKalb and Wyckoff Avenues, adjacent to the proposed rezoning area.

III. THE PROPOSED ACTIONS

The Applicant is seeking two New York City Planning Commission (CPC) zoning changes: a zoning map amendment and a zoning text amendment. Both proposed zoning changes are discretionary actions that are subject to the Uniform Land Use Review Procedure (ULURP). The Proposed Actions are also subject to environmental review under the City Environmental Quality Review (CEQR) process.

Zoning Map Amendment

The zoning map amendment would rezone the northern portion of Brooklyn Block 3237, fronting Wyckoff Avenue between DeKalb Avenue and Hart Street, from a R6 and M1-1 zoning districts to a R6B and R7A zoning districts. A C2-4 commercial overlay is proposed at a depth of 100 feet from Wyckoff Avenue (refer to **Figure A-2**). As shown in **Figure A-3**, the proposed rezoning area includes Lots 21, 22, 23, 27, 31, 33, 38, 41, 47, and 48 in their entirety, totaling approximately 62,767 sf of lot area.

R6B is a contextual zoning district which allows a maximum FAR of 2.2 for residential uses (in an Inclusionary Housing designated area) and 2.0 for community facility uses; commercial uses are not allowed. Additionally, R6B districts permit a maximum building height of 50 feet.

R7A is a contextual zoning district which allows a maximum FAR of 4.0 for residential and community facility uses; commercial uses are not allowed. Additionally, R7A districts permit a maximum building height of 80 feet (85 feet with qualifying ground floor), and mandate Quality Housing bulk regulations. (As discussed below, utilization of the MIH Program would increase the permitted FAR and building heights within the proposed rezoning area.)

C2-4 districts are commercial overlays mapped within residential districts along streets that serve local retail needs. Typical retail uses include neighborhood grocery stores, restaurants, and beauty parlors. In mixed buildings, commercial uses are limited to the first and second floors and must always be located below the residential use. The maximum commercial FAR is 2.0 for C2-4 overlays mapped within R7A districts.

Zoning Text Amendment

The Applicant is also proposing to map the R7A and R7A/C2-4 portion of the proposed rezoning area as a Mandatory Inclusionary Housing (MIH) Area by creating a new map for Brooklyn Community District 4 in Appendix F of the New York City Zoning Resolution. An MIH Area requires affordable housing to be provided equivalent to either 25 or 30 percent of the residential floor area developed. The MIH Area sets a new maximum permitted residential FAR which supersedes the FAR permitted by the underlying zoning district. With both the designation of the proposed rezoning area as an MIH Area and its rezoning to R7A and R7A/C2-4 zoning districts, the maximum permitted FAR within the proposed rezoning area in the R7A district would be 4.6 (or up to 5.01 for Affordable Independent Residences for Seniors (AIRS)), and the maximum permitted building height would be 95 feet. Mapping of the MIH Area would facilitate development of approximately 27 affordable housing units on the proposed development site, as the Applicant would provide affordable housing equivalent to 25 percent of the residential floor area on Lot 23, developed at an average of 60 percent of the Area Median Income (AMI), pursuant to MIH Option 1.

Additionally, as detailed below, the reasonable worst-case development scenario (RWCDS) also assumes that two other sites in the proposed rezoning area would likely be redeveloped with residential and retail uses under future conditions with the Proposed Actions, and would also utilize the higher FAR allowed by the MIH Program.

IV. PURPOSE AND NEED FOR PROPOSED ACTIONS

The proposed rezoning area, which is zoned R6 and M1-1, currently contains no manufacturing uses. The existing land uses in the proposed rezoning area consist of commercial and retail uses, a USPS post office, four residential buildings (two of which are converted loft buildings), and a public parking lot. Given the existing active uses in the proposed rezoning area, and the low FAR and limited uses currently permitted by the R6 and M1-1 districts, it is unlikely that new buildings would be developed within the proposed rezoning area under the current zoning, and the Applicant's property would remain underutilized.

The proposed zoning map amendment to rezone the northern portion of Brooklyn Block 3237 from R6 and M1-1 to R6B, R7A, and R7A/C2-4, combined with the proposed text amendment, would allow new residential development on the Applicant-owned development site. The proposed development site, which is occupied by a 100-space parking lot, is currently underbuilt and underutilized. The Proposed Actions would allow the Applicant to maximize use of this underutilized property while supporting citywide goals such as *Housing New York*, by creating expanded opportunities for new residential development, including new affordable housing units. *Housing New York* is the City's comprehensive housing development policy plan that seeks, as a primary goal, to build and preserve 300,000 units of high-quality affordable housing over the next decade. Framed by the policy goals and objectives in Housing New York, the City approved MIH program requires, through zoning actions, a share of new housing to be permanently affordable. The proposed development would be consistent with the *Housing New York* policy by adding approximately 27 affordable dwelling units to a community that anticipates population growth and has a need for such mixed-income housing. The proposed rezoning would also bring conforming status to the two residential buildings on Lots 27 and 41. Further, the rezoning of Lots 21, 22, 47, and 48 from R6 to R6B would create a district that relates to the existing low-scale context of the midblock area along DeKalb and Hart Avenues. It would provide a transition of scale between the larger-scale R7A and the lower-scale context in the midblock area.

In addition, the proposed C2-4 commercial overlay would permit commercial uses at up to 2.0 FAR within 100 feet of Wyckoff Avenue. This would ensure that the existing commercial and institutional uses along the Wyckoff Avenue frontage of the proposed rezoning area would continue to be conforming and complying with zoning in the future with the Proposed Actions. The proposed commercial overlay would also be consistent with the existing uses in the immediate vicinity of the proposed rezoning area, where Wyckoff Avenue serves as an active commercial corridor lined with a number of retail and other commercial uses.

The proposed zoning text amendment, which would designate the R7A and R7A/C2-4 portions of the proposed rezoning area as an MIH Area, would require the Applicant to construct affordable DUs on the proposed development site in order to take advantage of the additional FAR provided through the MIH Program. As detailed below, the RWCDS also assumes that two other sites in the proposed rezoning area would be redeveloped with residential and local retail uses under future conditions, and would also utilize the additional FAR under the MIH Program. Therefore, the Proposed Actions would create new affordable housing in the proposed rezoning area, helping to address affordable housing goals set forth by the City in *Housing New York: A Five-Borough, Ten-Year Plan*.

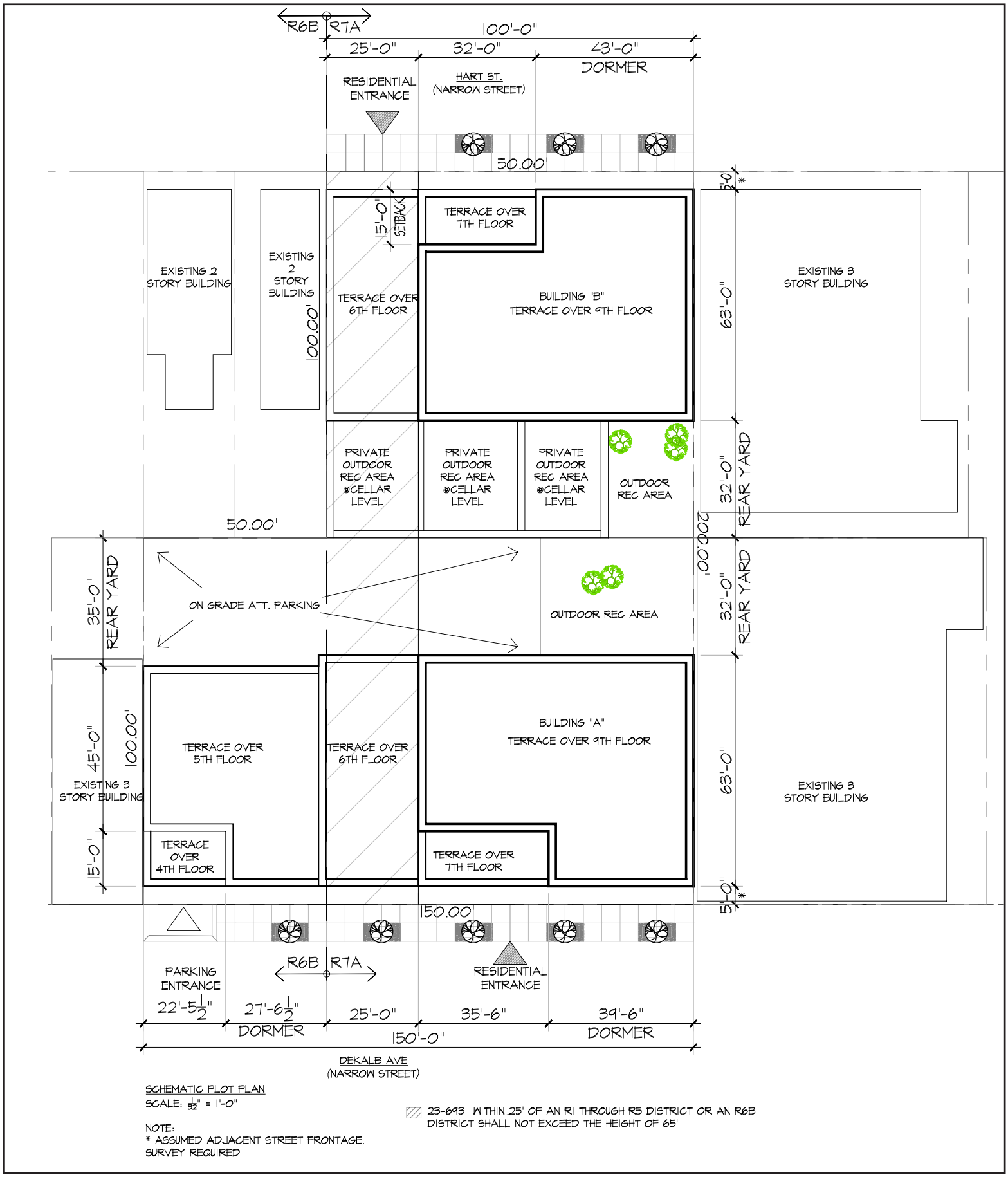
As such, the proposed zoning map and text amendments would create additional zoning capacity in a transit accessible area to support new housing creation and also increase the number of affordable housing units available in New York City. The creation of new housing supply at various income levels is also expected to help alleviate the upward pressure on housing prices, and contribute to housing affordability in the surrounding neighborhood and larger City. The MIH program would promote and retain neighborhood economic diversity in the area and create new housing units, including affordable units, in close proximity to public transit, with the DeKalb Avenue (L) Station located on the same block as the proposed rezoning area (entrance located on the southwest corner of DeKalb Avenue and Wyckoff Avenue) and local bus routes traveling on both DeKalb and Wyckoff Avenues in the vicinity of the proposed development site.

V. DESCRIPTION OF THE PROPOSED PROJECT

The Applicant owns the proposed development site at 1601 DeKalb Avenue (Brooklyn Block 3237, Lots 23, 47, and 48). With approval of the Proposed Actions, the Applicant intends to redevelop the site with two nine-story, approximately 125,252 gsf (102,000 zsf) residential buildings. Building A (approximately 68,376 gsf) will front on DeKalb Avenue, and Building B (approximately 56,876 gsf) will front on Hart Street. The proposed buildings would include a total of 122 residential units, and 25 percent of the residential floor area on Lot 23 (equivalent to 27 DUs) would be affordable units pursuant to the MIH Program. The proposed development would also include approximately 46 accessory parking spaces (refer to **Table A-2** below). No funding from the NYC Department of Housing Preservation and Development (HPD) or Housing Development Corporation (HDC) is being sought for the proposed development at this time.

As shown in **Figure A-5a**, "Preliminary Plot Plan," proposed Building A would have approximately 150 feet of frontage along DeKalb Avenue and a depth of approximately 63 feet, and proposed Building B would have approximately 100 feet of frontage along Hart Street and a depth of 63 feet. The space between the two buildings would accommodate outdoor recreation areas and 46 at-grade parking spaces. The accessory parking spaces would be accessible via a parking entrance/exit on DeKalb Avenue. As shown in the illustrative massing in **Figure A-5b**, both buildings would have multiple setbacks, and would reach a maximum height of 89'6" feet (nine stories), as permitted when utilizing the MIH Program.

Proposed Development - Preliminary Plot Plan



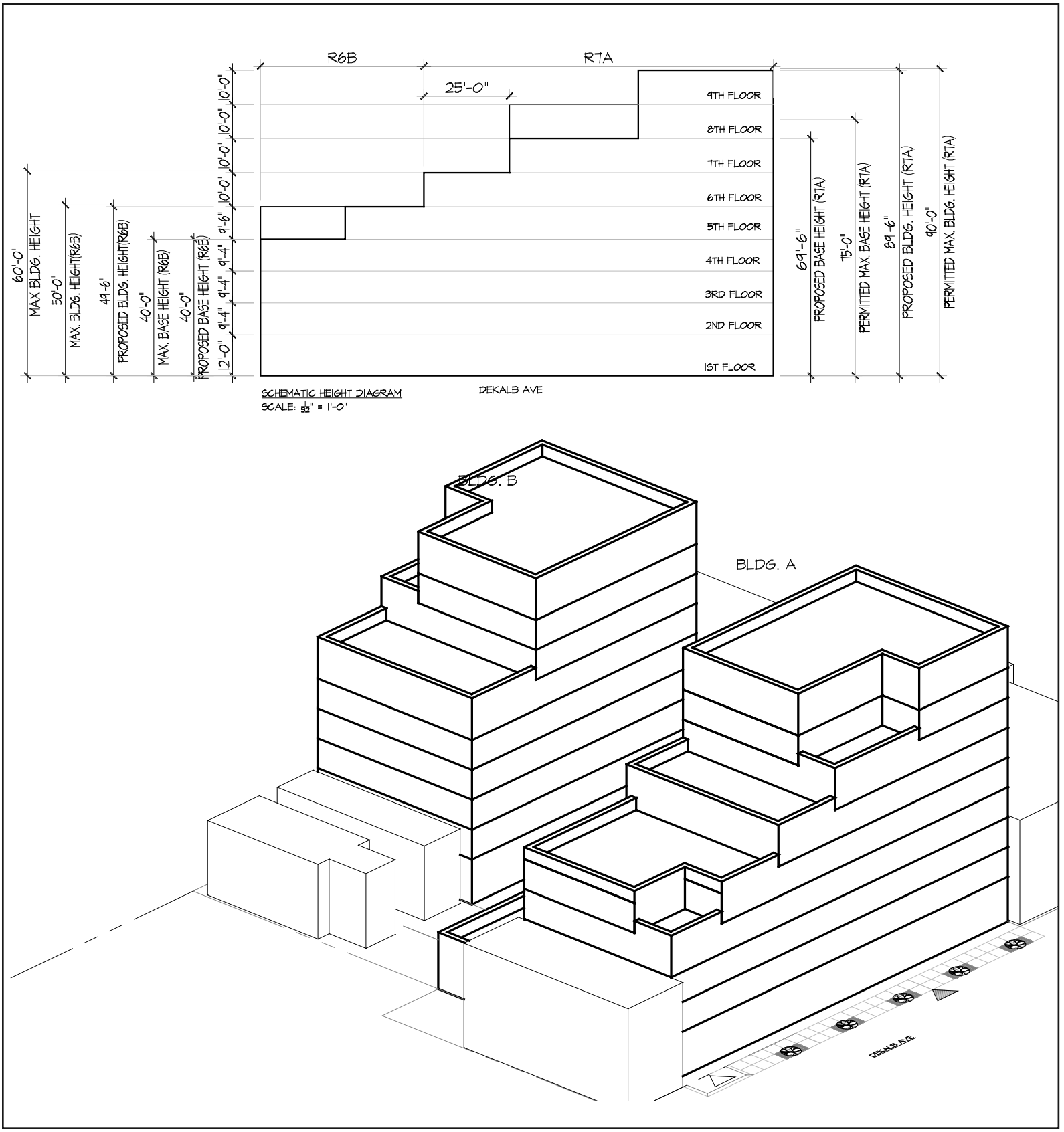
SCHEMATIC PLOT PLAN
SCALE: 1/32" = 1'-0"

NOTE:
* ASSUMED ADJACENT STREET FRONTAGE. SURVEY REQUIRED

23-693 WITHIN 25' OF AN R1 THROUGH R5 DISTRICT OR AN R6B DISTRICT SHALL NOT EXCEED THE HEIGHT OF 65'

Source: Aufgang Architects
For Illustrative Purposes Only

Proposed Development - Schematic Height Diagram and Ilustrative Massing



Source: Aufgang Architects

As noted above, the proposed development site would be zoned R6B and R7A as a result of the Proposed Actions. Per the NYC Zoning Resolution, for zoning lots divided by district boundaries, the maximum FAR permitted in each applicable zoning district is determined, and each FAR is multiplied by the percentage of the zoning lot to which such FAR applies. The sum of the products thus obtained is the adjusted maximum FAR applicable to a zoning lot divided by district boundaries. Based on this methodology, the adjusted maximum FAR for the proposed development site would be 4.08 (maximum FAR of 2.0 for the R6B portion of the site and 4.6 for the R7A portion).[4] As shown in **Table A-2** below, the Applicant's proposed development would have a built FAR of 4.08, which maximizes the proposed development site's adjusted maximum FAR of 4.08 in the future with the Proposed Actions. As the proposed development maximizes the adjusted FAR and permitted building height, it is considered the RWCDS for the Applicant-owned proposed development site in the future with the Proposed Actions.

TABLE A-2:
Proposed Development on Block 3237, Lots 23, 47 & 48 (Applicant-Owned Development Site)

Lot Area SF	Existing Zoning & Max. FAR	Proposed Zoning & Max. FAR	Proposed Residential		Proposed Parking Spaces	Proposed Building SF	Proposed FAR
			SF	DUs			
25,000	M1-1 (Lot 23): 1.00 FAR R6 (Lots 47, 48): 2.0 FAR [1]	R7A (Lot 23): 4.6 FAR [2] R6B (Lots 47, 48: 2.0 FAR Adjusted FAR: 4.12 [3]	102,000 zsf (118,378 gsf)	122 (27 aff)	46 [4]	102,000 zsf (125,252 gsf)	4.08

Notes:
[1] For Quality Housing Buildings, pursuant to ZR 23-153.
[2] The proposed maximum allowable FAR in the proposed rezoning area increases from 4.0 to 4.6 FAR when utilizing the MIH Program. Although the proposed R7A zoning district allows a 5.01 FAR for AIRS, as the proposed development does not include any senior housing, this higher FAR is not applicable to the proposed development, and the maximum allowable FAR for Lot 23 would be 4.6.
[3] With the rezoning, the proposed development site would be split between R7A (Lot 23) and R6B (Lots 47 and 48) districts. As such, the adjusted FAR pursuant to ZR 77-22 would be 4.08.
[4] As the site is located within a Designated Transit Zone, no accessory parking is required for the affordable units, and parking would be provided for 50 percent of the market-rate units (46 spaces).

As discussed above, the maximum FAR permitted under the MIH Program set forth in Section 23-154 of the Zoning Resolution requires provision of either (i) an amount equivalent to at least 25 percent of the residential floor area within the development be affordable to households at an average of 60 percent AMI, with at least 10 percent at or below 40 percent AMI (Option 1); or (ii) an amount equivalent to at least 30 percent of the residential floor area within the development affordable to households at an average of 80 percent AMI (Option 2). As indicated above, the Applicant proposes to utilize Option 1 of the MIH Program in the proposed development, providing affordable housing equivalent to 25 percent of the residential floor area on Lot 23.

The Applicant-proposed number of dwelling units is considered a worst case because the average unit size of approximately 850 zsf per unit is based on the overall gross square footage of residential space. As such, the Applicant-proposed development program of 122 dwelling units is evaluated as the worst-case development scenario for the proposed development site.

[4] Although the proposed R7A zoning district allows a 5.01 FAR for AIRS, as the proposed development does not include any senior housing, this higher FAR is not applicable to the proposed development, and the maximum allowable FAR on Lot 23 of the proposed development site would be 4.6.

VI. ANALYSIS FRAMEWORK AND RWCDS

Build Year

As the proposed development site is currently occupied by a parking lot, it does not require building demolition activities prior to building construction, and therefore it is expected that construction of the proposed development would be short-term (approximately 24-months). Accounting for New York City Department of City Planning (DCP) Pre-Application and Pre-Certification review time and public review under ULURP (approximately seven months), completion and occupancy of the proposed development is expected to occur by 2020. Additionally, two projected development sites have been identified in the proposed rezoning area that is likely to be developed as a result of the Proposed Actions (Lots 31 and 41 on Block 3237). However, as described below, no formal redevelopment plans exist for these sites. Nonetheless, the site meets the CEQR soft site criteria and, as such, it is anticipated that it would be redeveloped by 2022. This Build Year reflects a reasonable estimate of the time needed for a developer to demolish the existing structures on Lots 31 and 41, design the project, obtain design approval, and construct the projects (approximately five years). Accordingly, the RWCDS will use 2022 as the Build Year for analysis purposes for the proposed rezoning.

Identification of Development Sites

According to the *2014 CEQR Technical Manual*, the following factors, commonly referred to as "soft site criteria," are generally considered when evaluating whether some amount of development would likely be constructed by the Build Year as a result of Proposed Actions:

- The uses and bulk allowed: Lots located in areas where changes in use would be permitted and/or contain buildings built to substantially less than the maximum allowable floor area ratio (FAR) under the existing zoning are considered "soft" enough such that there would likely be sufficient incentive to develop in the future, depending on other factors specific to the area (e.g., the amount and type of recent as-of-right development in the area, recent real estate trends, site specific conditions that make development difficult, and issues relating to site control or site assemblage that may affect redevelopment potential); and
- Size of the development site: Lots must be large enough to be considered "soft." Generally, lots with a small lot size are not considered likely to be redeveloped, even if they are currently built to substantially less than the maximum allowable FAR. A small lot is often defined for this purpose as 5,000 sf or less, but the lot size criteria is dependent on neighborhood-specific trends, and common development sizes in the study area should be examined prior to establishing this criteria.

However, the following uses and types of buildings that meet the soft site criteria are typically excluded from development scenarios because they are unlikely to be redeveloped as a result of Proposed Actions:

- Full block and newly constructed buildings with utility uses, as these uses are often difficult to relocate;
- Lots where construction is actively occurring, or has recently been completed, as well as lots with recent alterations that would have required substantial capital investment, unless recently constructed or altered lots were built to less than or equal to half of the maximum allowable FAR under the proposed zoning;

- Lots whose location or irregular shape would preclude or greatly limit future as-of-right development. Generally, development on irregular lots does not produce marketable floor space;
- Long-standing institutional uses with no known development plans; or
- Multi-unit buildings (existing individual buildings with six or more residential units, and assemblages of buildings with a total of 10 or more residential units, are unlikely to be redeveloped because of the required relocation of tenants in rent-stabilized units).

Definition of Projected and Potential Development Sites

To produce a reasonable, conservative estimate of future growth, identified development sites are typically divided into two categories: projected development sites and potential development sites. Projected development sites are considered more likely to be developed within the analysis period for the Proposed Actions (i.e. by 2022), while potential sites are considered less likely to be developed over the same period.

As shown below in **Table A-3**, the Applicant-owned site is considered a projected development site (Site 1), as in the future with the Proposed Actions the Applicant intends to develop the site with two residential buildings, as detailed above. As shown in **Table A-3** and discussed below in the "Future With the Proposed Actions" section, two other projected development sites have been identified in the proposed rezoning area: Block 3237, Lot 31 and Block 3237, Lot 41. These properties are not owned or controlled by the Applicant.

Lot 31 currently has a two-story commercial building with a built FAR of 1.39. As such, this lot would accommodate a building with less than 50 percent of the maximum allowable FAR of 4.6 in the future with the Proposed Actions, making it a possible site for redevelopment. Therefore, Lot 31 has been included as a projected development site in the RWCDS (Site 2).

As discussed above, Lot 41 is occupied by a 3-story residential building that has been illegally converted to residential use, with 21 residential units. Lot 41 has a built FAR of 2.36. As the uses on Block 3237, Lot 41 are not legalized, this site should be considered a projected development site. Therefore, Block 3237, Lot 41 has been included as a projected development site in the RWCDS (Site 3).

As shown in **Table A-3**, no other sites in the rezoning area are considered projected or potential development sites. Lots 21 and 22 which are currently zoned R6 and will be rezoned to R6B, are small lots (2,500 sf each) and contain low-rise residential buildings. These lots would not be considered development sites as the lot sizes do not meet the minimum lot size criteria for projected or potential development sites in addition to the fact they would be downzoned as a result of the Proposed Actions. Lot 27 currently accommodate a building with more than 50 percent of the maximum 4.6 FAR under the proposed zoning (2.34 FAR and 2.36 FAR, respectively). Moreover, the converted residential building on Lot 27, which is in the process of legalization pursuant to the Loft Law and is currently under the jurisdiction of the Loft Board is subject to rent regulation protection. Therefore, Lot 27 does not meet the development site criteria identified above. Lot 33 is owned by the USPS and accommodates a post office. As this institutional facility does not have any known development plans, and is a Federal facility that would require discretionary actions from the pertinent government agencies prior to development or sale of the property, Lot 33 does not meet the development site criteria identified above. Finally, Lot 38 is a small 1,176 sf lot, and as such does not meet the minimum lot size criteria for projected or potential development sites.

Therefore, the Applicant-owned development site (Site 1), projected development Sites 2 and 3 represent the RWCDS for analysis purposes.

TABLE A-3:
Proposed Rezoning Area Development Sites

Block	Lot	Lot Area SF	Existing Land Use	Existing Max. FAR	Built FAR	Proposed Max. FAR R / C [1]	Anticipated Development Site?
3237	23, 47, 48	25,000 [1]	Parking	1.0	0.0	4.6 / 0	Proposed
	31	5,183	Retail	1.0	1.39	4.6 / 2.0	Projected
	41	8,000	Residential	1.0	2.36	4.6 / 0	Projected

Notes: The Applicant-owned proposed development site is highlighted.
[1] R/C = Residential/Commercial. The proposed maximum allowable FAR in the proposed rezoning area increases from 4.0 to 4.6 FAR when utilizing the MIH Program. The maximum allowable FAR for the proposed C2-4 overlay is 2.0. Although the proposed R7A zoning district allows a 5.01 FAR for AIRS, as the proposed development does not include any senior housing, this higher FAR is not applicable to the proposed development, nor is it assumed for any other lots within the proposed rezoning area.

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

Proposed Rezoning Area

In the future without the Proposed Actions (the No-Action scenario), the proposed rezoning area's R6 and M1-1 zoning would remain in place. The maximum allowable FAR would remain at 1.0 (or up to 2.4 for allowed community facility uses) in the M1-1 district. Residential uses are not permitted in M1-1 districts. The maximum allowable FAR in the R6 district would remain 2.43 for residential uses and up to 4.8 for community facility uses. Under the No-Action scenario, none of the lots within the proposed rezoning area are anticipated to be redeveloped. Lots 23, 47, and 48, which are owned by the Applicant, would not be redeveloped, as residential uses would not be allowed by existing zoning (Lot 23), and given the low FAR and limited uses permitted in the current M1-1 district. Lots 33 and 38 are currently developed at 89 percent and 100 percent, respectively, of the allowable 1.0 FAR under No-Action condition (refer to **Table A-3**) and are therefore unlikely to be redeveloped. Lots 27 and 31, currently exceed the allowable FAR (refer to **Table A-3**), and are therefore unlikely to be redeveloped in the No-Action as the surplus floor area would be lost. Lots 21 and 22 which are located in the existing R6 district are currently developed with low-rise residential uses and are unlikely to be redeveloped in the No-Action condition. As Lot 41 is currently occupied by 8,000 sf of illegal residential uses, it is assumed that this site would convert to a legal use. It is assumed that the existing 8,000 sf building could be redeveloped with 8,000 sf of office space. Therefore, under RWCDS No-Action conditions, the proposed rezoning area would continue to be occupied by parking, retail, a post office, two residential buildings, and one converted residential building and would also include the development of 8,000 sf of office uses.

No-Action Conditions within 400 Feet of the Proposed Rezoning Area

There is one known project that could be completed within 400 feet of the proposed rezoning area in the future without the Proposed Actions. Although there are no specific plans available at this time, preliminary information indicates that the owner of a 32,500 sf property falling partially within the 400-foot radius is proposing to rezone Block 3210, Lots 16, 17, 18, 19, 20, 21, 48, and 51 from M1-1 to M1-5 and M1-5/R7D. This rezoning would permit the construction of a new residential building at 1250 Willoughby Avenue (Lots 16, 17, 18, 19, 20, 21, and 48) and the enlargement of an existing

manufacturing building at 349 Suydam Street (Lot 51). That project is expected to be completed by 2021, however, no formal application for this rezoning action has been filed.

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

In the future with the Proposed Actions (the With-Action scenario), the proposed zoning map amendment and zoning text amendment would be implemented in the proposed rezoning area. As such, the proposed rezoning area would be remapped as a R6B and R7A zoning district with a C2-4 commercial overlay along the Wyckoff Avenue frontage (at a depth of 100 feet). The R7A and R7A/C2-4 portions of the proposed rezoning area would be designated as an MIH Area. Under With-Action conditions, the maximum allowable FAR in the R7A and R7A/C2-4 portions of the proposed rezoning area would increase to 4.6 when fully utilizing the additional FAR under the MIH Program.

As noted above, the proposed R7A zoning district allows a higher FAR of 5.01 for AIRS. However, the Applicant's proposed development does not include any senior housing, and therefore this higher FAR is not applicable to the proposed development. Moreover, as senior housing typically does not require analysis of community facilities (e.g., schools, day care), would likely introduce fewer residents, and generally has lower transportation demands, AIRS would not represent the reasonable worst case development scenario for environmental analysis purposes. As such, this RWCDS assumes non-AIRS development for development within the proposed rezoning area, which would have a maximum allowable FAR of 4.6.

In the future with the Proposed Actions, the Applicant-owned proposed development site would be redeveloped in accordance with the proposed R7A and R6B zoning districts and MIH Area applicable to Lots 23. As detailed above in the "Description of the Proposed Development," the Applicant intends to redevelop the site with two residential buildings with an overall FAR of 4.08 (102,000 zsf). Because this would maximize the adjusted floor area allowable on the proposed development site (adjusted FAR of 4.08), the proposed development is the RWCDS With-Action condition for the proposed development site. The number of residential units was determined based on a ratio of 850 zsf per unit.

TABLE A-4:
With-Action Scenario – Projected Development Sites on Block 3237

Lot	Lot Area (sf)	Max. FAR [1]	Max. Residential		Max. Commercial SF	Max. Community Facility SF	Max. Total Building SF (excl. parking)	Max. Parking Spaces	Max. Building Height
			SF [2]	DUs [3]					
Projected Sites									
23, 47, 48 (Site 1)	25,000	4.08 R (adjusted FAR)	102,000 zsf (118,378 gsf)	122 (24 affordable)	N.A.	0	102,000 zsf (118,378 gsf)	46	89'6"
31 (Site 2)	5,183	4.6 R 2.0 C	19,955 zsf (21,950 gsf)	24 (5 affordable)	3,887 zsf (4,082 gsf)	0	23,842 zsf (26,032 gsf)	0	95
41 (Site 3)	8,000	4.6 R	36,800 zsf (40,480 gsf)	47 (9 affordable)	N.A.	0	40,480 gsf	0	95
Total RWCDS With-Action Projected Development on Block 3237:			**158,755 zsf (180,808 gsf)**	**193 (38 affordable)**	**3,887 zsf (4,082 gsf)**	**0**	**162,642 zsf (184,890 gsf)**	**46**	**-**

Notes: The Applicant-owned proposed development site is highlighted.

[1] The maximum allowable With-Action FAR in the proposed rezoning area increases to 4.6 for residential uses when utilizing the MIH Program. The maximum allowable FAR for the proposed C2-4 overlay is 2.0.

[2] For projected development Sites 2 and 3, the estimate of maximum residential gsf is based on a standard rate of zsf plus ten percent (to account for common areas required by Quality Housing), and the maximum commercial gsf is based on a standard rate of zsf plus five percent (excluding parking). Approximately 75 percent of the lot area is assumed to be occupied by retail.

[3] Twenty-five percent of the residential floor area would be affordable units pursuant to Option 1 of the MIH Program. For CEQR purposes, "affordable" refers to residential units set aside for families/residents earning 80% (or below) AMI. Therefore, for conservative CEQR analysis purposes, 20 percent of the overall residential floor area is assumed to be set aside for "affordable" residential units, which refers to the amount residential units that would accommodate households earning 80 percent (or below) of AMI, which results in fewer units than the 25 percent MIH units. The estimate of DUs is based on an average unit size of 850 zsf per unit (which is consistent with the program for the Applicant's proposed development).

As detailed in **Table A-4**, under the With-Action RWCDS, the Applicant-owned proposed development site would be redeveloped with an approximately 118,378 gsf residential development, consisting of two buildings with a total of approximately 122 DUs, of which 27 would be MIH units (24 "affordable" units assumed for CEQR purposes). R7A zoning districts require parking spaces for a minimum of 50 percent of market-rate DUs. As the proposed rezoning area is located in a Designated Transit Zone, no parking spaces are required for affordable DUs. Therefore, it is anticipated that 46 accessory parking spaces would be provided on the proposed development site.

It is also expected that Lots 31 and 41 in the proposed rezoning area would be redeveloped in the future with the Proposed Actions, in accordance with the proposed R7A zoning district, C2-4 commercial overlay, and MIH Area. As shown in **Table A-4**, under RWCDS With-Action conditions, Lot 31 would be redeveloped to the maximum permitted FAR of 4.6 and building height of 95 feet. Under this scenario, Lot 31 would be redeveloped with an approximately 26,032 gsf (23,842 zsf) mixed-use residential and commercial building, consisting of approximately 24 DUs, of which six would be MIH units (five "affordable" units assumed for CEQR purposes), and approximately 4,082 gsf of ground-floor retail space. The RWCDS With-Action development on Lot 31 would require 9 accessory parking spaces for the residential component, which are expected to be waived pursuant to ZR section 25-261. For the commercial component, pursuant to C2-4 regulations, it is assumed that the ground-floor retail would require one parking space per 1,000 sf, for a total of 4 accessory spaces, which are expected to be waived pursuant to ZR section 36-232. Lot 41 would be developed with an approximately 40,480 gsf residential building, consisting of 47 DUs, of which 9 would be affordable units.

As shown in **Table A-4**, the With-Action RWCDS development would result in a net increment of approximately 180,808 gsf of residential space and approximately 4,082 gsf of commercial space on Block 3237. The Proposed Actions would result in a net increment of 193 DUs on the three projected development sites, of which 38 would be affordable units.

The remaining lots in the proposed rezoning area are unlikely to be redeveloped in the future with the Proposed Actions. Lots 21 and 22 which are currently zoned R6 and will be rezoned to R6B, are small lots (2,500 each) and contain low-rise residential buildings. Lot 38 is a small, irregularly-shaped lot expected to remain unchanged under RWCDS With-Action conditions. Lots 27 currently accommodates a building with more than 50 percent of the maximum 4.6 FAR under the proposed zoning, and Lot 33 is owned by the USPS and accommodates a post office. Therefore, Lots 21, 22, 27, 33, and 38 are expected to remain unchanged in the future with the Proposed Actions.

Project Increment

As presented in **Table A-5**, compared to the No-Action condition, the Proposed Actions would result in the incremental development of 193 DUs, of which 38 would be affordable units, a reduction of 8,000 gsf of office uses, and a reduction of 3,128 sf of local retail uses. The Proposed Actions would also result in a net increase of 46 accessory parking spaces and a reduction of 100 public parking spaces. In terms of population, the Proposed Actions are expected to generate 589 incremental residents and -42 incremental employees, as compared to the 2022 No-Action condition.

Table A-5:
Comparison of 2022 No-Action and With-Action Conditions

	No-Action	With-Action	Increment
Land Use			
Residential	0	180,808 gsf (193 DU)	+ 180,808 gsf (+193 DU)
Market Rate	0	155	+ 155
Affordable	0	38	+ 38
Local Retail	7,210 sf	4,082 sf	- 3,128 sf
Office	8,000 sf	0 sf	-8,000
Parking Spaces			
Public	100	0	- 100
Accessory	0	46	+ 46
Population[1]			
Residents	0	589	+ 589
Workers	54	12	-42

Notes:
[1] Population estimates based on the following assumptions: 3.05 residents/unit (average persons per household for Brooklyn CD 4, 2010 Census); three retail employees/1,000 sf of retail; one employee per 50 parking spaces; and one residential employee/25 DU.

VII. REQUIRED APPROVALS

The proposed zoning map and text amendments are discretionary public actions that are subject to both the Uniform Land Use Review Procedure (ULURP) and CEQR. ULURP is a process that allows public review of Proposed Actions at four levels: the Community Board; the Borough President; the City Planning Commission; and if applicable, the City Council. The procedure mandates time limits for each stage to ensure a maximum review period of seven months. Through CEQR, agencies review discretionary actions for the purpose of identifying the effects those actions may have on the environment.

I. INTRODUCTION

This Environmental Assessment Statement ("EAS") has been prepared in accordance with the guidelines and methodologies presented in the 2014 *City Environmental Quality Review ("CEQR") Technical Manual*. For each technical area, thresholds are defined, which if met or exceeded, require that a detailed technical analysis be undertaken. Using these guidelines, preliminary screening assessments were conducted for the proposed action to determine whether detailed analysis of any technical area may be appropriate. Part II of the EAS Form identifies those technical areas that warrant additional assessment. For those technical areas that warranted a "Yes" answer in Part II of the EAS Form, including Land Use, Zoning, and Public Policy; Open Space; Shadows; Urban Design and Visual Resources; Hazardous Materials; Air Quality; and Noise; supplemental screening assessments are provided in this attachment. The remaining technical areas detailed in the *CEQR Technical Manual* were not deemed to require supplemental screening because they do not trigger initial CEQR thresholds and/or are unlikely to result in significant adverse impacts. These areas screened out from any further assessment include: Socioeconomic Conditions; Natural Resources; Water and Sewer Infrastructure; Solid Waste and Sanitation Services; Transportation; Energy; Greenhouse Gas Emissions; Public Health, Neighborhood Character; and Construction.

The supplemental screening assessments contained herein identified that detailed analyses are required in the areas of Land Use, Zoning, and Public Policy, Community Facilities, Open Space, Urban Design and Visual Resources, Hazardous Materials, Air Quality, and Noise. These analyses are provided in Attachments C, D, E, F, G, H, and I respectively, and are summarized in this attachment. Table B-1 presents a summary of analysis screening information for the Proposed Actions.

In the future with the Proposed Actions, the Applicant proposes to construct two new nine-story residential buildings on the proposed development site, with a total of approximately 125,252 gross square feet (gsf) (102,000 zoning square feet [zsf]), with a floor area ratio (FAR) of 4.08. It is anticipated that the two proposed buildings would contain a total of 118,378 gsf (102,000 zsf) of residential space with 122 dwelling units (DUs), as well as approximately 46 accessory parking spaces. Twenty-five percent of the residential floor area on Lot 23 (equivalent to 27 DUs) would be affordable units pursuant Option 1 of the MIH Program.

It is also expected that Lots 31 and 41 in the proposed rezoning area would be redeveloped in the future with the Proposed Actions, in accordance with the proposed R7A zoning district, C2-4 commercial overlay, and MIH Area. Lot 31 would be redeveloped to the maximum permitted FAR of 4.6 and building height of 95 feet. Under this scenario, Lot 31 would be redeveloped with an approximately 26,032 gsf (23,842 zsf) mixed-use residential and commercial building, consisting of approximately 24 DUs, of which six would be MIH units (five "affordable" units assumed for CEQR purposes), and approximately 4,082 gsf of ground-floor retail space. The RWCDS With-Action development on Lot 31 would require 9 accessory parking spaces for the residential component, which are expected to be waived pursuant to ZR section 25-261. For the commercial component, pursuant to C2-4 regulations, it is assumed that the ground-floor retail would require one parking space per 1,000 sf, for a total of 4 accessory spaces, which are expected to be waived pursuant to ZR section 36-232. Lot 41 would be developed with an approximately 40,480 gsf residential building, consisting of 47 DUs, of which 9 would be affordable units.

Table B-1: Summary of CEQR Technical Areas Screening

CEQR TECHNICAL AREA	SCREENED OUT PER EAS FORM	SCREENED OUT PER SUPPLEMENTAL SCREENING	ANALYSIS REQUIRED
Land Use, Zoning, & Public Policy			X
Socioeconomic Conditions	X		
Community Facilities and Services			X
Open Space			X
Shadows		X	
Historic & Cultural Resources	X		
Urban Design & Visual Resources			X
Natural Resources	X		
Hazardous Materials			X
Water and Sewer Infrastructure	X		
Solid Waste & Sanitation Services	X		
Energy	X		
Transportation - Traffic & Parking - Transit - Pedestrians	 X X X		
Air Quality - Mobile Sources - Stationary Sources	 X		 X
Greenhouse Gas Emissions	X		
Noise			X
Public Health	X		
Neighborhood Character	X		
Construction	X		

II. SUPPLEMENTAL SCREENING AND SUMMARY OF DETAILED ANALYSES

Land Use, Zoning, and Public Policy

According to the 2014 *CEQR Technical Manual*, a detailed assessment of land use, zoning and public policy is appropriate if an action would result in a significant change in land use or would substantially affect regulations or policies governing land use. Zoning and public policy analyses are typically performed in conjunction with a land use analysis when an action would change the zoning on the site or result in the loss of a particular use. Land use analyses are required when an action would substantially affect land use regulation.

The Proposed Actions includes a zoning map amendment and a zoning text amendment. A detailed land use, zoning, and public policy assessment is provided in Attachment C, "Land Use, Zoning, and Public Policy." As discussed therein, no significant adverse land use, zoning, or public policy impacts are expected in the future with the Proposed Actions.

Community Facilities

Potential direct or indirect effects of a proposed action can trigger the need for analysis of community facilities. Direct effects occur if a project would "physically alter a community facility, whether by displacement or other physical change." Indirect effects occur if a project would add population to an area, which may potentially affect service delivery. While no community facilities would be directly displaced by the proposed actions, the Proposed Actions could result the development of 193 dwelling units, of which 38 would be considered affordable. The *CEQR Technical Manual* provides density thresholds, which are used to make an initial determination of whether detailed studies are necessary to determine potential indirect impacts. These density thresholds are summarized in Table B-2.

TABLE B-2: Preliminary Screening Analysis Criteria for Community Facilities

Community Facility	Threshold for Detailed Analysis	Minimum Number of Residential Units in Brooklyn that Trigger Detailed Analyses
Public Elementary/Intermediate Schools	50 or more elementary/intermediate school students	121
Public High Schools	150 or more high school students	1,068
Libraries	More than five percent increase in ratio of residential units to libraries in the borough	734
Health Care Facilities (outpatient)	Introduction of sizeable new neighborhood	N/A
Child Care Centers (publicly funded)	More than 20 eligible children under age six based on number of low- to moderate-income units	110
Fire Protection	Introduction of sizeable new neighborhood	N/A
Police Protection	Introduction of sizeable new neighborhood	N/A

Source: *CEQR Technical Manual*

Public Schools

As the Proposed Actions would result in the incremental development of more than 121 DU, it is expected to generate more than 50 elementary and intermediate school students per *CEQR Technical Manual* criteria, and a detailed assessment of the potential impacts of the proposed actions on public schools is provided in Attachment D, "Community Facilities." As the Proposed Actions would not exceed the threshold for a detailed high school analysis, the public school analysis is focused solely on public elementary and intermediate schools. As presented in Attachment D, the Proposed Actions would not result in significant adverse impacts on community facilities. The 193 DUs would be expected to generate 56 elementary school students and 23 intermediate school students in Sub-district 2 of Community School District (CSD) 32. As discussed in Attachment D, the Proposed Actions would not result in a significant adverse impact to public elementary or intermediate schools.

Child Care Facilities, Libraries, Health Care Facilities, and Fire and Police Protection

As the Proposed Actions would not result in the introduction of a sizeable new neighborhood, would not result in a more than five percent increase in the ratio of residential units to libraries in Brooklyn (i.e., would result in the development of fewer than 734 DU), and would not result in more than 110 affordable dwelling units, analyses of fire and police protection, health care facilities, libraries, and child care facilities are not warranted, and significant adverse impacts are not anticipated in these technical areas

Open Space

Based on the 2014 *CEQR Technical Manual*, an open space assessment is typically warranted if an action would directly affect an open space, or if it would increase the population by more than 50 residents or 125 workers (these thresholds apply to areas that do not fall in areas that have been designated as "underserved").

The Proposed Actions would result in 589 new residents and -42 (net) employees. As the Proposed Actions would result in an increase in residents above the 2014 *CEQR Technical Manual* threshold, a residential open space analysis is provided in Attachment E, "Open Space." As discussed in detail in the attachment, no impacts to open space are anticipated as a result of the Proposed Actions.

Shadows

A shadows assessment considers proposed actions that result in new shadows long enough to reach a publicly accessible open space or historic resource (except within an hour and a half of sunrise or sunset). For proposed actions resulting in structures less than 50 feet high, a shadow assessment is generally not necessary unless the site is adjacent to a park, historic resource, or important natural feature (if the features that make the structure significant depend on sunlight). According to the 2014 *CEQR Technical Manual*, some open spaces contain facilities that are not sunlight-sensitive, and do not require a shadow analysis including paved areas (such as handball or basketball courts) and areas without vegetation.

As detailed in Attachment A, "Project Description," the proposed new buildings would be 89'6" and 95 feet high. Therefore, the maximum shadow radius (Tier 1 Assessment) for the Proposed Actions would be 408.5 feet. As shown in Figure B-1, there are no sunlight-sensitive resources within this longest shadow study area. Therefore, a detailed assessment of shadows is not warranted and no significant adverse impacts are anticipated.

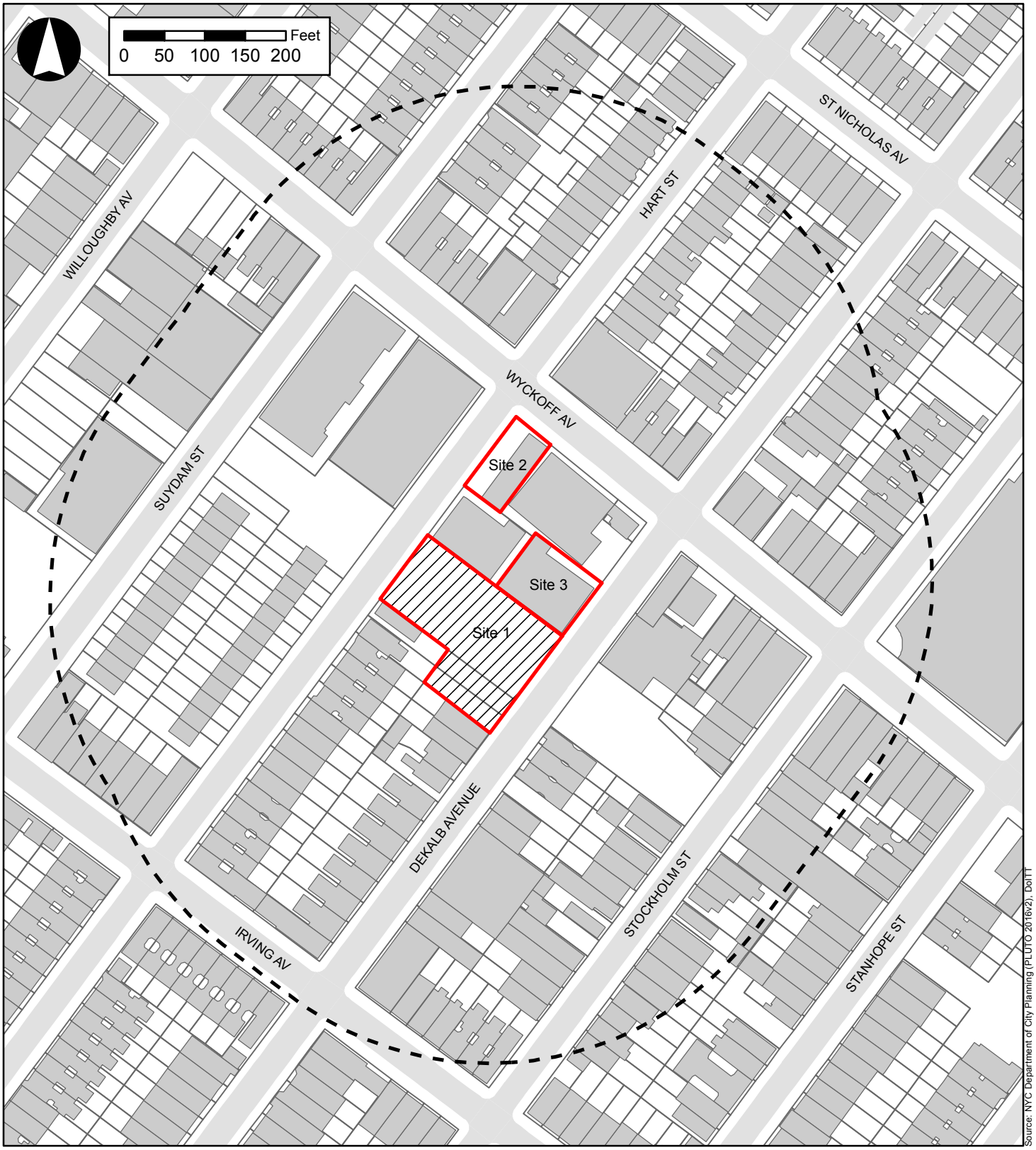
Urban Design and Visual Resources

An area's urban components and visual resources together define the look and character of the neighborhood. The urban design characteristics of a neighborhood encompass the various components of buildings and streets in the area. These include building bulk, use and type; building arrangement; block form and street pattern; streetscape elements; street hierarchy; and natural features. An area's visual resources are its unique or important public view corridors, vistas, or natural or built features. For the CEQR analysis purposes, this includes only views from public and publicly-accessible locations and does not include private residences or places of business.

An analysis of urban design and visual resources is appropriate if a proposed project would (a) result in buildings that have substantially different height, bulk, form, setbacks, size, scale, use or arrangement than exists in an area; (b) change block form, demap an active street or map a new street, or affect the street hierarchy, street wall, curb cuts, pedestrian activity or streetscape elements; or (c) would result in above-ground development in an area that includes significant visual resources.

The Proposed Actions includes the rezoning from R6 and M1-1 districts to R6B, R7A, and R7A/C2-4 districts, which would result in a development that would differ from what is permitted as-of-right, and as such, an analysis of urban design and visual resources is appropriate. This analysis is provided in

Tier I Shadow Assessment



Legend

Proposed Development Site | Projected Development Sites | Tier 1: Longest Shadow Study

Attachment F, "Urban Design and Visual Resources." As discussed in Attachment F, there would be no significant adverse impacts to these technical areas as a result of the Proposed Actions.

Hazardous Materials

As defined in the 2014 *CEQR Technical Manual*, a hazardous material is any substance that poses a threat to human health or the environment. Substances that can be of concern include, but are not limited to, heavy metals, volatile and semivolatile organic compounds, methane, polychlorinated biphenyls and hazardous wastes (defined as substances that are chemically reactive, ignitable, corrosive, or toxic). According to the 2014 *CEQR Technical Manual*, the potential for significant adverse impacts from hazardous materials can occur when: (a) hazardous materials exist on a site, and (b) an action would increase pathways to their exposure; or (c) an action would introduce new activities or processes using hazardous materials.

As the Proposed Actions would result in the development of a residential building on a site where there is reason to suspect the presence of hazardous materials, an assessment is provided in Attachment G, "Hazardous Materials," to determine potential hazardous materials concerns within the development site.

Air Quality

According to the guidelines provided in the 2014 *CEQR Technical Manual*, air quality analyses are conducted in order to assess the effect of an action on ambient air quality (i.e., the quality of the surrounding air), or effects on the project because of ambient air quality. Air quality can be affected by "mobile sources," pollutants produced by motor vehicles, and by pollutants produced by fixed facilities, i.e., "stationary sources." As per the 2014 *CEQR Technical Manual*, an air quality assessment should be carried out for actions that can result in either significant adverse mobile source or stationary source air quality impacts. Per the EAS Form, further analysis of air quality mobile sources from action-generated vehicle trips has been screened out in accordance with 2014 *CEQR Technical Manual* assessment screening thresholds.

Stationary source impacts could occur with actions that create new stationary sources or pollutants, such as emission stacks for industrial plants, hospitals, or other large institutional uses, or a building's boiler stacks used for heating/hot water, ventilation, and air conditioning ("HVAC") systems, that can affect surrounding uses. Impacts from boiler emissions associated with a development are a function of fuel type, stack height, minimum distance of the stack on the source building to the closest building of similar or greater height, building use, and the square footage size of the source building. In addition, stationary source impacts can occur when new uses are added near existing or planned emissions stacks, or when new structures are added near such stacks and those structures change the dispersion of emissions from the stacks so that they affect surrounding uses.

The Proposed Actions were analyzed for potential stationary source impacts, which is provided in Attachment H, "Air Quality." As discussed in detail Attachment H, the stationary source air quality analysis determined that all Projected Development Sites would require an (E) designation that specifies natural gas as the type of fuel oil for the HVAC systems. In addition, the results of the major combustion emission source analysis indicate that no exceedances of the *CEQR* significant impact criteria for $PM_{2.5}$ or the respective NAAQS for all pollutants on the proposed developments from Wyckoff Medical Center's emissions are predicted. Further, the results of the air toxics analysis indicate that there would be no

exceedances of NYSDEC DAR-1 short-term (SGC) and annual (AGC) guideline values for all toxic pollutants that have the potential to be released from the existing currently operating facilities within approximately 400 feet from the rezoning area. As discussed therein, no significant adverse stationary air quality impacts are expected in the future with the Proposed Actions.

Noise

The proposed action would result in residential and commercial uses on the development site. Consistent with the 2014 *CEQR Technical Manual*, existing noise levels should be measured and compared to the Noise Exposure Guidelines for these types of uses presented in Table 19-2 of the Manual. As such, a noise analysis has been prepared and is provided in Attachment I, "Noise." As discussed in detail Attachment H, the noise analysis determined that the development site would require an (E) designation that would specify the required noise attenuation measures for the southern and western facades of the proposed building. As discussed in Attachment I, the Proposed Actions would not result in any significant adverse noise impacts.

The Proposed Actions would not generate sufficient traffic to result in a significant noise impact (i.e., doubling of Noise PCEs). Therefore, consistent with the guidelines of the 2014 *CEQR Technical Manual*, an assessment of mobile noise impacts is not provided in this EAS.

I. INTRODUCTION

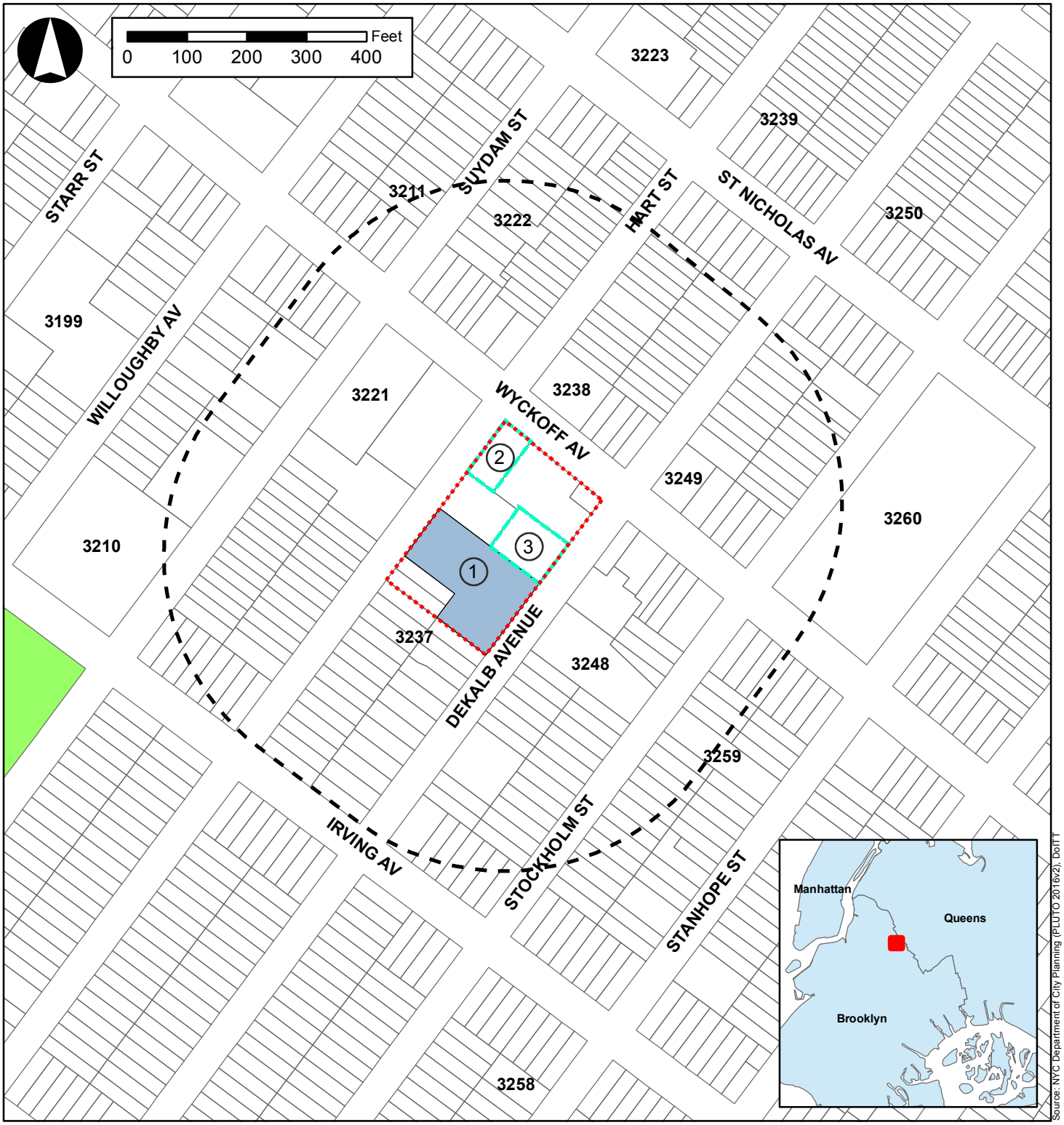
1601 DeKalb Owner LLC (the "Applicant") is seeking two discretionary actions in order to facilitate the redevelopment of 1601 DeKalb Avenue (Block 3237, Lots 23, 47, 48) in the northwest Bushwick neighborhood of Brooklyn Community District 4 (the "proposed development site") (refer to **Figure C-1**, "Project Location"). The discretionary actions include: (i) a zoning map amendment to rezone the northern portion of Brooklyn Block 3237 (the "proposed rezoning area") from R6 and M1-1 districts to R6B, R7A and R7A/C2-4 districts (refer to **Figure C-2**, "Zoning Change Map"); and, (ii) a zoning text amendment to ZR Appendix F to designate the R7A and R7A/C2-4 portions of the proposed rezoning area as a Mandatory Inclusionary Housing (MIH) Area. Collectively, the zoning map amendment and the zoning text amendment are the "Proposed Actions" for the purposes of the environmental analysis.

A detailed assessment of land use and zoning is appropriate if a proposed action would result in a significant change in land use or would substantially affect regulations or policies governing land use. An assessment of zoning is typically performed in conjunction with a land use analysis when the action would change the zoning on the site or result in the loss of a particular use. As the Proposed Actions include zoning map and text amendments, a detailed assessment of land use, zoning, and public policy is warranted and is provided in this attachment. The assessment considers the effects of the Proposed Actions on the land use study area, as well as the Proposed Actions' potential effects on zoning and public policy in the study area.

II. PRINCIPAL CONCLUSIONS

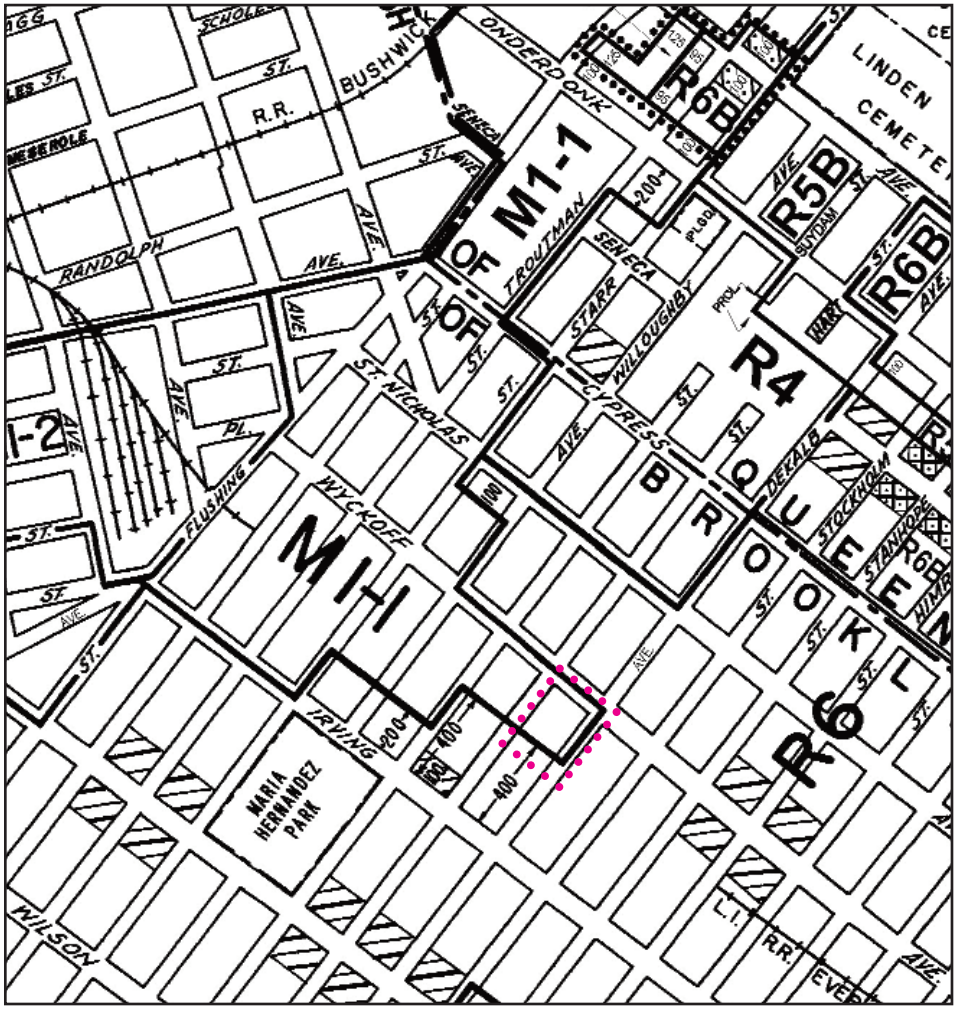
No significant adverse impacts on land use, zoning, or public policy, as defined by the guidelines for determining impact significance set forth in the *CEQR Technical Manual*, are anticipated in the 2022 future with the Proposed Actions in the primary and secondary study areas. The Proposed Actions would result in changes to land use within the primary study area by introducing additional residential uses that would not be permitted in the proposed rezoning area in the future without the Proposed Actions. However, the proposed residential uses would be consistent with residential uses already present in both the primary and secondary study areas. The proposed zoning map and text amendments would create additional zoning capacity in a transit-accessible area to support the creation of new housing and increase the number of affordable housing units available in New York City. While the proposed R7A (MIH) district would permit development at a density greater than permitted under the existing or No-Action condition, the proposed rezoning area's location along Wyckoff Avenue, a narrow street with excellent public transit service provided by the BMT Canarsie (L) subway line, is well-suited for additional development. In addition, the proposed C2-4 commercial overlay would activate the street and allow a consistent streetwall, retail continuity, and serve local residents. Further, the rezoning of Lots 21, 22, 47, and 48 from R6 to R6B would create a district that relates to the existing low-scale context of the midblock area along DeKalb and Hart Avenues. It would provide a transition of scale between the larger-scale R7A and the lower-scale context in the midblock area.

Figure C-1
Project Location

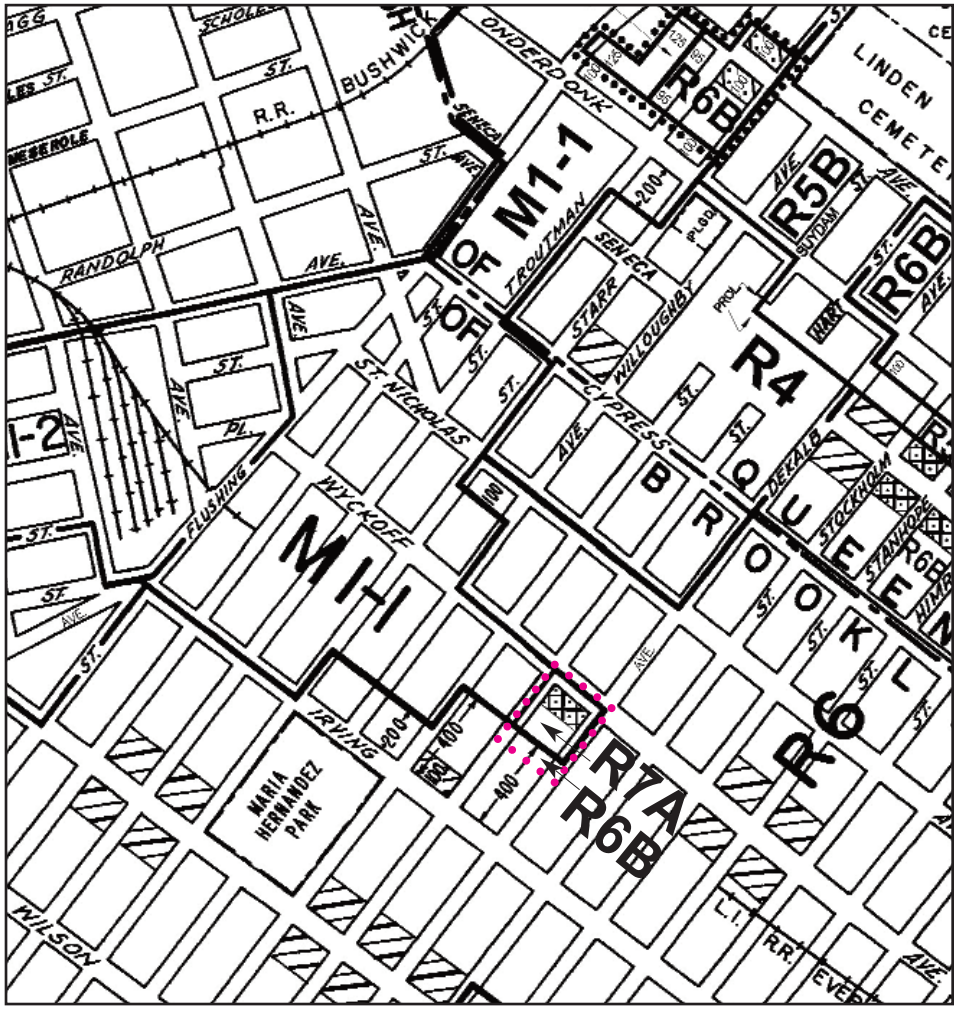


Legend

- Proposed Rezoning Area
- (1) Proposed Development Site
- (3) Projected Development Sites
- 3237 Tax Blocks
- 400-Foot Radius



EXISTING ZONING



PROPOSED ZONING

Proposed Rezoning Area

N

C1-1 C1-2 C1-3 C1-4 C1-5 C2-1 C2-2 C2-3 C2-4 C2-5

NOTE: Where no dimensions for zoning district boundaries appear on the zoning maps, such dimensions are determined in Article VII, Chapter 6 (Location of District Boundaries) of the Zoning Resolution

Figure C-2
Proposed Zoning Map Change

As such, the Proposed Actions would not result in significant adverse impacts to zoning. Lastly, the Proposed Actions would not result in land uses that conflict with public policies applicable to the primary or secondary study areas.

III. METHODOLOGY

As mentioned above, the Proposed Actions include zoning map and text amendments, which would affect land use, zoning and public policy. Land use, zoning, and public policy are addressed and analyzed for two geographical areas for the Proposed Actions. For the purpose of this assessment, the primary study area encompasses the proposed rezoning area (comprising of Lots 21, 22, 23, 27, 31, 33, 38, 41, 47, and 48 of Brooklyn Block 3237). The secondary study area encompasses areas that have the potential to experience indirect impacts as a result of the Proposed Actions. The secondary study area extends an approximate 400-foot radius from the boundary of the primary study area. The secondary study area is generally bound by St. Nicholas Avenue to the north, Stockholm Street to the east, Irving Avenue to the south, and Suydam Street to the west. Both the primary and secondary study areas have been established in accordance with *CEQR Technical Manual* guidelines and can be seen in **Figure C-3**.

The analysis of land use, zoning, and public policy first provides a description of the existing land use, zoning, and public policy conditions in the study areas. Existing land uses in the primary and secondary study area were determined based on the New York City Primary Land Use Tax Lot Output (PLUTO) data files for 2016 and January 2017 field visits. New York City Zoning and Land Use (ZoLa), New York City Zoning maps, and the *Zoning Resolution of the City of New York* were consulted to describe existing zoning districts in the study areas. Relevant public policy documents, recognized by the New York City Department of City Planning (DCP) and other City agencies were utilized to describe existing public policies pertaining to the primary and secondary study areas.

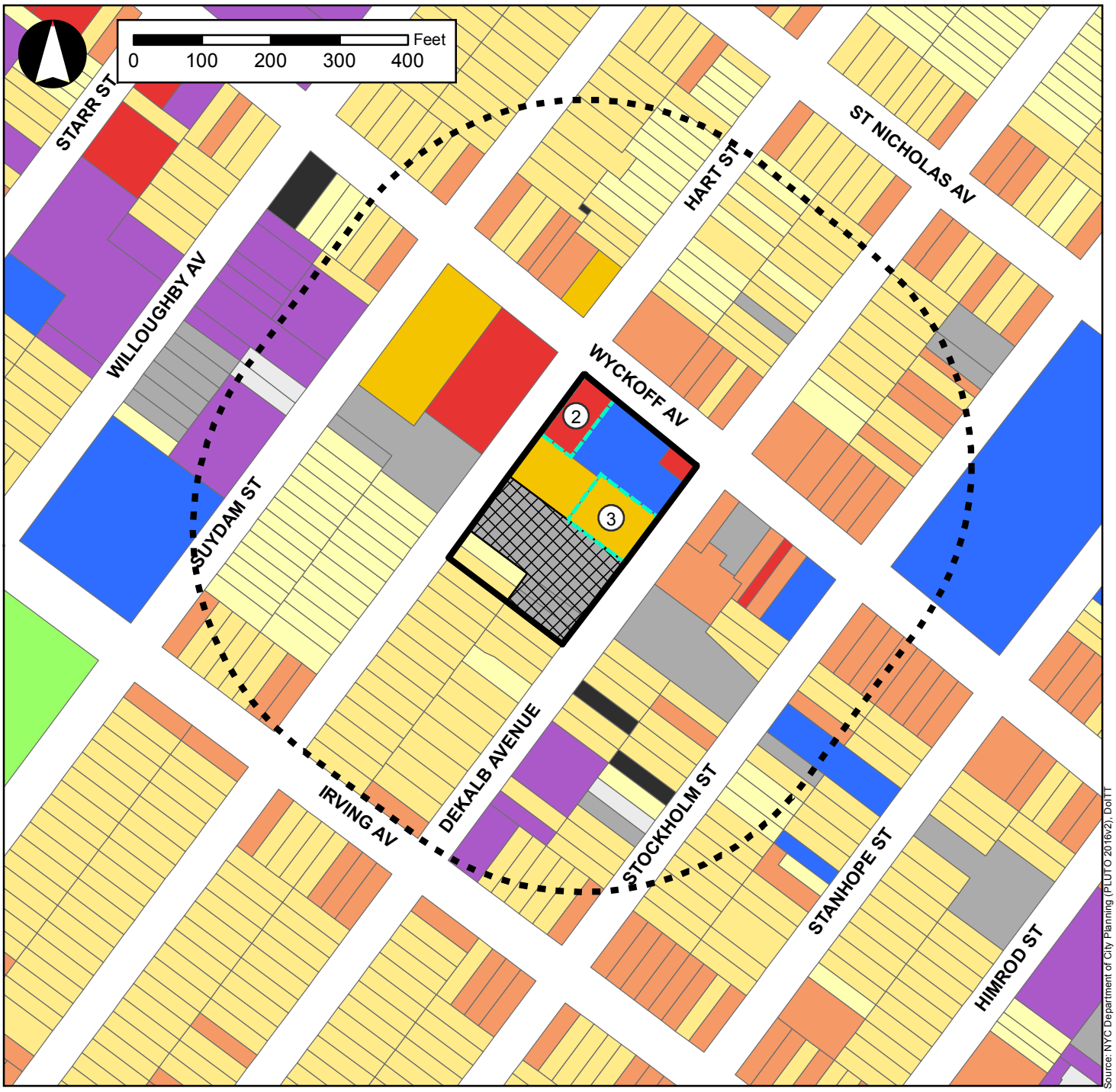
Next, the analysis projects land use, zoning, and public policy conditions in the 2022 analysis year without the Proposed Actions. This is the "No-Action" or "future without the Proposed Actions" condition, which is developed by identifying proposed developments and other relevant changes anticipated to occur in the primary and secondary study areas within this time frame. The No-Action condition describes the baseline conditions in the study areas against which the Proposed Actions' incremental changes are measured. Finally, the analysis projects land use, zoning, and public policy conditions in 2022 with the completion of the RWCDS development. This is the "With-Action" or "future with the Proposed Actions" condition.

IV. PRELIMINARY ASSESSMENT

Land Use and Zoning

A preliminary assessment, which includes a basic description of existing and future land uses and zoning, should be provided for all projects that would affect land use or would change the zoning on a site, regardless of the project's anticipated effects. However, under *CEQR Technical Manual* guidelines, if a detailed assessment is required in the technical areas of socioeconomic conditions, neighborhood character, transportation, air quality, noise, infrastructure, or hazardous materials, a detailed land use assessment is appropriate. This EAS provides detailed assessments of community facilities, open space,

Figure C-3
Land Use Map



Legend

- Proposed Rezoning Area
- 400-Foot Radius
- Proposed Development Site
- ③ Projected Development Sites
- One & Two Family Buildings
- Multi-Family Walk-Up Buildings
- Multi-Family Elevator Buildings
- Mixed Residential/Commercial
- Commercial/Office Buildings
- Industrial/Manufacturing
- Transportation/Utility
- Public Facilities & Institutions
- Open Space
- Parking Facilities
- Vacant Land
- All Others or No Data

urban design, and noise. Therefore, a detailed assessment of land use and zoning is warranted and provided in Section V below.

Public Policy

According to the *CEQR Technical Manual*, a project that would be located within areas governed by public policies controlling land use, or that has the potential to substantially affect land use regulation or policy controlling land use, requires an analysis of public policy. A preliminary assessment of public policy should identify and describe any public policies, including formal plans or published reports that pertain to the study areas. If the proposed action could potentially alter or conflict with identified policies, a detailed assessment should be conducted; otherwise, no further analysis of public policy is necessary.

The primary study area is not located in an urban renewal area, a Business Improvement District (BID), a designated historic district, or within an area defined by an adopted 197-a plan. However, as both the primary and secondary study areas are located within the North Brooklyn Empire Zone (EZ), a detailed public policy assessment is warranted and is provided in Section V, "Detailed Assessment." In addition, another public policy applicable to the primary and secondary study area includes *Housing New York: A Five-Borough, Five-Year Plan*, which is also discussed in Section V.

V. DETAILED ASSESSMENT

Existing Conditions

Land Use

Primary Study Area (Proposed Rezoning Area)

The approximately 62,767-sf proposed rezoning area, which is coterminous with the primary study area, encompasses all of Lots 21, 22, 23, 27, 31, 33, 38, 41, 47, and 48 on Block 3237 in the Bushwick neighborhood of Brooklyn CD 4. The proposed rezoning area has frontage on Wyckoff Avenue to the north, DeKalb Avenue to the east, and Hart Street to the west.

TABLE C-1:
Proposed Rezoning Area – Existing Conditions on Block 3237

Lot	Total Lot Area SF	Address	Owner	Zoning	Land Use	Building SF	Built FAR
23,47, 48	25,000	946 Hart Street / 1601 DeKalb Avenue	Two Guys From Glendale Inc.	R6; M1-1	Public Parking Lot	0	0
21	2,500	932 Hart Street	Anderson Ramdat	R6	Residential	3,000	1,2
22	2,500	936 Hart Street	Lai Wah Lung	R6	Residential	1,938	0.78
27	7,500	950 Hart Street	RS JZ 950 Hart, LLC	M1-1	Residential	17,550	2.34
31	5,183	958 Hart Street	Crystal Realty Inc.		Retail	7,210	1.39
33	10,908	88 Wyckoff Avenue	USPS		Post Office	8,970	0.82
38	1,176	96 Wyckoff Avenue	William Chan, As Trustee		Retail	1,176	1.0
41	8,000	1615 DeKalb Avenue	Mela Burhan		Residential	18,900	2.36
	62,767						

Notes: The Applicant-owned proposed development site is highlighted.
Sources: NYC DCP 2016 PLUTO Data (v2); PHA Site Visit (January 2017).

As shown in **Figure C-3**, Lots 27 and 41 are midblock lots located immediately to the north of the proposed development site, with Lot 27 fronting on Hart Street (7,500 sf lot area) and Lot 41 fronting on DeKalb Avenue (8,000 sf lot area). Both Lots 27 and 41 are occupied by 3-story residential buildings that have been converted to residential use, with each building containing 21 DUs. As shown in **Table C-1**, Lot 27 has a built FAR of 2.34, and Lot 41 has a built FAR of 2.36. Although the two buildings on Lots 27 and 41 were both illegally converted to residential use, Lot 27 is in the process of legalization through the Loft Law and is currently under the jurisdiction of the Loft Board. No certificate of occupancy for Lot 27 has been issued at this time.

Lot 21 is an approximately 2,500 sf midblock lot located along Hart Avenue. Lot 21 is occupied by a two-story residential building that contains 4 DUs. As shown in **Table C-1**, the existing building comprises approximately 3,000 sf (1.2 FAR).

Lot 22 is an approximately 2,500 sf midblock lot located along Hart Avenue. Lot 22 is occupied by a two-story 2-family residential building. As shown in **Table C-1**, the existing building comprises 1,938 sf (0.78 FAR).

Lot 31 is an approximately 5,183 sf corner lot located at the southeast corner of Hart Street and Wyckoff Avenue. Lot 31 is occupied by a two-story commercial building, with a laundry/dry cleaning business (Heaven Scent Laundry) on the first floor and a community center (Brotherhood Boxing Club) on the second floor. As shown in **Table C-1**, the existing building comprises approximately 7,210 sf (1.39 FAR).

Lot 33 is an irregularly-shaped approximately 10,908 sf lot, with frontage on both Wyckoff and DeKalb Avenues. Lot 33 is occupied by the United States Postal Service's (USPS) Wyckoff Station post office, which is a one-story building comprising approximately 8,970 sf (0.82 FAR).

Lot 38 is an approximately 1,176 sf corner lot located at the southwest corner of DeKalb and Wyckoff Avenues. Lot 38 is occupied by a one-story building that houses a restaurant/diner (Sazón Nunez). As shown in **Table C-1**, the existing building comprises approximately 1,176 sf (1.0 FAR).

Secondary Study Area

As shown in **Figure C-3** and **Table C-2**, land uses in the secondary study area are predominantly residential and mixed commercial/residential. There are no transportation/utility and open space uses present in the secondary study area.

TABLE C-2:
Existing Land Uses within the Secondary Study Area

Land Use	Number of Lots	Percentage of Total Lots (%)	Lot Area (sf)	Percentage of Total Lot Area (%)	Building Area (sf)	Percentage of Total Building Area (%)
Residential	169	71.6	441,972	50.7	718,434	47.7
One & Two-Family Residential	*54*	*22.9*	*120,842*	*13.9*	*92,377*	*6.1*
Multi-Family Walkup Buildings	*111*	*47.0*	*281,055*	*32.2*	*517,022*	*34.3*
Multi-Family Elevator Buildings	*4*	*1.7*	*40,075*	*4.6*	*109,035*	*7.2*
Mixed Commercial/Residential Buildings	35	14.8	101,474	11.6	224,025	14.9
Commercial/Office Buildings	4	1.7	26,024	3.0	27,886	1.9
Industrial/Manufacturing	6	2.5	52,500	6.0	79,050	5.3
Transportation/Utility	0	0.0	0	0.0	0	0.0
Public Facilities & Institutions	5	2.1	162,398	18.6	441,465	29.3

Open Space	0	0.0	0	0	0	0.0
Parking Facilities	11	4.7	75,057	8.6	15,872	1.1
Vacant Land	3	1.3	5,300	0.6	0	0.0
All Others or No Data	3	1.3	7,500	0.9	155	0.01
Total	*236*	*100.0*	*311,666*	*100.0*	*293,409*	*100.0*

Source: 2016 PLUTO data; January 2017 field visits.

Residential uses comprise a total of 71.6 percent of the secondary study area lots, and also represent the majority of the subarea's lot area and building area (50.7 percent and 47.7 percent, respectively). Multi-family walkup residential buildings are the most prevalent in terms of lot area and building area, while one- and two-family residential buildings are the second most represented residential building type; there are only four multi-family elevator buildings present in the secondary study area (refer to **Table C-1**). As presented in **Figure C-3**, one- and two-family residential buildings and multi-family walkup buildings are both found on the north side of Wyckoff Avenue, north and east of the primary study area, and along Hart Street, to the south and west of the primary study area.

As presented in **Table C-1**, institutional uses, while only representing 2.1 percent of the secondary study area lots, comprise 18.6 percent of the secondary study area lot area and 29.3 percent of the secondary study area building area; this discrepancy is due to the presence of Wyckoff Heights Medical Center, a 12-story, 350-bed teaching hospital located east of the primary study area (refer to **Figure C-3**). In addition to Wyckoff Heights Medical Center, other institutional uses in the secondary study area include a Wyckoff Heights Medical Center Women's Health Center, Ridgewood-Bushwick Senior Center, the USPS Wyckoff Station post office, and P.S 123.

There are 11 parking facilities in the secondary study area, representing 8.6 percent of the secondary study area lot area. A majority of these parking facilities comprise surface parking lots located near the center of the secondary study area, on lots which were formerly the right-of-way for the Evergreen Branch of the Long Island Railroad (LIRR), which was terminated more than 44 years ago.

As also presented in **Table C-1**, only four lots in the secondary study area contain commercial/office uses, comprising a total of 1.7 percent of the secondary study area lots and 3.0 percent of the secondary study area lot area. Despite a low number of lots featuring only commercial/office uses, 35 lots in the secondary study area contain mixed-use commercial/residential uses, representing a total of 14.8 percent of the secondary study area lots, 11.6 percent of the secondary study area lot area, and 14.9 percent of the secondary study area building area. A majority of these lots are located along Wyckoff Avenue, to the north and east of the primary study area, forming a corridor of two- to four-story mixed-use buildings featuring ground-level commercial and retail uses with residential uses above.

Zoning

Primary Study Area

As shown in **Figure C-2**, the proposed rezoning area is currently zoned R6 and M1-1. M1-1 districts are often located adjacent to residential zoning districts, and can serve as a buffer between residence districts and heavy industrial (M2 and M3) districts. M1-1 zoning districts permit a range of light industrial/manufacturing uses that must be fully enclosed and are subject to strict performance standards with regard to air, noise, and vibrations. Office, hotel, most retail uses, and certain community facility uses are also allowed as-of-right. Use Groups 4 through 14, and 16 and 17 are allowed in M1-1 zoning districts.

Residential uses are generally not permitted in M1 districts. The maximum floor area ratio (FAR) in an M1-1 zoning district is 1.0 for light industrial/manufacturing and commercial uses, and up to 2.4 for community facility uses. New manufacturing developments in M1-1 zoning districts require one parking space per 2,000 square feet of floor area, or one space per three employees, whichever would require a smaller number of spaces.

R6 zoning districts are widely mapped in built-up, medium-density areas in Brooklyn, Queens, and Bronx. Under height factor regulations, the maximum permitted residential floor area ranges from 0.78 (for a single story building) to 2.43 at a typical height of 13 stories; the open space ratio (OSR) ranges from 27.5 to 37.5. Under Quality Housing regulations, the maximum permitted FAR is 3.0 on wide streets outside of the Manhattan Core and 2.2 on narrow streets. Community facility uses are permitted up to 4.8 FAR in R6 districts under both height factor and Quality Housing regulations. Commercial and manufacturing uses are not permitted in residential zoning districts.

Secondary Study Area

As shown in **Figure C-2**, the M1-1 zoning district mapped in the primary study area extends across Hart and Suydam Streets into the western portion of the secondary study area. An R6 zoning district is mapped in the remainder of the secondary study area, to the north, east, and south of the primary study area. In addition, a single C1-3 commercial overlay is mapped along Irving Avenue, between Suydam and Hart Streets.

As noted above, a C1-3 commercial overlay is mapped in the southwestern corner of the secondary study area, on tax lots with frontage along Irving Avenue between Suydam and Hart Streets. When mapped in R6 districts, C1-3 commercial overlays permit commercial uses up to 2.0 FAR. In mixed-use buildings, commercial uses are limited to one or two floors and must always be located below residential uses.

Public Policy

As noted above, the primary study area is not located in an urban renewal area, a BID, a designated historic district, or within an area defined by an adopted 197-a plan. However, a portion of the primary study area (as well as the secondary study area) is located within the North Brooklyn Empire Zone (EZ). As such, a discussion of the EZ program is provided below. Other public policies applicable to the primary study area include *Housing New York.*

North Brooklyn Empire Zone (EZ)

The Empire Zone program is a New York State led effort to provide qualifying businesses with a variety of tax incentives to stimulate the creation and expansion of jobs in targeted areas throughout New York State. The Empire Zone program is closed to new participants. Currently certified Empire Zone businesses may continue to apply for and receive benefits, but no additional businesses can become certified. Therefore, this public policy does not apply to the Proposed Actions.

Housing New York: A Five-Borough, Five-Year Plan

Housing New York is the City's comprehensive housing development policy plan that seeks, as a primary goal, to build and preserve 300,000 units of high-quality affordable housing over the next decade. Framed by the policy goals and objectives in Housing New York, the City approved MIH program requires, through zoning actions, a share of new housing to be permanently affordable. *Housing New York* was developed in conjunction with the HPD to create housing opportunities for New Yorkers with a range of incomes, while fostering vibrant and diverse neighborhoods.

The primary components of *Housing New York* include:

- Mandatory affordable housing, not voluntary. Production of affordable housing would be a condition of residential development when developers build in an area zoned for MIH, whether rezoned as part of a City neighborhood plan or a private rezoning application.
- Affordable housing would be permanent. There would be no expiration to the affordability requirement of apartments generated through MIH, making them a long-term, stable reservoir of affordable housing.

Housing New York, and the adopted (March 22, 2016) ZQA and MIH programs are aimed at promoting affordable and better quality housing in New York City. The primary goals of the ZQA and MIH programs are to: (1) support the creation of new affordable housing and senior care facilities, (2) help deploy public resources devoted to affordable housing more efficiently, and (3) encourage better residential buildings that are more compatible with their surroundings and which help enliven the pedestrian environment.

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

Land Use

Primary Study Area (Proposed Rezoning Area)

As presented in Attachment A, "Project Description," in the 2022 future without the Proposed Actions, the primary study area's R6 and M1-1 zoning designations would remain in place. The maximum allowable FAR in the M1-1 district would remain at 1.0 (or up to 2.4 for allowed community facility uses). Residential uses are not permitted in M1-1 districts. The maximum allowable FAR in the R6 district would remain 2.43 for residential uses and up to 4.8 for community facility uses. Under the No-Action scenario, none of the lots within the proposed rezoning area are anticipated to be redeveloped. Lots 23, 47, and 48 which are owned by the Applicant, would not be redeveloped, as residential uses would not be allowed by existing zoning, and given the low FAR and limited uses permitted in the current M1-1 district. Lots 33 and 38 are currently developed at 89 percent and 100 percent, respectively, of the allowable 1.0 FAR under No-Action condition (refer to **Table C-1**) and are therefore unlikely to be redeveloped. Lots 27 and 31, currently exceed the allowable FAR (refer to **Table C-1**), and are therefore unlikely to be redeveloped in the No-Action as the surplus floor area would be lost. Lots 21 and 22 which are located in the existing R6 district are currently developed with low-rise residential uses and are unlikely to be redeveloped in the No-Action condition. As Lot 41 is currently occupied by illegal residential uses, it is assumed that this site would be converted to a legal use. It is assumed that 8,000-sf of office space could be developed at this site. Therefore, in the 2022 future without the Proposed Actions, the primary study area would continue to be occupied by surface parking, retail, a post office, two residential buildings, one converted residential building, and would also include the development of approximately 8,000-sf of office uses.

Secondary Study Area

There is one known project that could be completed within 400 feet of the primary study area in the future without the Proposed Actions. Although there are no specific plans available at this time, preliminary information indicates that the owner of a 32,500-sf property falling partially within the 400-foot radius is proposing to rezone Block 3210, Lots 16, 17, 18, 19, 20, 21, 48, and 51 from M1-1 to M1-5 and M1-5/R7D. This rezoning would permit the construction of a new residential building at 1250 Willoughby Avenue (Lots 16, 17, 18, 19, 20, 21, and 48) and the enlargement of an existing manufacturing building at 349 Suydam Street (Lot 51). That project is expected to be completed by 2021, however, no formal application for this rezoning action has been filed.

Zoning and Public Policy

As noted above, there is one known project that could be completed in the future without the Proposed Actions. The owner of a 32,500-sf property located partially within the secondary study area is proposing to rezone Block 3210, Lots 16, 17, 18, 19, 20, 21, 48, and 51 from M1-1 to M1-5 and M1-5/R7D. This rezoning would permit the construction of a new residential building and the enlargement of an existing manufacturing building. If formal action is taken, the rezoning and construction is expected to be completed by 2021. No changes to public policy in the primary or secondary study areas are anticipated in the future without the Proposed Actions.

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

In the 2022 future with the Proposed Actions, the Proposed Actions, which include zoning map and text amendments, would be approved. As presented in Attachment A, "Project Description," under the RWCDS, the Proposed Actions would facilitate the incremental development of 193 DUs (including a net increase of 38 affordable DUs), a net reduction of 11,128 gsf of commercial uses and 54 public parking spaces.

Land Use

Primary Study Area (Proposed Rezoning Area)

The Proposed Actions would result in changes to land use within the primary study area by introducing residential uses that would not be permitted in the proposed rezoning area in the future without the Proposed Actions. In addition, commercial and community facility uses would be permitted at a greater density than would be allowed in the No-Action condition. The proposed residential uses would be consistent with uses already present in the surrounding area, as the secondary study area is largely defined by residential and mixed commercial/residential uses.

The Proposed Actions would not generate land uses that would be incompatible with surrounding uses, nor would they displace land uses in such a way as to adversely affect surrounding land uses. Therefore, the Proposed Actions would support land use trends, and no significant adverse land use impacts are expected.

Secondary Study Area

The secondary study area would not undergo any changes as a result of the Proposed Actions. The Proposed Actions would have no direct effect on land use in the secondary study area. As noted above, the secondary study area is predominantly comprised of residential and mixed commercial/residential uses. Therefore, the Proposed Actions would not introduce any new land uses that would be incompatible with surrounding land uses, and the Proposed Actions would not represent a significant adverse impact on land use in the secondary study area in accordance with the criteria set forth in the *CEQR Technical Manual*.

Zoning

Primary Study Area (Proposed Rezoning Area)

In the future with the Proposed Actions, the primary study area would be rezoned from R6 and M1-1 to R6B and R7A (both MIH areas) with a C2-4 commercial overlay mapped to a depth of 100 feet on the south side of Wyckoff Avenue between Hart Street and DeKalb Avenue (see **Figure C-2**). As shown in **Table C-3**, the proposed R7A (MIH) zoning would increase the allowable maximum density to 4.6 FAR for residential uses and 4.0 for community facility uses; under the proposed zoning, commercial uses would be permitted up to 2.0 FAR within the proposed C2-4 commercial overlay area. As shown in **Table C-3**, the proposed R6B zoning would decrease the allowable maximum density for both residential and community facility uses.

TABLE C-3: Comparison of Existing and Proposed Zoning

	Existing M1-1	Existing R6	Proposed R7A/C2-4	Proposed R6B
Use Groups	4-14 and 16-17	1-4	1-9 and 14[1]	1-4
	Maximum FAR			
Residential	0.0	2.2-2.43	4.6[2]	2.0
Community Facility	2.4	4.8	4.0	2.0
Commercial	1.0	0.0	2.0[1]	0.0
Manufacturing	1.0	0.0	0.0	0.0

Source: *Zoning Resolution of the City of New York.*

Notes:

[1] Commercial uses (Use Groups 5-9, and 14) would be permitted in the proposed C2-4 overlay to be mapped within 100 feet of the south side of Wyckoff Avenue between Hart Street and DeKalb Avenue in the proposed R7A zoning district.

[2] The MIH area sets a new maximum permitted residential FAR that supersedes the FAR permitted by the underlying zoning district. With both the designation of the proposed R7A district as an MIH area, the maximum permitted residential FAR within the proposed R7A area would be 4.6, and the maximum building height would be 95 feet and in the proposed R6B area the maximum FAR would be 2.0 and the maximum building height would be 50 feet.

The proposed zoning map and text amendments would create additional zoning capacity in a transit-accessible area to support new housing creation and increase the number of affordable housing units available in New York City. While the proposed R7A (MIH) district would permit development at a density greater than permitted under existing or No-Action condition, the proposed rezoning area's location along DeKalb Avenue, a narrow street with excellent public transit service provided by the BMT Canarsie (L) subway line, is well-suited for additional development. In addition, the proposed C2-4 would activate the street and allow a consistent streetwall, retail continuity, and serve local residents. As such, the Proposed Actions would not result in significant adverse impacts to zoning in the primary study area.

Secondary Study Area

The secondary study area would not undergo any zoning changes as a result of the Proposed Actions. The Proposed Actions would have no direct effect on zoning in the secondary study area. The proposed zoning map and text amendments would be in keeping with the City's land use, zoning, and public policy objectives for the area. The proposed R7A (MIH) district would facilitate the development of affordable housing. The proposed C2-4 commercial overlay would permit retail development consistent with the land uses and zoning in the secondary study area. Notably, as outlined above, Wyckoff Avenue serves as a commercial corridor lined with a number of local retail and other commercial uses. In addition, C1-2 commercial overlays are mapped along the north side of Irving Avenue between Suydam and Hart Streets, south of the proposed rezoning area. For these reasons, the Proposed Actions would not represent a significant adverse impact on zoning in the secondary study area, in accordance with the criteria set forth in the *CEQR Technical Manual.*

Public Policy

Housing New York

The Proposed Actions would support the policies and goals of *Housing New York* by establishing a MIH Area encompassing the area to be rezoned, which would require development in the With-Action Condition to include permanent affordable dwelling units. Pursuant to the MIH Option (1), at least 25 percent of residential floor area in the With-Action Condition would be allocated to affordable housing units for low, moderate, and middle-income families. The program, including the AMI breakdown, will be determined in conjunction with HPD and HDC.

The affordable dwelling units under the With-Action Condition would provide the area with a much needed mix of new affordable housing and market rate units and would support the City's efforts to increase the overall amount of affordable housing. Based on this information, the development under the With-Action Condition would be consistent with the policy goals and objectives of Housing New York.

I. INTRODUCTION

The *City Environmental Quality Review* (CEQR) *Technical Manual* defines community facilities as public or publicly-funded facilities including schools, libraries, day care centers, health care facilities, and fire and police protection services. This attachment examines the potential effects of the Proposed Actions by 2022 on the capacity and provision of services by those community facilities.

A project can affect community facility services when it physically displaces or alters a community facility (direct effect) or causes a change in population that may affect the services delivered by a community facility (indirect effect), which could happen if a facility is already over utilized, or if a project is large enough to create a demand that could not be met by the existing facility/facilities. The CEQR analysis examines potential impacts on existing facilities and generally focuses in detail on those services that the City is obligated to provide to any member of the community. This analysis is not a needs assessment for new or additional services. Service providers like schools or libraries conduct their own needs assessments on a continuing basis.

As described in Attachment A, "Project Description," a total of 193 multi-family dwelling units would be developed on the proposed development site under the With-Action scenario. Compared to the No-Action condition, the Proposed Actions would result in the incremental development of 193 dwelling units (DUs), including up to 38 affordable DUs. No community facilities are planned as a part of the proposed development, and no community facilities are located on the project site under existing conditions. Accordingly, as there would be no direct effects to existing community facilities resulting from the Proposed Actions, this analysis concentrates on the potential for indirect effects.

The analysis of community facilities has been conducted in accordance with the guidelines established in the *CEQR Technical Manual*. The demand for community services generally stems from the introduction of new residents to an area. In general, size, income characteristics, and the age distribution of a new population are factors that could affect the delivery of services. The *CEQR Technical Manual* provides guidelines or thresholds that can be used to make an initial determination of whether a detailed study is necessary to determine potential impacts.

As discussed in Attachment B, "Supplemental Screening," the With-Action scenario exceeds the *CEQR Technical Manual* analysis thresholds in the areas of public elementary and intermediate schools. Therefore, a detailed analysis of these services is provided below. The population anticipated to be introduced as a result of the Proposed Actions would not exceed the *CEQR Technical Manual* thresholds requiring detailed analysis of other community facilities, including high schools, child care facilities, libraries, health care facilities, and fire and police protection services.

II. PRINCIPAL CONCLUSIONS

The Proposed Actions would not result in significant adverse impacts on community facilities. The 193 DUs generated under the With-Action scenario are expected to generate 56 elementary school students and 23 intermediate school students in Sub-district 2 of Community School District (CSD) 32. Elementary schools in CSD 32, Sub-district 2 would operate below capacity in the future with the Proposed Actions (77 percent utilization rate), as under No-Action conditions. Therefore, no significant adverse elementary school impacts would result, in accordance with *CEQR Technical Manual* impact criteria. Additionally, intermediate schools in CSD 32, Sub-district 2 would operate below capacity in the future with the Proposed Actions (51.7 percent utilization rate), as under No-Action conditions. Therefore, no significant adverse intermediate school impacts would result, in accordance with *CEQR Technical Manual* impact criteria.

III. PUBLIC ELEMENTARY AND INTERMEDIATE SCHOOLS

Methodology

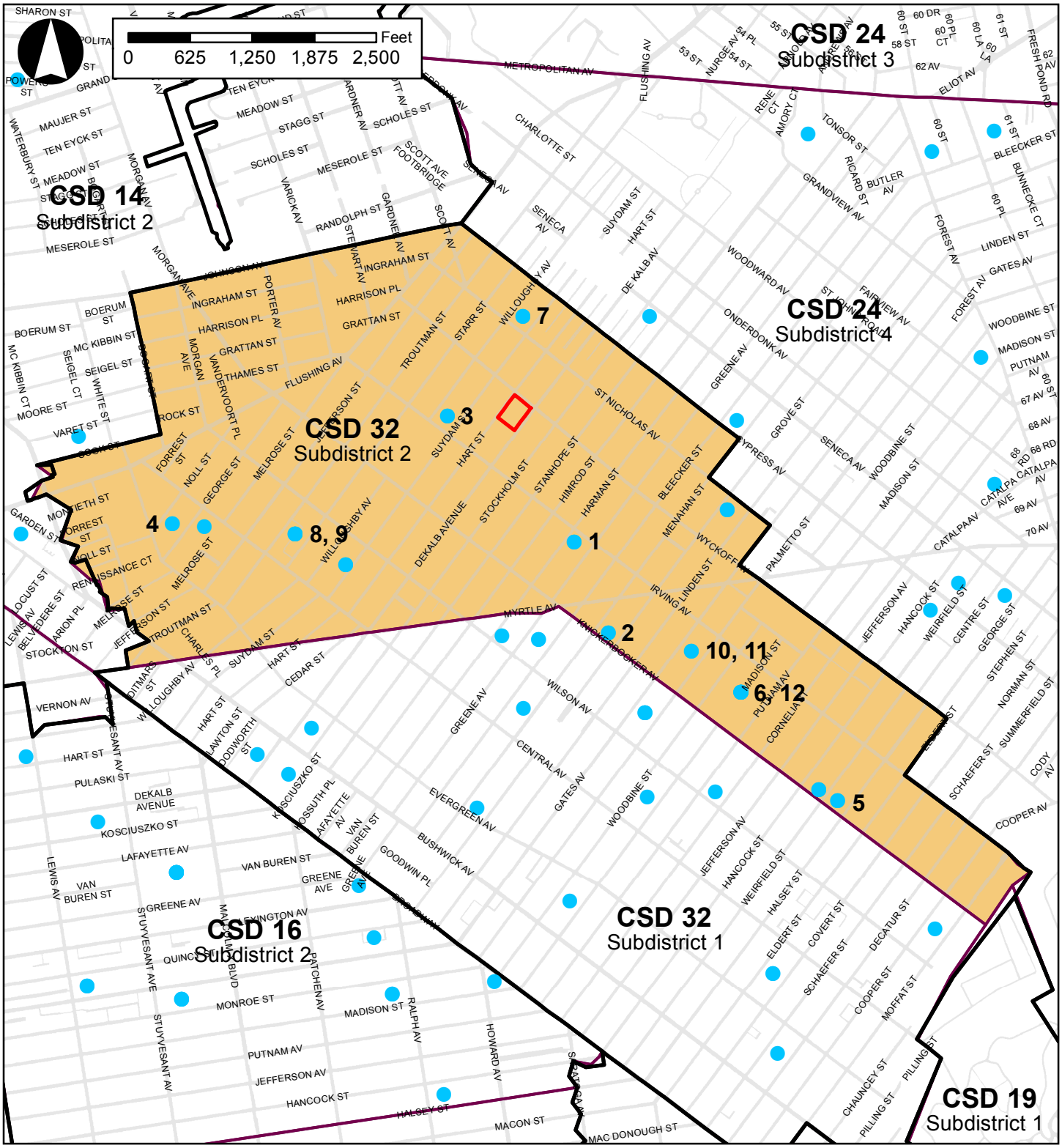
According to the guidelines presented in the *CEQR Technical Manual*, a schools analysis focuses on potential impacts on public schools operated by the New York City Department of Education (DOE). Therefore, private and parochial schools within the study area are not included in the analysis of schools presented in this attachment.

Based on the multipliers presented in Table 6-1a of the *CEQR Technical Manual*, the With-Action scenario would result in 193 incremental DUs which would generate approximately 79 new elementary and intermediate school students (56 elementary and 23 intermediate school students), which exceeds the threshold of 50 students for detailed analysis. The With-Action scenario would also generate an estimated 27 new high school students compared to No-Action conditions, which would not trigger the *CEQR Technical Manual* threshold of 150 students for detailed analysis of high schools. Therefore, the following schools analysis focuses on elementary and intermediate school levels only.

Pursuant to *CEQR Technical Manual* guidelines, this analysis assesses the potential effects of the proposed project on elementary and intermediate schools located within the study area, defined as Sub-district 2 of CSD 32 (see **Figure D-1**). Children residing in the rezoning area would most likely attend the elementary and intermediate schools in this study area. The following schools analysis presents the most recent capacity, enrollment, and utilization rates for elementary and intermediate schools in the study area. Future No-Action conditions are then predicted based on enrollment projections and proposed development projects,[1] and the future utilization rate for school facilities is calculated by adding the estimated enrollment from proposed residential developments in the schools study area to DOE's projected enrollment and then comparing that number with projected school capacity. DOE's most recent enrollment projections (Actual 2014, Projected 2015-2024) are posted on the New York City School Construction Authority's (SCA's) website.[2] In addition, any new school projects identified in the DOE 2015-2019 Five-Year Capital Plan (and/or subsequent amendments) are included if construction has begun. According to the *CEQR Technical Manual*, some schools may be included in the analysis if they are in the

[1] School Construction Authority, *Projected New Housing Starts as Used in 2015-2019 Enrollment Projection*.
[2] Enrollment projections by the Grier Partnership were used: http://www.nycsca.org.

Community Facilities: Public Schools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DOE Five-Year Capital Plan but are not yet under construction if the lead agency, in consultation with the SCA, concurs that it is appropriate.

Impacts are identified if the Proposed Action would result in: (1) a collective utilization rate of the elementary and/or intermediate schools in the sub-district study area that is equal to or greater than 100 percent in the With-Action condition; and (2) an increase of five percent or more in the collective utilization rate between the future No-Action and With-Action conditions.

Existing Conditions

Elementary Schools

As described above, elementary schools in New York City are located in geographically defined school districts. As shown in **Figure D-1**, the proposed rezoning area is located within the boundaries of CSD 32, Sub-district 2. Analyzed schools located in CSD 32, Sub-district 2 serving elementary students can generally be defined by one of two categories: elementary or K-8 schools. Public elementary schools (P.S.) serve pre-kindergarten or kindergarten through 5th grades and K-8 schools serve pre-kindergarten or kindergarten through 8th grades. For analysis purposes, the elementary and the P.S. component of K-8 schools have been combined.

As shown in **Figure D-1** and **Table D-1**, there are six public schools located within Sub-district 2 of CSD 32 that serve elementary students, including five elementary schools and one school serving elementary, intermediate, and secondary levels. The zoned elementary school for the proposed development site is P.S. 123, located at 100 Irving Avenue.

Table D-1 provides the existing capacity, enrollment, and utilization figures for the six elementary schools within Sub-district 2 of CSD 32 during the 2015-2016 academic year. As shown in **Table D-1**, the six schools within CSD 32, Sub-district 2 that serve elementary levels had a target capacity of 3,485 elementary school seats and enrollment of 2,701 students, for a utilization of approximately 77.5 percent and 784 available seats.

Intermediate Schools

Analyzed schools located in CSD 32, Sub-district 2 serving intermediate students can generally be defined by one of three categories: intermediate, secondary, and K-8 schools. Intermediate schools (I.S.) serve 6th through 8th grades; secondary schools serve 6th through 12th grades; and K-8 schools serve pre-kindergarten or kindergarten through 8th grades. For analysis purposes, the intermediate and I.S. components of K-8 schools and secondary schools have been combined.

Table D-1 shows the existing capacity, enrollment, and utilization figures for intermediate schools within CSD 32, Sub-district 2. As shown in **Table D-1**, during the 2015-2016 academic year there were five public schools within the study area that served intermediate students, including three intermediate schools, one school serving both intermediate and secondary levels, and one school serving elementary, intermediate, and secondary levels. The zoned intermediate school for the proposed development site is I.S. 162, located at 1390 Willoughby Avenue.

Table D-1:
2015-2016 Public Elementary and Intermediate School Enrollment, Capacity, and Utilization in CSD 32, Sub-district 2

Map No.[1]	Name	Address	Enrollment	Target Capacity	Available Seats	Utilization (%)
Elementary Schools						
1	P.S. 86	220 Irving Ave.	413	398	-15	103.8
2	P.S. 116	515 Knickerbocker Ave.	522	445	-77	117.3
3	P.S. 123	100 Irving Ave.	737	903	166	81.6
4	P.S. 145	100 Noll St.	709	1,185	476	59.8
5	P.S. 151	763 Knickerbocker Ave.	314	549	235	57.2
6	Academy for Environmental Leadership (P.S. Component)[2]	400 Irving Ave.	6	5	-1	114.4
Total Elementary Schools in Sub-district 2 of CSD 32			**2,701**	**3,485**	**784**	**77.5**
Intermediate Schools						
7	I.S. 162	1390 Willoughby Ave.	471	925	454	50.9
8	I.S. 347	35 Starr St.	303	654	351	46.3
9	I.S. 349	35 Starr St.	304	380	76	80.0
10	All City Leadership Secondary School (I.S. 554 Component)[2]	321 Palmetto St.	171	179	8	95.6
11	All City Leadership Secondary School (I.S. 554 Component)[2]	1474 Gates Ave.	9	14	5	66.7
12	Academy for Environmental Leadership (I.S. Component)[2]	400 Irving Ave.	2	2	0	114.4
Total Intermediate Schools in Sub-district 2 of CSD 32			**1,260**	**2,153**	**893**	**58.5**

Notes:
[1] Map numbers correspond to **Figure D-1**.
[2] P.S. /I.S. breakdown provided by the SCA.
Source: New York City Department of Education, Enrollment-Capacity-Utilization Report, 2015-2016 School Year.

As shown in **Table D-1**, CSD 32, Sub-district 2 had a target capacity of 2,153 intermediate school seats in the 2015-2016 academic year and an enrollment of 1,260 students, for a total utilization of approximately 58.5 percent and 893 available seats.

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

In the 2022 future without the Proposed Actions, future utilization of public elementary and intermediate schools serving the study area would be affected by changes in enrollment mainly due to: (1) aging of the existing student body and new arrivals born in the area or moving into it; and (2) changes in capacity, or number of available seats, in the schools as a result of planned construction of new schools or building additions.

Capacity Changes

As outlined in the *CEQR Technical Manual*, No-Action school capacity changes considered in a community facilities analysis include information on proposed and adopted "Significant Changes in School Utilization" and the DOE's Five Year Capital Plan.

No elementary school or intermediate school capacity changes are anticipated within CSD 32, Sub-district 2 by 2022 in the future without the Proposed Actions.

Enrollment Changes

Estimates of future enrollment are derived from the latest available DOE enrollment projection data for CSD 32, Sub-district 2 for 2022 (Actual 2014, Projected 2015-2024). In the 2022 future without the Proposed Actions, DOE projections show that demand for public elementary schools in CSD 32, Sub-district 2 is expected to decrease by approximately 2.1 percent (to 2,037) and intermediate enrollment is forecasted to decrease by approximately 7.9 percent (to 839). The enrollment projections focus on natural growth of the City's student population and other population increases and do not account for new residential developments planned for the area (i.e., No-Action projects).

A number of new residential developments are also planned in the study area by the analysis year of 2022. Using numbers derived from the SCA's Projected New Housing Starts for Sub-district 2 of CSD 32, approximately 593 new elementary school students and 251 new intermediate school students are expected to be added to the study area by the 2022 analysis year. As such, 2022 projected elementary and intermediate school enrollment in the future without the Proposed Actions would increase to 2,629 and 1,089, respectively.

Elementary Schools

As discussed above, in the 2022 future without the Proposed Actions, CSD 32, Sub-district 2 elementary school enrollment is expected to decrease to 2,629, while capacity will remain the same. Based on these changes, elementary schools in Sub-district 2 of CSD 32 are expected to remain operating under capacity (approximately 75.4 percent utilization), with a surplus of 856 seats (see **Table D-2**).

Table D-2:
2022 No-Action Estimated Public Elementary and Intermediate School Enrollment, Capacity, and Utilization in CSD 32, Sub-district 2

	2022 Projected Enrollment[1]	Students Generated from Development in No-Action	Total Projected Enrollment in No-Action	Projected Capacity	Seats Available	Utilization (%)
Elementary Schools	2,037	593	2,629	3,485	856	75.4
Intermediate Schools	839	251	1,089	2,153	1,064	50.6

Notes:
[1] DOE Enrollment Projections (Actual 2014, Projected 2015-2024).

Intermediate Schools

As shown in **Table D-2**, with no changes to CSD 32, Sub-district 2 intermediate school capacity anticipated in the 2022 future without the Proposed Actions and intermediate school enrollment expected to

decrease to 1,089, the utilization rate for intermediate schools in CSD 32, Sub-district 2 is expected to decrease to approximately 50.6 percent, with a surplus of 1,064 seats.

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

As described in Attachment A, "Project Description," under the With-Action scenario, the Proposed Actions would facilitate the incremental development of 193 residential units on the proposed development site by 2022. Based on *CEQR Technical Manual* student generation rates, the estimated school age population generated by these 193 residential units would include 56 elementary school students and 23 intermediate school students.

Elementary Schools

In the future with the Proposed Actions, elementary schools in Sub-district 2 of CSD 32 would continue to operate above capacity as under No-Action conditions. As shown in **Table D-3**, the addition of 56 elementary school students generated by the Proposed Actions would increase the utilization by approximately 1.6 percentage points to 77 percent. The *CEQR Technical Manual* states that if the impact assessment finds that if a Proposed Actions would cause an increase in utilization of less than five percent in a sub-district, no significant impact would occur. As the Proposed Actions would generate 56 elementary school students and would result in an increase of only 1.6 percentage points over the No-Action condition, no significant adverse impacts on elementary schools would result, per the criteria of the *CEQR Technical Manual*.

Table D-3:
2022 With-Action Estimated Public Elementary and Intermediate School Enrollment, Capacity, and Utilization for CSD 32, Sub-district 2

	2022 No-Action Total Projected Enrollment	New Students Generated by Proposed Actions	Total Future With-Action Projected Enrollment	Projected Capacity	Seats Available	Utilization (%)	Increase in Utilization (%) from No-Action condition
Elementary Schools	2,629	56	2,685	3,485	800	77	+1.6
Intermediate Schools	1,089	23	1,112	2,153	1,041	51.7	+1.1

Intermediate Schools

As shown in **Table D-3**, the addition of 23 intermediate school students to CSD 32, Sub-district 2 would increase intermediate school enrollment to 1,112 in the With-Action condition. As under No-Action conditions, CSD 32, Sub-district 2 intermediate schools would operate below capacity, with the Proposed Actions expected to increase the study area intermediate school utilization by 1.1 percentage points to 51.7 percent. There would be a surplus of 1,041 seats in the future with the Proposed Actions.

As the *CEQR Technical Manual* states that if the impact assessment finds that if the Proposed Actions would cause an increase in utilization of less than five percent in a sub-district, no significant impact would occur. As the Proposed Actions would generate 23 intermediate school students and would result in an increase of only 1.1 percentage points over the No-Action condition, no significant adverse impacts to intermediate schools would occur, per the criteria of the *CEQR Technical Manual*.

I. INTRODUCTION

An open space assessment may be necessary if a proposed action could potentially have a direct or indirect effect on open space resources in the project area. A direct effect would "physically change, diminish, or eliminate an open space or reduce its utilization or aesthetic value." An indirect effect may occur when the population generated by a proposed development would be sufficient to noticeably diminish the ability of an area's open space to serve the existing or future population. According to the guidelines established in the *City Environmental Quality Review* (CEQR) *Technical Manual,* as the rezoning area is located in an area considered underserved by open space, a project that would add fewer than 125 residents or 50 employees, or a similar number of other users, is typically not considered to have indirect effects on open space.

Although the Proposed Actions would not have a direct effect on existing open space resources, development facilitated by the Proposed Actions (the "proposed project") is expected to result in an incremental increase of 193 dwelling units (DUs) over the 2022 No-Action condition. This would result in an increase of 589 residents[1], which exceeds the *CEQR Technical Manual* threshold for a detailed indirect open space analysis. A quantitative assessment was conducted to determine whether the Proposed Actions would significantly reduce the amount of open space available for the area's residential population.

II. PRINCIPAL CONCLUSIONS

According to the *CEQR Technical Manual*, a proposed action may result in a significant adverse impact on open space resources if (a) there would be direct displacement/alteration of existing open space within the study area that has a significant adverse effect on existing users; or (b) it would reduce the open space ratio and consequently overburden existing facilities or further exacerbate deficiency in open space. The *CEQR Technical Manual* also states that "if the area exhibits a low open space ratio indicating a shortfall of open space, even a small decrease in the ratio as a result of the action may cause an adverse effect." A five percent or greater decrease in the open space ratio is considered to be "substantial", and a decrease of less than one percent is generally considered to be insignificant unless open space resources are extremely limited. The open space study area analyzed in this attachment is located in an area that is considered underserved by open space as defined in the *CEQR Technical Manual Appendix: Open Space Maps*.

In New York City, local open space ratios vary widely, and the median ratio at the Citywide Community District level is 1.5 acres of open space per 1,000 residents. Typically, for the assessment of indirect effects, citywide local norms have been calculated for comparison and analysis. As a planning goal, a ratio of 2.5 acres per 1,000 residents represents an area well-served by open spaces, and is consequently used as an optimal benchmark for residential populations in large-scale plans and proposals. Ideally, this would comprise 0.50 acres of passive open space and 2.0 acres of active open space per 1,000 residents.

[1] Based on the average household size of 3.05 for Brooklyn Community District (CD) 4 (2010 U.S. Census).

According to the *CEQR Technical Manual*, a preliminary open space assessment may be useful when the open space assessment can be targeted to a particular user group, or if it is not clear whether a full, detailed open space analysis is necessary. If the preliminary open space assessment concludes that the open space ratio would increase or remain substantially the same in the With-Action condition compared to the existing condition, no further analysis of open space is needed (unless direct, qualitative changes to an existing open space resource may occur because of the proposed project). Decreases in the open space ratio would generally warrant a more detailed analysis under the following conditions:

- If the decrease in the open space ratio approaches or exceeds five percent, it is generally considered to be a substantial change warranting more detailed analysis.
  - The closer the ratio is to 2.5 acres per 1,000 residents, or when the existing open space ratio in the study area exceeds this benchmark, a greater percentage of change (more than five percent) may be tolerated.
- If the study area exhibits a low open space ratio (e.g., below the citywide average of 1.5 acres per 1,000 residents), indicating a shortfall.

As discussed in detail below, the preliminary open space assessment shows that the Proposed Actions and associated RWCDS would decrease the open space ratio by 0.9 percent in the study area, which would be below the CEQR threshold of five percent for a detailed analysis. In addition, as noted above, the Proposed Actions would not result in any direct displacement or alteration of existing public open space in the study area. Therefore, the Proposed Actions would not result in a significant adverse open space impact.

III. METHODOLOGY

The analysis of open space resources has been conducted in accordance with the guidelines established in the *CEQR Technical Manual*. Using CEQR methodology, the adequacy of open space in the study area is assessed quantitatively using a ratio of usable open space acreage to the study area population, referred to as the open space ratio. This quantitative measure is then used to assess the changes in the adequacy of open space resources in the future, both without and with the Proposed Actions. In addition, qualitative factors are considered in making an assessment of the Proposed Actions' effects on open space resources.

In accordance with the guidelines established in the *CEQR Technical Manual,* the open space study area is generally defined by a reasonable walking distance that users would travel to reach local open space and recreational resources. That distance is typically a half-mile radius for residential projects and a quarter-mile radius for commercial projects with a worker population. Because the Proposed Actions would not increase the local worker population, a half-mile radius is the appropriate study area boundary.

Open Space Study Area

Pursuant to *CEQR Technical Manual* guidelines, the residential open space study area includes all census tracts that have at least 50 percent of their area located within a half mile of the proposed rezoning area and all open space resources within it that are publicly accessible.

The proposed rezoning area encompasses the northern portion of Brooklyn Block 3237, Lots 23, 27, 31, 33, and 41 in the Bushwick neighborhood of Brooklyn Community District (CD) 4. The proposed

development site comprises lots 23, 47, and 48 on block 3237. As shown in **Figure E-1**, the ½-mile open space study area includes the following census tracts in their entirety: census tracts 423, 427, 429, 431, 433, 441, 443, 445, 447, 453, 539, and 545. The open space study area extends to Metropolitan and Onderdonk Avenues to the north; to Menahan, Linden, and Palmetto Streets to the east; to Wilson and Evergreen Avenues to the south; and to Bogart Street and Johnson Avenue to the west.

Analysis Framework

Direct Effects Analysis

According to the *CEQR Technical Manual*, a proposed action would have a direct effect on an open space if it causes the physical loss of public open space because of encroachment onto the space or displacement of the space; changes the use of an open space so that it no longer serves the same user population; limits public access to an open space; or causes increased noise or air pollutant emissions, odors, or shadows that would affect its usefulness, whether on a permanent or temporary basis.

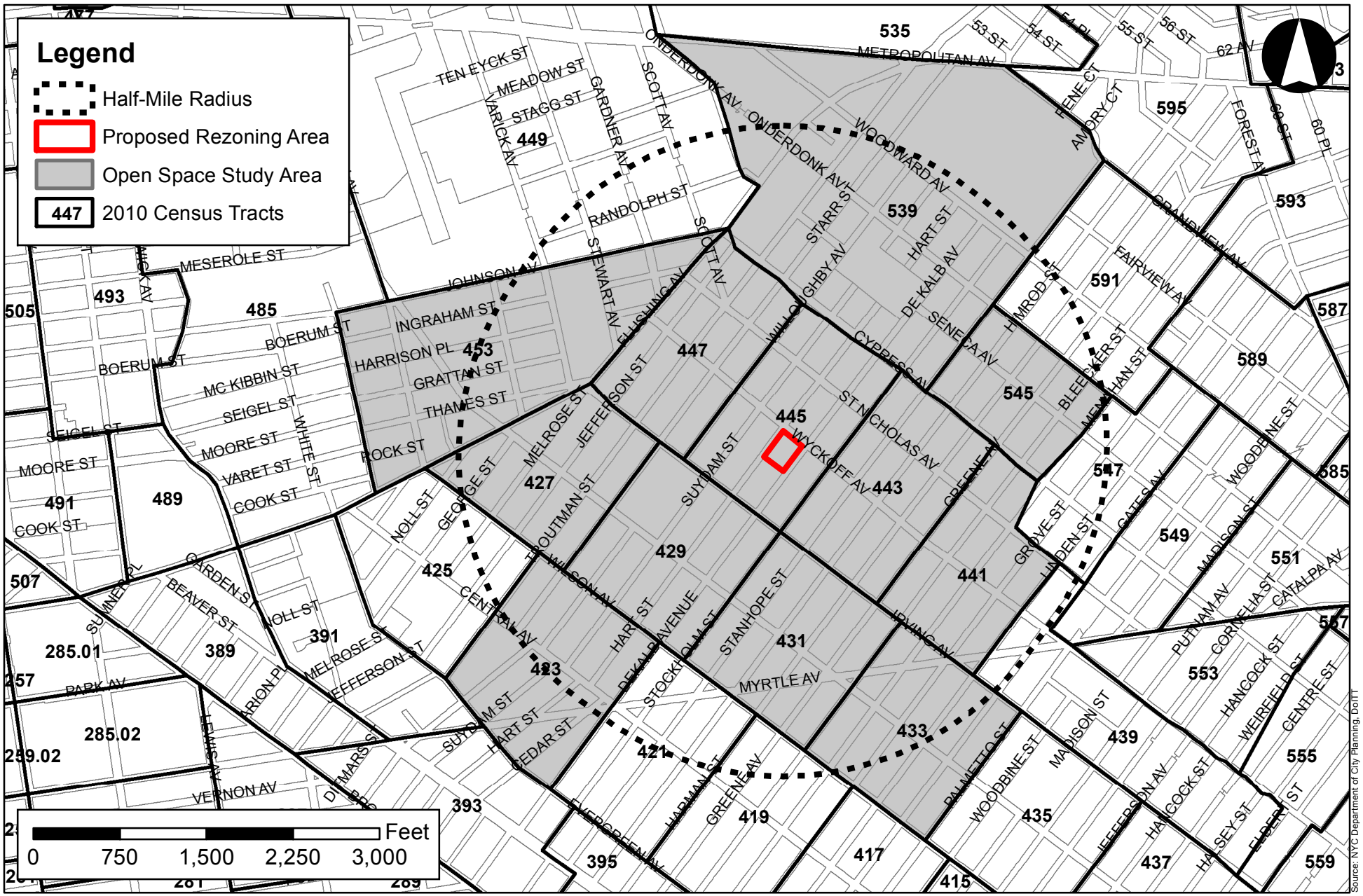
This attachment uses information from other attachments of this EAS to determine whether the Proposed Actions would directly affect any open spaces near the proposed project. The direct effects analysis is included in the "The Future with the Proposed Actions (With-Action Condition)" section of this attachment.

Indirect Effects Analysis

Indirect effects occur to an area's open spaces when a proposed action would add enough population, either workers or residents, to noticeably diminish the ability of an area's open space to serve the existing or future population. The *CEQR Technical Manual* methodology suggests conducting an initial quantitative assessment to determine whether more detailed analyses are appropriate, but also recognizes that for projects that introduce a large population in an area that is underserved by open space, it may be clear that a full detailed analysis should be conducted. The development site is located within an underserved area as identified in the *CEQR Technical Manual*.

With an inventory of available open space resources and potential users, the adequacy of open space in the study area can be assessed both quantitatively and qualitatively. The quantitative approach computes the ratio of open space acreage to the population in the study area and compares this ratio with certain guidelines. The qualitative assessment examines other factors that can affect conclusions about adequacy, including proximity to additional open space resources beyond the study area, the availability of private recreational facilities, and the demographic characteristics of the area's population. Specifically, the analysis in this chapter includes:

- Characteristics of the existing and future (2022) residential users. To determine the number of residents in the study area, 2010 Census data have been compiled for census tracts comprising the open space study area. The 2022 No-Action residential population was calculated in consideration of anticipated background growth and planned and anticipated study area residential developments. The residential population introduced by the proposed project's DUs was estimated based on the average household size of Community District 4 (3.05) per 2010 Census data.
- An inventory of all publicly accessible passive and active recreational facilities in the open space study area.



1601 DeKalb Avenue Rezoning EAS

Figure E-1
Open Space Study Area

- An assessment of the quantitative ratio of open space in the study area by computing the ratio of open space acreage to the population in the study area and comparing this open space ratio with certain guidelines.
    - As a planning goal, a ratio of 2.5 acres per 1,000 residents represents an area well-served by open spaces and is consequently used by the City as an optimal benchmark for residential populations in large-scale plans and proposals. Ideally, this would be comprised of a balance of 80 percent active open space (2.0 acres per 1,000 residents) and 20 percent passive open space (0.5 acres per 1,000 residents).
    - Local open space ratios vary widely, and the median ratio at the citywide community district level is 1.5 acres of open space per 1,000 residents.
- An evaluation of qualitative factors affecting open space use.
- A final determination of the adequacy of open space in the residential open space study area.

Impact Assessment

As described in the *CEQR Technical Manual,* the significance of a project's effects on an area's open space resources is determined using both quantitative and qualitative factors, as compared to the No-Action condition. The determination of significance is based upon the context of a proposed project, including its location, the quality and quantity of the open space in the future With-Action condition, the types of open space provided, and any new open space provided by the proposed project.

The quantitative assessment considers how a proposed project would change the open space ratios in the study area. The *CEQR Technical Manual* indicates that a significant adverse impact may result if a proposed project would reduce the open space ratio by more than five percent in areas that are currently below the City's median community district open space ratio of 1.5 acres per 1,000 residents, or where there would be a direct displacement or alteration of existing open space within the study area that has a significant adverse effect on existing users. In areas that are extremely lacking in open space, a reduction as small as one percent may be considered significant, depending on the area of the City. Furthermore, in areas that are well-served by open space, a greater change in the open space ratio may be tolerated.

The qualitative assessment supplements the quantitative assessment and considers nearby destination open space resources, the connectivity of open space, the effects of new open space provided by the proposed project, a comparison of projected open space ratios with established City guidelines, and open spaces created by the proposed project not available to the general public. It is recognized that the City's planning goals are not feasible for many areas of the City, and they are not considered impact thresholds on their own. Rather, these are benchmarks indicating how well an area is served by open space.

IV. PRELIMINARY ASSESSMENT

According to the *CEQR Technical Manual*, an initial quantitative open space assessment may be useful to determine if a detailed open space analysis is necessary, or whether the open space assessment can be targeted to a particular user group. This initial assessment calculates an open space ratio by relating the existing residential population to the total amount of open space in the study area. It then compares that ratio with the open space ratio in the future with the Proposed Actions. If there is a decrease in the open space ratio that would approach or exceed five percent, or if the study area exhibits a low open space

ratio from the onset (indicating a shortfall of open spaces), a detailed analysis is warranted. The detailed analysis examines passive and active open space resources available to residents within study area delineated in accordance with the *CEQR Technical Manual*.

Pursuant to the guidelines of the *CEQR Technical Manual*, a preliminary open space assessment was conducted. As the study area is located in an underserved area, exhibiting a low open space ratio (i.e., below the citywide community district median of 1.5 acres per 1,000 residents and the City's optimal planning goal of 2.5 acres per 1,000 residents) under existing and future conditions, a detailed open space analysis is warranted and is provided below.

V. DETAILED ANALYSIS

Existing Conditions

Demographic Characteristics of the Study Area

To determine the residential population served by existing open space resources, 2010 Census data were compiled for the census tracts comprising the ½-mile study area. With an inventory of available open space resources and the number of potential users, open space ratios were calculated and compared with the existing citywide median ratio and the City's planning goals. As mentioned above and shown in **Figure E-1**, the open space study area is comprised of 12 census tracts. As shown in **Table E-1** below, 2010 Census data indicate that the study area has a total residential population of approximately 51,940.

Table E-1:
Residential Population and Age Distribution in the ½-Mile Study Area

Census Tract	Total Population	Under 5 Years		5 to 9 Years		10 to 14 Years		15 to 19 Years		20 to 64 Years		65+ Years		Median Age
		#	%	#	%	#	%	#	%	#	%	#	%	
423	4,217	332	7.9	292	6.9	268	6.4	307	7.3	2,649	62.8	369	8.8	29.1
427	5,074	371	7.3	347	6.8	313	6.2	347	6.8	3,503	69.0	193	3.8	27.6
429	5,630	465	8.3	351	6.2	372	6.6	424	7.5	3,738	66.4	280	5.0	28.8
431	5,113	417	8.2	375	7.3	333	6.5	347	6.8	3,403	66.6	238	4.7	28.3
433	4,064	324	8.0	317	7.8	292	7.2	349	8.6	2,425	59.7	357	8.8	30.6
441	5,643	378	6.7	379	6.7	329	5.8	407	7.2	3,683	65.3	467	8.3	30.8
443	5,557	452	8.1	419	7.5	325	5.8	355	6.4	3,678	66.2	328	5.9	30
445	4,446	294	6.6	255	5.7	260	5.8	288	6.5	3,054	68.7	295	6.6	31
447	2,310	185	8.0	165	7.1	141	6.1	148	6.4	1,568	67.9	103	4.5	28.3
453	2,017	77	3.8	80	4.0	81	4.0	91	4.5	1,614	80.0	74	3.7	30.6
539	4,147	284	6.8	269	6.5	254	6.1	266	6.4	2,680	64.6	394	9.5	33.6
545	3,722	285	7.7	317	8.5	275	7.4	266	7.1	2,365	63.5	214	5.7	30
Total	***51,940***	***3,864***	***7.4***	***3,566***	***6.9***	***3,243***	***6.2***	***3,595***	***6.9***	***26,133***	***50.3***	***3,312***	***6.38***	***22.6***

Source: 2010 Census, SF1 100%

Within a given area, the age distribution of a population affects the way open space resources are used and the need for various types of recreational facilities. Typically, children four years old or younger use traditional playgrounds that have play equipment for toddlers and preschool-aged children. Children ages five through nine typically use traditional playgrounds, as well as grassy and hard-surfaced open spaces, which are important for activities such as ball playing, running, and skipping rope. Children ages ten through 14 use playground equipment, court spaces, and little league fields, and ball fields. Teenagers'

and young adults' needs tend toward court game facilities such as basketball and field sports. Adults between the ages of 20 and 64 continue to use court game facilities and fields for sports, as well as more individualized forms of recreation such as rollerblading, biking, and jogging, requiring bike paths, promenades, and vehicle-free roadways. Adults also gather with families for picnicking, ad hoc active sports such as Frisbee, and recreational activities in which all ages can participate. Senior citizens engage in active recreation such as tennis, gardening, and swimming, as well as recreational activities that require passive facilities.

Therefore the residential population of the study area was also broken down by age group. As shown in **Table E-1**, people between the ages of 20 and 64 make up the majority (approximately 50.3 percent) of the residential population. Children and teenagers (0 to 19 years old) account for approximately 27.5 percent of the entire residential population, and persons 65 years and over account for approximately 6.38 percent of the residential study area population. Compared to Brooklyn and New York City as a whole, the study area residential population includes a larger percentage of children/teenagers and a smaller adult (20-64 years) population; the study area's elderly population is smaller than that of Brooklyn and New York City as a whole.

The median age for the residential population within the individual census tracts of the ½-mile study area ranges from a low of 27.6 years (census tract 427) to a high of 33.6 years (census tract 539). The open space study area's median age of 22.6 is younger than the median age for Brooklyn (34.1 years) and younger than the median age for New York City as a whole (35.5 years).

These data suggest a need for facilities geared towards the recreational needs of children and teenagers, as the study area exhibits a high percentage of residents in the 0 to 19 age bracket.

Inventory of Publicly Accessible Open Space

According to the *CEQR Technical Manual*, open space may be public or private and may be used for active or passive recreational purposes. Pursuant to the *CEQR Technical Manual*, public open space is defined as facilities open to the public at designated hours on a regular basis and is assessed for impacts under CEQR guidelines, whereas private open space is not accessible to the general public on a regular basis, and is therefore only considered qualitatively. Field surveys and secondary sources were used to determine the number, availability, and condition of publicly accessible open space resources within the study area.

An open space resource is determined to be active or passive by the uses that the design of the space allows. Active open space is the part of a facility used for active play, such as sports or exercise, and may include playground equipment, playing fields and courts, swimming pools, skating rinks, golf courses, and multi-purpose play areas (open lawns and paved areas for active recreation such as running, games, informal ball-playing, skipping rope, etc.). Passive open space is used for sitting, strolling, and relaxation, and typically contains benches, walkways, and picnicking areas.

Within the defined study area, all publicly accessible open space resources were inventoried and identified by their location, size, owner, type, utilization, equipment, hours, and condition. The information used for this analysis was gathered through field inventories conducted in May 2017, as well as information provided on the New York City Department of Park and Recreation's (DPR's) website, the New York City Open Accessible Space Information System (OASIS) database, and other secondary sources of information.

Table E-2:
Inventory of Existing Open Space and Recreational Resources in the Study Area[1]

Map No.[1]	Name	Location	Owner/ Agency	Amenities	User Groups	Hours of Access	Total Acres	Passive Acres	Passive %	Active Acres	Active %	Condition/ Utilization
Open Space Resources Included in Quantitative Analysis												
1	Maria Hernandez Park	64 Irving Ave.	DPR	Basketball courts, handball courts, fitness equipment, playgrounds, spray showers, walking paths, benches	Children, Adults, Senior Citizens	Dawn to 7PM	6.87	2.75	40	4.12	60	Good condition/ High utilization
2	Fermi Playground	Central Ave., Troutman & Starr Sts.	DPR/DOE	Basketball courts, handball courts, playgrounds, spray showers	Children, Teenagers	Dawn to dusk	1.06	0.00	0	1.06	100	Good condition/ Moderate utilization
3	P.S. 376 Playground	194 Harman St.	DPR/DOE	Asphalt play area with basketball hoop & running track, benches	Children, Teenagers	After school hours until dusk, weekends & holidays	0.27	0.00	0	0.27	100	Excellent condition/ Moderate utilization
4	I.S 383 Playground	1300 Green Ave.	DPR/DOE	Basketball courts, handball courts, running track, benches	Children, Teenagers	After school hours until dusk, weekends & holidays	0.65	0.00	0	0.65	100	Good condition/ Moderate utilization
5	Heisser Triangle	Knickerbocker & Myrtle Aves., Bleecker St.	DPR	Bushwick-Ridgewood War Memorial, plantings	Adults, Senior Citizens	24 hours	0.03	0.03	100	0.00	0	Good condition/ Low utilization
6	Hope Ballfield	Knickerbocker Ave. btwn. Grove & Menahan Sts.	DPR	Baseball field, fitness equipment, spray showers	Children, Teenagers, Adults	Dawn to 9PM	1.36	0.00	0	1.36	100	Good condition/ Moderate utilization

7	I.S. 291 Playground	Knickerbocker & Gates Aves., Palmetto St.	DPR/DOE	Basketball courts, soccer field, benches, plantings	Children, Teenagers	After school hours until dusk, weekends & holidays	0.70	0.07	10	0.63	90	Excellent condition/ High utilization
8	RiseBoro Youth Center	1474 Gates Avenue	HPD	After-school program	Children, Teenagers	M-F 3:00pm-6:00pm	1.02	1.02	100	0.00	0	Excellent condition/ High utilization
9	Starr Playground	Onderdonk Ave. btwn. Starr St. & Willoughby Ave.	DPR	Handball courts, playgrounds, spray showers, benches	Children, Teenagers, Adults	Dawn to 9PM	0.90	0.04	5	0.86	95	Good condition/ Low utilization
10	Grover Cleveland Playground	Stanhope St. btwn. Fairview & Grandview Aves.	DPR	Basketball and handball courts, fitness equipment, playgrounds, spray showers, walking paths, benches, plantings	Children, Teenagers, Adults, Senior Citizens	Dawn to 9PM	5.10	1.27	25	3.83	75	Excellent condition/ High utilization
11	Linden Hill United Methodist Cemetery	Stanhope St., Woodward Ave., Starr St., & Grandview Ave.	Linden Hill United Methodist Church	Gardens, walking paths, benches	Children, Teenagers, Adults, Senior Citizens	Daily, 8AM to 4:30PM	31.50	31.50	100	0.00	0	Excellent condition/ Low utilization
Total Included in Quantitative Analysis							*49.46*	*36.68*	*74*	*12.78*	*26*	

Table E-2:
Inventory of Existing Open Space and Recreational Resources in the Study Area[2]

Map No.[3]	Name	Location	Owner/ Agency	Features	Total Acres	Passive Acres	Passive %	Active Acres	Active %
Open Space Resources not included in Quantitative Analysis									
A	La Finca Community Garden	1036 Flushing Ave.	BQLT	Shelter, raised plant beds, trees	0.05	0.05	100	0.00	0
B	Know Waste Lands (1278 Myrtle Compost Site Wildlife Garden)	1278 Myrtle Ave.	DPR	Compost bins, raised plant beds, trees	0.07	0.07	100	0.00	0
C	Grove Farm	1480 Myrtle Ave.	Children's Grove Parking	Shelter, raised plant beds, trees	0.06	0.06	100	0.00	0
Total Excluded from Quantitative Analysis					*0.18*	*0.18*	*100*	*0.00*	*0*

Source: NYC OASIS, DPR, May 2017 field visits.
Notes:
[1] Refer to **Figure E-2**.
[2] Not included in quantitative analysis.
[3] Refer to **Figure E-2**.
DPR = New York City Department of Parks and Recreation; NYCHA = New York City Housing Authority; DOE = New York City Department of Education; HPD = New York City Department of Housing Preservation and Development

The condition of each open space resource was categorized as "Excellent," "Good," "Fair," or "Poor." A resource was considered in excellent condition if the space was clean and attractive and if all equipment was present and in good repair. A good resource had minor problems such as litter or older but operative equipment. A fair or poor resource was one that was poorly maintained, had broken or missing equipment or lack of security, or other factors that would diminish the facility's attractiveness. Determinations were made subjectively, based on a visual assessment of the open space resources.

Likewise, judgments as to the intensity of use of the resources were qualitative, based on an observed degree of activity or utilization on a weekday afternoon, which is considered the weekday peak utilization period according to the *CEQR Technical Manual*. If a facility seemed to be at or near capacity (i.e. the majority of benches or equipment was in use), then utilization was considered heavy. If the facility or equipment was in use but could accommodate additional users, utilization was considered moderate. If a playground or sitting area had few people, usage was considered light. **Table E-2**, "Inventory of Existing Open Space and Recreational Resources in Study Area," identifies the address, ownership, features, and acreage of active and passive open space resources in the study area, as well as their condition and utilization. **Figure E-2** maps their location within the study area.

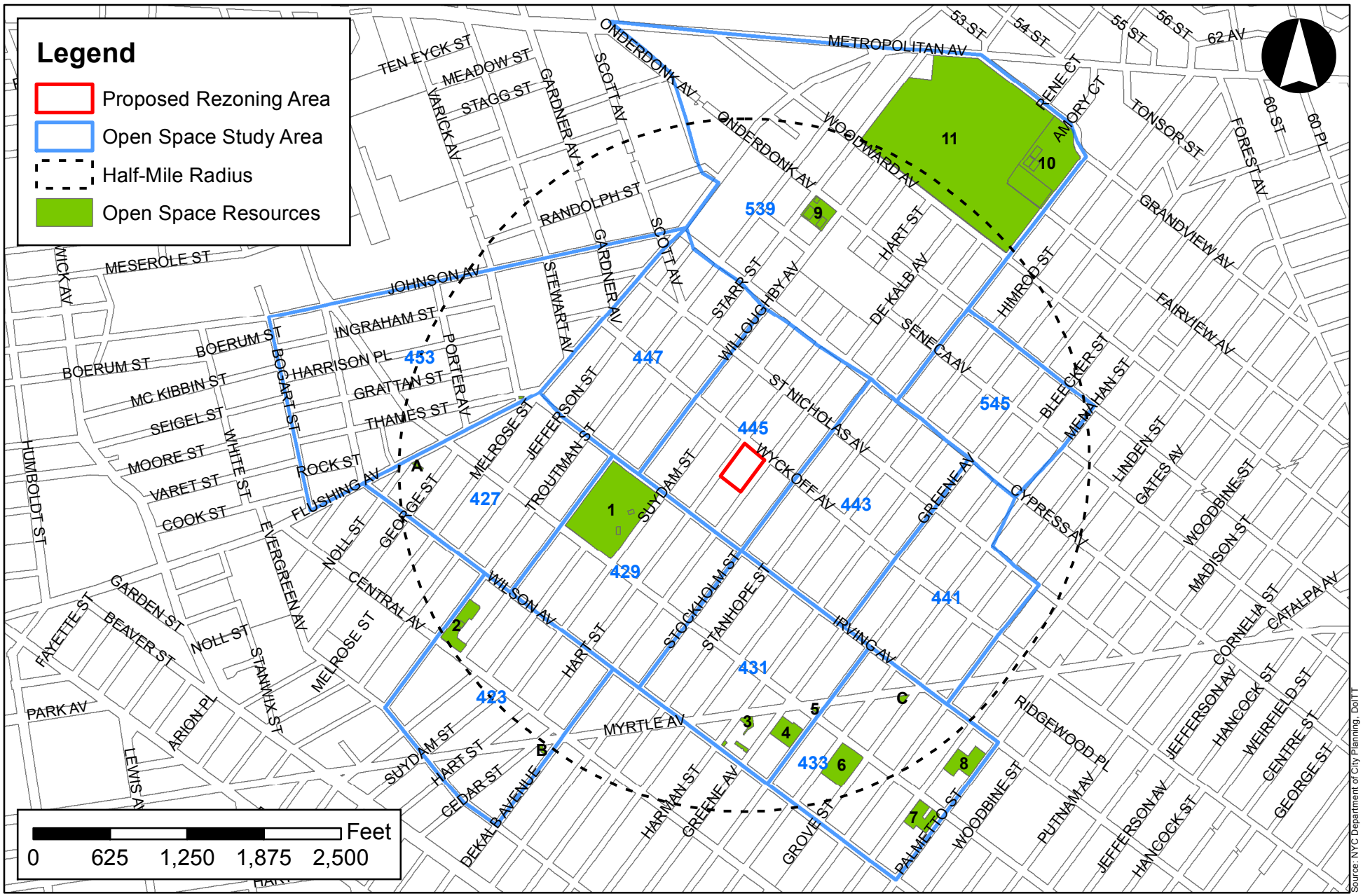
Open Space Resources

As shown in **Figure E-2** and **Table E-2**, there are 12 publicly accessible open space resources located in the residential open space study area. In addition, there are three resources located within the study area that are not included in the quantitative analysis due to limited hours of operation and/or accessibility or due to the fact that they do not include seating or other amenities.

The study area contains a total of approximately 49.46 acres of publicly accessible open space, approximately 26 percent of which (12.78 acres) comprises active open space and approximately 74 percent of which (36.68 acres) comprises passive open space (refer to **Table E-2**). The largest open space in the study area is the 31.5-acre Linden Hill United Methodist Cemetery (Map No. 12), located on the northern border of the study area and bordered by Grandview, Metropolitan, and Woodward Avenues, as well as Stanhope and Starr Streets. This open space resource is privately operated by Linden Hill United Methodist Church and features walking paths, benches, and landscaped areas for passive recreation. The cemetery is open daily to the public from 8:30 AM to 4:00 PM.

Other significant open space resources located in the study area include the 6.87-acre Maria Hernandez Park (Map No. 1), which is located several blocks south of the proposed rezoning area, and the 5.1-acre Grover Cleveland Playground (Map No. 11), which is located in the northern portion of the study area, on the same block as Linden Hill United Methodist Cemetery. Maria Hernandez Park, which is operated by the New York City Department of Parks and Recreation (DPR), includes basketball courts and handball courts, fitness equipment, playgrounds, spray showers, benches, and raised plant beds. The DPR-operated Grover Cleveland Playground also features a variety of active open space amenities, including basketball and handball courts, playgrounds, spray showers, and a soccer field, as well as benches and landscaped areas for passive recreation. Additionally, Hope Ballfield (Map No. 6) is a 1.36-acre open space resource located to the east of the proposed rezoning area on Knickerbocker Avenue between Grove and Menahan Streets. The ballfield is operated by DPR and features a baseball field, fitness equipment, spray showers, benches, and landscaped areas.

The remaining study area open spaces are all under two acres in size. Several open spaces in the study area are adjacent to public schools and are jointly operated by the DPR and DOE, including Fermi



1601 DeKalb Avenue Rezoning EAS

Figure E-2
Open Space Resources

Playground (Map No. 2), P.S. 376 and I.S. 383 playgrounds (Map No. 3 and 4), as well as the playground at I.S 291 (Map No. 7). Additionally, the 1.02-acre RiseBoro Youth Center (formerly Ridgewood Bushwick Senior Citizens Council) is located within the study area, and offers after-school programs to the surrounding neighborhood. This community center is owned by the New York City Department of Housing Preservation and Development (HPD), but operated by RiseBoro Community Partnership, Inc. With the exception of the RiseBoro Youth Center and Linden Hill United Methodist Cemetery (Map Nos. 8 and 12), all of the study area open space resources are comprised of predominantly active open space amenities.

As noted above, there are three additional open space resources that are conservatively not included in the quantitative analysis because they are not fully accessible to the public, have limited hours, or do not include seating or other amenities. These three resources are community gardens located in the southern portion of the study area, below Irving Avenue. Together, these three resources comprise approximately 0.18 acres of passive open space.

Assessment of Open Space Adequacy

Quantitative Assessment

The following analysis of the adequacy of existing open space resources within the study area takes into consideration the ratios of active, passive, and total open space resources per 1,000 residents. As an optimal planning goal, the City attempts to achieve an overall residential open space ratio of 2.5 acres per 1,000 residents (80 percent [2 acres] active and 20 percent [0.5 acres] passive) for large-scale plans and proposals. Although a typical population mix may call for such a goal, it is often not feasible for many areas of the City (especially higher density areas). Therefore, the City does not consider these ratios as open space policy for every neighborhood. Rather, the ratios serve as benchmarks that represent how well an area is served by open space.

In calculating the open space ratio per 1,000 residents for the study area, all of the resources listed in the "Open Space Resources Included in the Quantitative Analysis" section of **Table E-2** were included; Resources A, B, and C were not included in the calculations pursuant to the *CEQR Technical Manual*, for the reasons described above. **Table E-3** shows that, with an existing study area residential population of approximately 51,940 people, the existing total open space ratio in the study area is approximately 0.95 acres of open space per 1,000 residents; the study area has 0.71 acres of passive open space per 1,000 residents and 0.25 acres of active open space per 1,000 residents. As indicated in **Table E-3**, the existing total, active, and passive residential open space ratios are below both the City's open space planning goals of 2.5 acres per 1,000 residents and the City's median community district open space ratio of 1.5 acres per 1,000 residents.

Table E-3:
Adequacy of Open Space Resources in the Study Area – Existing Conditions

Existing Population	Open Space Acreage			Open Space per 1,000 Residents			City Open Space Planning Goals		
	Total	Passive	Active	Total	Passive	Active	Total	Passive	Active
51,940	49.46	36.68	12.78	0.95	0.71	0.25	2.50	0.50	2.0

Qualitative Assessment

As shown in Table E-2, the study area open spaces are mostly in good or excellent condition, and use levels are moderate at the majority of these facilities. While the study area includes a number of parks with active recreational facilities such as ball fields and playgrounds, given that the age distribution in the study area includes a high number of children and teens, it is desirable to have a higher proportion of active open space. Although the study area currently has a shortage of active and passive open space, it should be noted that there are also several large and destination open space resources nearby that provide additional active open space resources, such as Green Central Knoll.,.

Green Central Knoll is located along Evergreen Avenue, Central Avenue, and Noll Street, approximately 0.6 miles from the rezoning area. The 2.74-acre park provides a number of active uses, including a baseball field, a playground, and spray showers. The park also includes a sitting area with plantings, benches, a bear sculpture, a drinking fountain, and a decorative gate. The playground design reflects a nautical theme with a Parks flag perched on a yardarm and mast located at the highest point. Water runs from this area through a rocky stream bed. The stream has brass casts of fish, such as perch, trout and bass. The stream meanders downward to the park's lower end where the water pours into a catch basin adjacent to an area adorned with spray showers.

The on-street bicycle facilities in the study area also qualitatively enhance open space conditions for the local population. These currently include on-street striped bicycle lanes, known as "Class 2" facilities, on Irving Avenue (eastbound) and Knickerbocker Avenue (westbound). These lanes, which connect with the larger City-wide bicycle network, directly benefit the community by providing an active recreation facility as well as dedicated cycling space, which encourages ridership and increases safety for parks outside the study area such as McCarren Park and Highland Park. It should also be noted that there are potential future bicycle lanes proposed for Himrod Street (northbound) and Harman Street (southbound).

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

In the future without the Proposed Actions (the No-Action scenario), the proposed rezoning area's M1-1 zoning would remain in place, and the maximum allowable FAR would remain at 1.0 (or up to 2.4 for allowed community facility uses). Residential uses are not permitted in M1-1 districts. Under the No-Action scenario, none of the lots within the proposed rezoning area are anticipated to be redeveloped. Lot 23, which is owned by the Applicant, would not be redeveloped, as residential uses would not be allowed by existing zoning, and given the low FAR and limited uses permitted in the current M1-1 district. Lots 33 and 38 are currently developed at 89 percent and 100 percent, respectively, of the allowable 1.0 FAR under No-Action condition and are therefore unlikely to be redeveloped. Lots 27 and 31, currently exceed the allowable FAR, and are therefore unlikely to be redeveloped in the No-Action as the surplus floor area would be lost. Therefore, under RWCDS No-Action conditions, the proposed rezoning area would continue to be occupied by parking, retail, a post office, one converted residential building, and would also include the development of 8,000 sf of office uses.

Study Area Population

While there are no known and anticipated residential developments in the open space study area, the study area residential population is expected to increase due to general background growth. Specifically, based on a compound annual growth rate of 1.5 percent, the 2022 open space study area residential population is expected to increase to 62,180.

Open Space Resources

While there are no planned changes to open space resources that would increase or decrease the overall study area acreage, DPR is currently in the process of reconstructing Hope Ballfield (Map No. 6 in **Figure E-2**), which will improve the condition and usability of this study area open space resource. Conceptual designs for the planned improvement were completed in summer 2017, with construction expected to be completed in fall 2019. Additionally, DPR has proposed to reconstruct Starr Playground (Map No. 10 in **Figure E-2**); however, no funds have been allocated to begin the design phase for this proposed improvement.

Open Space Adequacy

Table E-5, below, presents the No-Action open space ratios for the ½-mile study area, based on the anticipated population increase outlined above. As indicated in Table F-5, in the No-Action condition, as under existing conditions, the total, passive, and active open space ratios would be less than the City's open space planning goals of 2.5 acres of open space per 1,000 residents (including 0.5 acres of passive open space and two acres of active open space), as well as the City's median community district open space ratio of 1.5 acres per 1,000 residents. Specifically, the total open space ratio is expected to decrease to 0.86 acres per 1,000 residents in the No-Action condition, with No-Action passive and active open space ratios of 0.64 and 0.23 acres per 1,000 residents, respectively.

Table E-5:
Adequacy of Open Space Resource in the Study Area – No-Action Conditions

No-Action Population	Open Space Acreage			Open Space per 1,000 Residents			City Open Space Planning Goals		
	Total	Passive	Active	Total	Passive	Active	Total	Passive	Active
62,180	49.46	36.68	12.78	0.80	0.59	0.21	2.50	0.50	2.0

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

This section describes the open space conditions that would result from the Proposed Actions by 2022. It evaluates the potential for the Proposed Actions to result in significant adverse impacts to open space resources directly and indirectly based on a comparison of the No-Action condition (described above) to the With-Action condition.

Rezoning Area Population

As described in Attachment A, "Project Description," in the future with the Proposed Actions, it is estimated 193 DUs would be introduced in the proposed rezoning area which are expected to introduce a net 589 residents. Based on this incremental residential population growth, the study area's population would increase to a total of 62,769 residents in the 2022 With-Action condition.

Direct Effects Analysis

The Proposed Actions would not have a direct effect on any study area open space resources. Construction and operation of the proposed project would not cause the physical loss of public open space because of

encroachment or displacement of the space; would not change the use of an open space so that it no longer serves the same user population; and would not limit public access to an open space. In addition, as discussed in other chapters of this EAS, the Proposed Actions would not significantly affect the usefulness or utilization of any study area open spaces due to increased noise or air pollutant emissions, odors, or shadows.

Indirect Effects Analysis

As noted above, the open space impact analysis consists of both a quantitative assessment and a qualitative assessment. The quantitative assessment considers how a proposed project would change the open space ratios in the study area. As the study area open space ratios are significantly less than both the City's optimal benchmark of 2.5 acres of open space per 1,000 residents and the City's median community district open space ratio of 1.5 acres of open space per 1,000 residents, a reduction in the open space ratio of as small as one percent may be considered significant, depending on the area of the City, and in consideration of qualitative factors, including proximity to nearby destination open space resources, the connectivity of open space, the effects of new open space provided by the project, and open spaces created by the proposed project not available to the general public. It is recognized that the City's planning goals are not feasible for many areas of the City, and they are not considered impact thresholds on their own. Rather, these are benchmarks indicating how well an area is served by open space.

Quantitative Assessment

Table E-6 compares the No-Action and With-Action open space ratios per 1,000 residents. As presented in **Table E-6**, in the With-Action condition, as under existing and No-Action conditions, the open space ratios in the ½-mile study area would be less than the City's open space planning goals of 2.5 acres of open space per 1,000 residents, including 0.5 acres of passive open space and 2.0 acres of active open space. Specifically, in the future with the Proposed Actions, the total open space ratio is expected to decrease by 0.9 percent, to 0.79 acres of open space per 1,000 residents (as compared to the No-Action condition); the With-Action passive and active open space ratios would similarly decrease by 0.9 percent to 0.58 and 0.21 acres per 1,000 residents, respectively.

Table E-6:
Adequacy of Open Space Resource in the Study Area – No-Action vs. With-Action Conditions

		Open Space Acreage			Open Space per 1,000 Residents (acres)			City Open Space Planning Goals		
	Population	Total	Passive	Active	Total	Passive	Active	Total	Passive	Active
No-Action Condition	62,180	49.46	36.68	12.78	0.80	0.59	0.21	2.50	0.50	2.0
With-Action Condition	62,769				0.79	0.58	0.21			
Incremental Change	589				-0.008 (-0.9%)	-0.006 (-0.9%)	-0.002 (-0.9%)			

As the Proposed Actions would result in a decrease in the open space ratios in an area underserved by open space, a qualitative assessment is needed to determine whether this level of reduction in the open space ratio would be considered a significant adverse indirect open space impact. The qualitative assessment is provided below.

Qualitative Assessment

In the future with the Proposed Actions, the study area would continue to have a shortfall of open space. However, although the existing open space ratios in the study area would remain less than the DCP planning goals and the citywide Community District median both without and with the Proposed Actions, the deficiency of open space resources within the study area would be ameliorated by several factors. All of the study area open space resources included in the quantitative analysis were found to be in good or excellent condition. In addition, a wide variety of passive and active options are available, ranging from sitting areas and walking paths to playgrounds, fitness equipment, basketball and handball courts, and ball fields. Moreover, the proposed Applicant development on Projected Development Site 1 would also include approximately 4,537 sf of private passive open space in the courtyard between the two buildings, which would be available for use by building tenants. Additionally, in the future with the Proposed Actions, the proximity of Green Central Knoll, would continue to be a factor in alleviating the study area's open space deficiency. Similarly, on a smaller scale, bicycle lanes and other private open spaces in the study area, such as community gardens listed in Table E-2, would also provide open space for some study area residents.

As such, demand for open space generated by the proposed project would not significantly exacerbate the No-Action deficiency, and the population added as a result of the proposed project is not expected to noticeably affect utilization of the area's open spaces.

I. INTRODUCTION

The *City Environmental Quality Review* (CEQR) *Technical Manual* states that the urban design components and visual resources determine the "look" of a neighborhood—its physical appearance, including the street pattern, the size and shape of buildings, their arrangement on blocks, streetscape features, natural resources, and noteworthy views that may give an area a distinctive character. Pursuant to CEQR methodology, actions that would allow a project to potentially obstruct view corridors, compete with icons in the skyline, or make substantial alterations to the streetscape of a neighborhood by noticeably changing the scale of buildings may warrant a detailed urban design and visual resources analysis. The Proposed Actions include: (i) a zoning map amendment to rezone the northern portion of Brooklyn Block 3237 (the "proposed rezoning area") from R6 and M1-1 districts to R6B, R7A, and R7A/C2-4 districts; and, (ii) a zoning text amendment to ZR Appendix F to designate the R7A and R7A/C2-4 portions of the proposed rezoning area as a Mandatory Inclusionary Housing (MIH) Area. The Proposed Actions would result in a development that would differ from what is permitted as-of-right, and as such, an analysis of urban design and visual resources is appropriate.

The proposed zoning map amendment would replace the northern portion of Brooklyn Block 3237, fronting Wyckoff Avenue between DeKalb Avenue and Hart Street, from M1-1 and R6 zoning districts to R6B and R7A zoning districts. A C2-4 commercial overlay is proposed at a depth of 100 feet from Wyckoff Avenue. As discussed in Attachment A, "Project Description," the Applicant is proposing to redevelop the proposed development site with two nine-story, approximately 118,378 gsf (102,000 zsf) residential buildings. Building A (approximately 68,376 gsf) will front on DeKalb Avenue, and Building B (approximately 56,876 gsf) will front on Hart Street. The proposed buildings would include a total of 122 dwelling units (DUs), and 25 percent of the residential floor area on Lot 23 (equivalent to 27 DUs) would be affordable units pursuant to the MIH Program. The proposed development would also include approximately 46 accessory parking spaces which would be accessible via DeKalb Avenue.

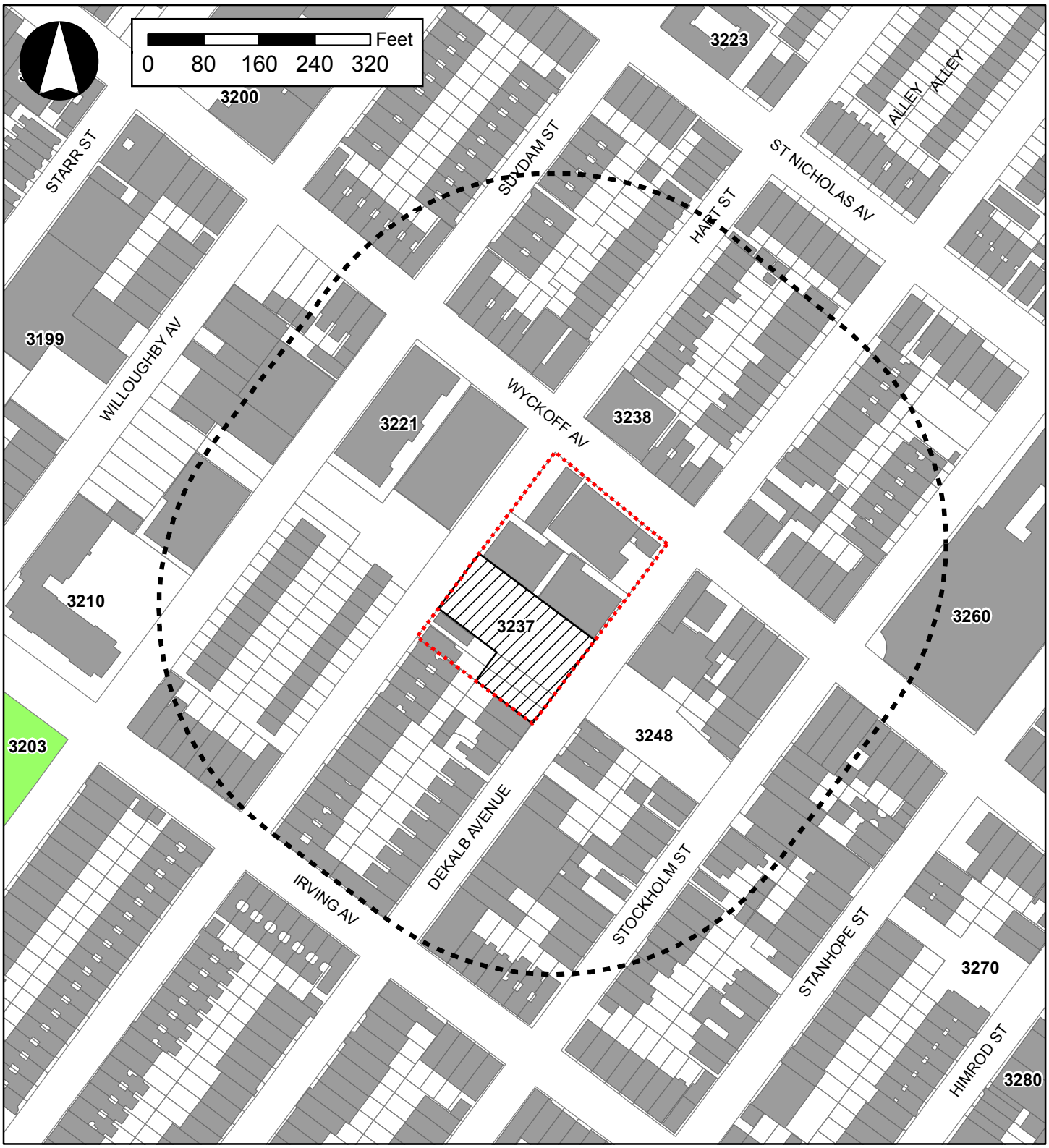
This attachment considers the potential for the Proposed Actions to affect the urban design characteristics and visual resources of the project area and the study area. As described in Attachment A, "Project Description," the proposed rezoning area encompasses the northern portion of Brooklyn Block 3237, including Lots 23, 47, & 48 (the proposed development site), as well as Lots 21, 22, 27, 31, 33, 38, and 41 in the northwest Bushwick neighborhood of Brooklyn Community District (CD) 4 (see **Figures F-1** and **F-2**). The technical analysis presented below follows the guidelines of the *CEQR Technical Manual* and addresses each of the above-listed characteristics for existing conditions, the future without the Proposed Actions and the future with the Proposed Actions (the With-Action condition) for a 2022 Build Year.

II. PRINCIPAL CONCLUSIONS

Urban Design

The proposed zoning map amendment would replace the existing R6 and M1-1 zoning districts within the proposed rezoning area with R6B, R7A, and R7A/C2-4 zoning districts. Development facilitated by the Proposed Actions would not result in significant adverse impacts on urban design as defined by the

Figure F-1
Urban Design Study Area

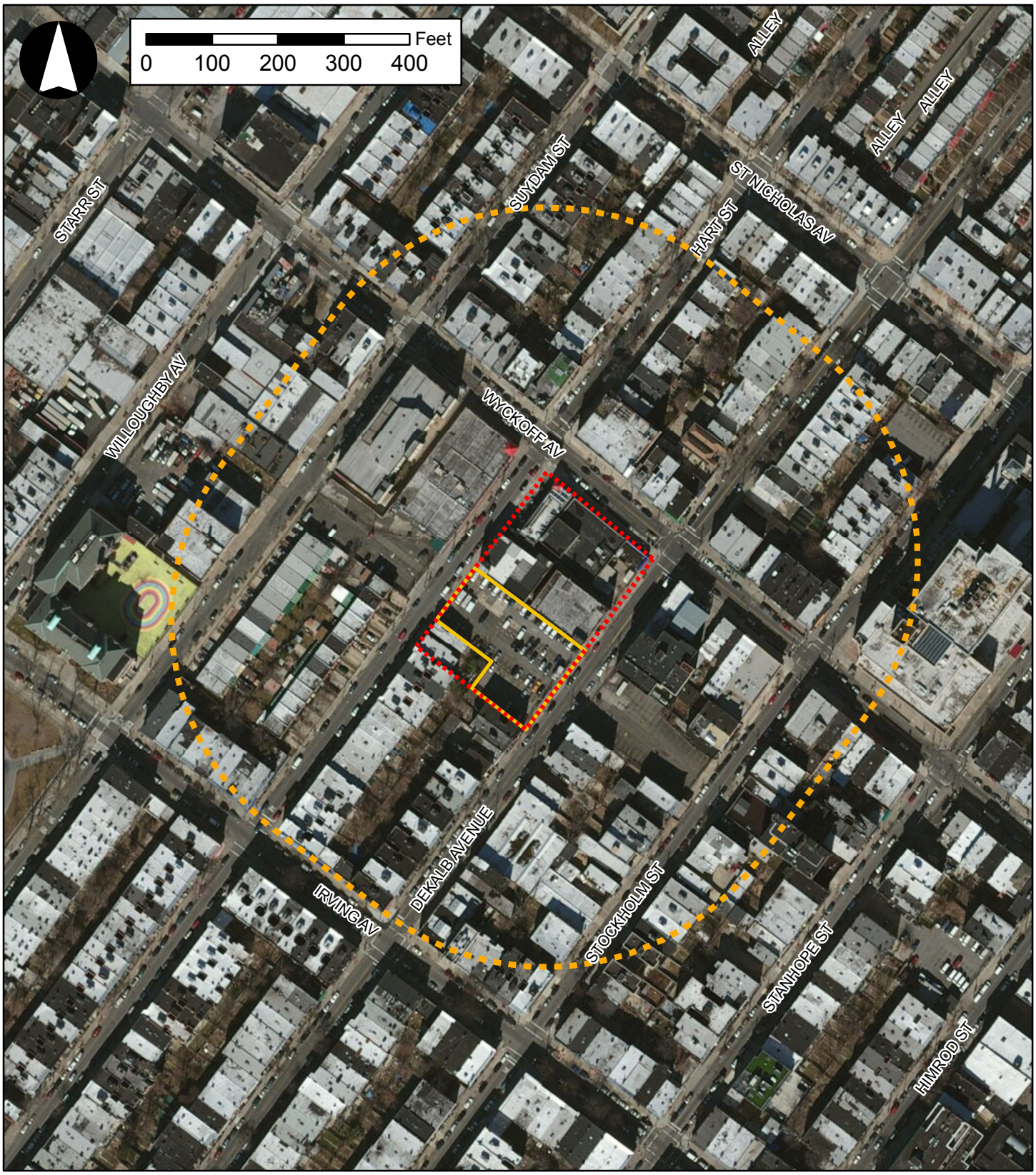


Legend

- 400-Foot Radius
- Proposed Rezoning Area
- Proposed Development Site
- Building Footprints
- Open Space
- 3237 Tax Blocks

Source: NYCDCP (PLUTO 2016v2), DoITT

Figure F-2
Aerial View of Urban Design Study Area



Legend

400-Foot Radius | Proposed Rezoning Area | Proposed Development Site

Source: Basemap provided by ESRI

guidelines for determining impact significance set forth in the 2014 *CEQR Technical Manual*. In the future with the Proposed Actions, the visual appearance within the rezoning area would be enhanced and thus the pedestrian experience of the development site would change; however, this change would not meet the 2014 *CEQR Technical Manual* threshold for a significant adverse urban design impact in that it would not alter the arrangement, appearance, or functionality of the proposed rezoning area such that the alteration would negatively affect a pedestrian's experience of the area.

Visual Resources

There are no visual resources that can be seen from the proposed rezoning area. The proposed development under the With-Action scenario would not obstruct or eliminate any public views or affect any existing view corridors or views to visual resources in the study area. As such, the Proposed Actions would not result in any significant adverse impacts to visual resources.

III. METHODOLOGY

In accordance with the *CEQR Technical Manual,* this analysis considers the effects of the proposed project on the following elements that collectively form an area's urban design:

- *Street Pattern and Streetscape*—the arrangement and orientation of streets define location, flow of activity, and street views and create blocks on which buildings and open spaces are arranged. Other elements including sidewalks, plantings, street lights, curb cuts, and street furniture also contribute to an area's streetscape.
- *Buildings*—building size, shape, pedestrian and vehicular entrances, lot coverage, and orientation to the street are important urban design components that define the appearance of the built environment.
- *Open Space*—open space includes public and private areas that do not include structures, including parks and other landscaped areas, cemeteries, and parking lots.
- *Natural features*—natural features include vegetation and geologic and aquatic features that are natural to the area.
- *View Corridors and Visual Resources*—visual resources include significant natural or built features, including important view corridors, public parks, landmark structures or districts, or otherwise distinct buildings.
- *Wind* – Channelized wind pressure from between tall buildings and downwashed wind pressure from parallel tall buildings may cause winds that may jeopardize pedestrian safety.

In general, an assessment of urban design is needed when a project may have effects on one or more of the elements that contribute to the pedestrian experience, described above. As the Proposed Actions could result in physical changes to the proposed rezoning area beyond the bulk and form currently permitted as-of-right, it has the potential to result in development that could alter the arrangement, appearance, and functionality of the built environment and, therefore, change the experience of a pedestrian in the project area. The following urban design analysis follows the guidelines of the *CEQR Technical Manual.*

Per criteria of Section 230 of the 2014 *CEQR Technical Manual*, a wind condition analysis is not warranted for the Proposed Actions. The proposed rezoning area is not located in a high wind location, such as

directly along the waterfront, nor is it in a location where wind conditions from the waterfront are not attenuated by buildings or natural features.

Study Area

The urban design study area consists of both a primary study area, where the urban design effects of the Proposed Actions are direct, and a secondary study area (refer to **Figure F-1**). For the purpose of this assessment, the primary study area consists of the proposed rezoning area. The secondary study area extends approximately 400-feet from the boundary of the proposed rezoning area and encompasses areas that have the potential to experience indirect impacts as a result of the Proposed Actions. It is generally bounded by Suydam Street to the west, Irving Avenue to the south, St. Nicholas Avenue to the north, and Stockholm Street to the east. Both the primary and secondary study areas have been established in accordance with 2014 *CEQR Technical Manual* guidelines.

The analysis of urban design and visual resources is based on June 2017 field visits, photography, and computer imaging of the proposed development site and the surrounding 400-foot study area.

IV. PRELIMINARY ASSESSMENT

Pursuant to CEQR, a preliminary assessment of urban design is appropriate when there is the potential for a pedestrian to observe from the street level a physical alteration beyond that allowed by existing zoning. CEQR further stipulates a detailed analysis is warranted for projects that would result in substantial alterations to the streetscape of the neighborhood by noticeably changing the scale of buildings. According to the 2014 *CEQR Technical Manual*, detailed analyses are generally appropriate for area-wide rezonings that include an increase in permitted floor area or changes in height and setback requirements. The increased scale, in terms of bulk and height, on the proposed development site would be a notable change from the pedestrian's perspective to the appearance and character of the proposed development site compared to the No-Action conditions. The visual appearance would be enhanced and thus the pedestrian experience of the rezoning area would change; however, this change would not meet the *CEQR Technical Manual* threshold for a significant adverse urban design impact in that it would not alter the arrangement, appearance, or functionality of the proposed rezoning area such that the alteration would negatively affect a pedestrian's experience of the area. As such, the Proposed Actions would not result in a substantial alteration to the streetscape of the neighborhood, and therefore, a preliminary analysis of urban design has been conducted and is provided below.

Existing Conditions

Primary Study Area (Proposed Rezoning Area)

Urban Design

Buildings

The approximately 62,767 sf proposed rezoning area fronts Wyckoff Avenue between Hart Street and DeKalb Avenue. In addition to the Applicant owned Lots 23, 47, and 48, the proposed rezoning area encompasses all of Lots 21, 22 27, 31, 33, 38, and 41 on block 3237.

The Applicant-owned proposed development site at 1601 DeKalb Avenue (Brooklyn Block 3237, Lots 23, 47, and 48) is a mid-block through-lot with approximately 100 feet of frontage along Hart Street to the west and approximately 150 feet of frontage along DeKalb Avenue to the east (refer to **Figures F-4** and **F-5**). Whereas Lots 47 and 48 are located within an existing R6 zoning district, Lot 23, which comprises eighty percent of the proposed development site, is currently located in an M1-1 district. The approximately 25,000 sf proposed development site is currently occupied by a public parking lot with a licensed capacity of 100 spaces.

As shown in **Figures F-4** and **F-5**, Lots 27 and 41 are mid-block lots located immediately to the north of the proposed development site, with Lot 27 fronting on Hart Street (7,500 sf lot area) and Lot 41 fronting on DeKalb Avenue (8,000 sf lot area). Both Lots 27 and 41 are occupied by 3-story brick residential buildings that have been converted to residential use through the Loft Law, with each building containing 21 dwelling units. As described in **Table F-1**, Lot 27 has a built FAR of 2.34, and Lot 41 has a built FAR of 2.36. The New York City Loft Law was enacted in 1982 to allow the legal conversion of certain lofts in the city from commercial or manufacturing use to residential use.

Table F-1:
Existing Uses within the Primary Study Area (Proposed Rezoning Area)

Lot	Total Lot Area SF	Address	Owner	Zoning	Land Use	Building SF	Built FAR
23,47, 48	25,000	946 Hart Street / 1601 DeKalb Avenue	Two Guys From Glendale Inc.	R6; M1-1	Public Parking Lot	0	0
21	2,500	932 Hart Street	Anderson Ramdat	R6	Residential	3,000	1,2
22	2,500	936 Hart Street	Lai Wah Lung	R6	Residential	1,938	0.78
27	7,500	950 Hart Street	RS JZ 950 Hart, LLC	M1-1	Residential	17,550	2.34
31	5,183	958 Hart Street	Crystal Realty Inc.		Retail	7,210	1.39
33	10,908	88 Wyckoff Avenue	USPS		Post Office	8,970	0.82
38	1,176	96 Wyckoff Avenue	William Chan, As Trustee		Retail	1,176	1.0
41	8,000	1615 DeKalb Avenue	Mela Burhan		Residential	18,900	2.36
	62,767						

Lot 21 is an approximately 2,500 sf midblock lot located along Hart Avenue. Lot 21 is occupied by a two-story residential building with wood and vinyl siding that contains 4 DUs. As shown in **Table F-1**, the existing building comprises approximately 3,000 sf (1.2 FAR).

Lot 22 is an approximately 2,500 sf midblock lot located along Hart Avenue. Lot 22 is occupied by a two-story 2-family residential building with wood siding. As shown in **Table F-1**, the existing building comprises 1,938 sf (0.78 FAR).

Lot 31 is an approximately 5,183 sf corner lot located at the southeast corner of Hart Street and Wyckoff Avenue. As shown in **Figure F-5**, lot 31 is occupied by a two-story masonry commercial building, with a laundry and dry cleaning business (Heaven Scent Laundry) located on the first floor and a community center (Brotherhood Boxing Club) located on the second floor. As described in **Table F-1**, the existing building comprises approximately 7,210 sf (1.39 FAR).



1. View of development site looking northwest from DeKalb Avenue.



2. View of development site looking northwest from DeKalb Avenue.



3. View of development site looking southeast from Hart Street.



Figure F-3
Existing Conditions
Photos taken January 2017



4. View of residential building (Tax Lot 41) looking west from DeKalb Avenue.



5. View of commerical building located on Tax Lot 38 looking west from northeast corner of DeKalb and Wyckoff Avenues.



6. View of USPS post office located on Tax Lot 33 looking southwest from Wyckoff Avenue.

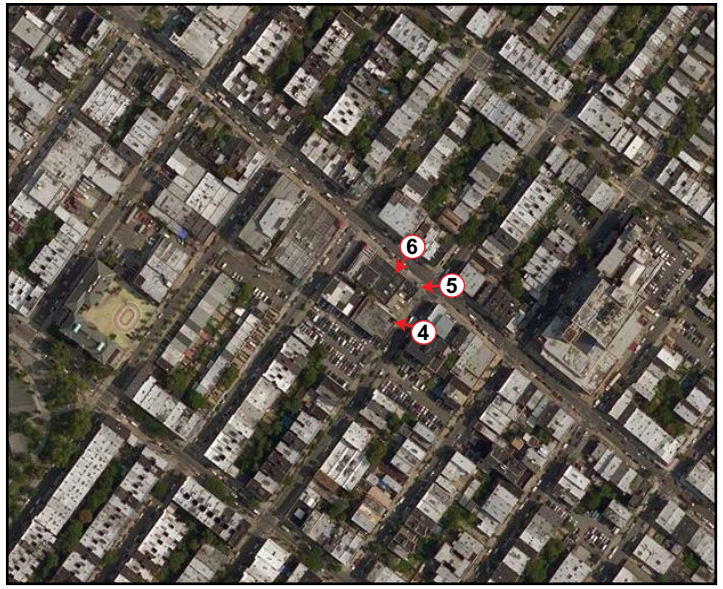


Figure F-4
Existing Conditions
Photos taken January 2017

Lot 33 is an irregularly-shaped approximately 10,908 sf lot, with frontage on both Wyckoff and DeKalb Avenues. As shown in **Figure F-4**, this lot is occupied by the United States Postal Service's (USPS) Wyckoff Station post office, which is a two-story brick building comprising approximately 8,970 sf (0.82 FAR).

Lot 38 is an approximately 1,176 sf corner lot located at the southwest corner of DeKalb and Wyckoff Avenues. As shown in **Figure F-4**, lot 38 is occupied by a one-story brick building that houses a restaurant (Sazón Nunez). As described in **Table F-1**, the existing building comprises approximately 1,176 sf (1.0 FAR).

Street Pattern and Streetscape

A street grid pattern (streets that run at right angles to each other, forming a grid) exists in the immediate vicinity of the proposed rezoning area, and existing pedestrian and vehicular flows are light along Hart Street and moderate along both DeKalb and Wyckoff Avenues. Hart Street, which carries one-way southbound traffic, is classified as a 'narrow' street with 60 feet in width. DeKalb Avenue, which carries two-way traffic, is classified as a 'narrow' street with 60 feet in width. Wyckoff Avenue, which carries two-way traffic, is classified as a 'narrow' street with 70 feet in width. Lots within the proposed rezoning area adjoin the public sidewalks along Hart Street and both DeKalb and Wyckoff Avenues. Streetscape elements are common and varied and include standard street signs, cobra head and ornamental-iron cast lampposts, fire hydrants, a USPS collection box, trash receptacles, street trees, and circular bike racks (see **Figures F-4** and **F-5**). In addition, an MTA bus stop shelter (B38) fabricated from tempered glass is located adjacent to Lot 41 along DeKalb Avenue, and a cast iron subway station entrance/exit (L Train) is located adjacent to Lot 38 at the southwest corner of Wyckoff and DeKalb Avenues.

Natural Features and Open Space

There are no natural features or open space resources located within the proposed rezoning area.

View Corridors and Visual Resources

There are no view corridors within the proposed rezoning area, nor any visual resources that can be seen from the proposed rezoning area.

Secondary Study Area

Urban Design

Buildings

Table C-2 in Attachment C, "Land Use, Zoning, and Public Policy," summarizes the existing generalized land uses within the 400-foot land use study area by tax lots and land area. Overall, as reflected in the table and in **Figures F-6** through **F-8**, the secondary study area contains primarily low and medium density residential buildings, as well as a smaller number of mixed commercial/residential buildings and parking facilities. Residential development is clustered in the northeastern and southwestern portions of the study area (see **Figures F-5** through **F-8**), and contains a mix of two-story, one- and two-family buildings and three- to four-story, multi-family walkup buildings. Most buildings are built to the lot line. Mixed use commercial/residential development is located along Wyckoff Avenue, near the center of the study area, and features residential units located above ground-level retail uses. In addition to the USPS Wyckoff Station post office, other public facility and institutional uses within the study area include the Wyckoff



7. View of residential building (Tax Lot 41) looking west from DeKalb Avenue.



8. View of commerical building located on Tax Lot 38 looking west from northeast corner of DeKalb and Wyckoff Avenues.



9. View of residential building located on Tax Lot 27 looking southeast from Hart Street.

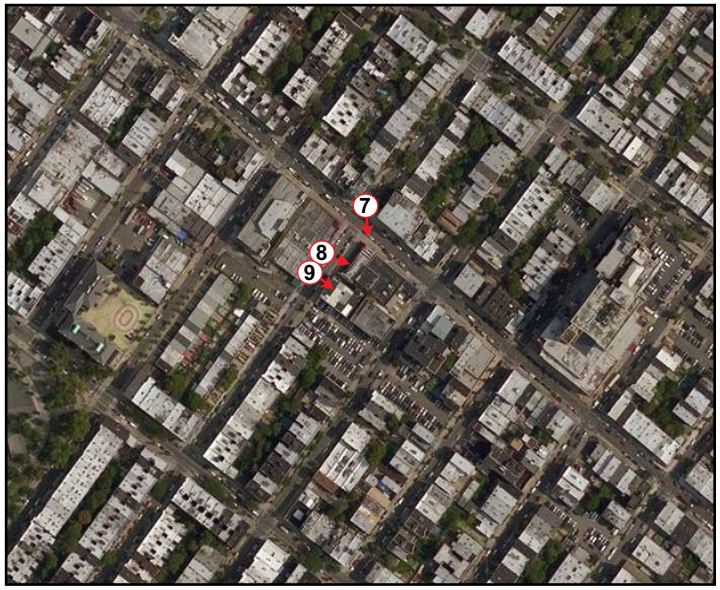


Figure F-5
Existing Conditions
Photos taken January 2017



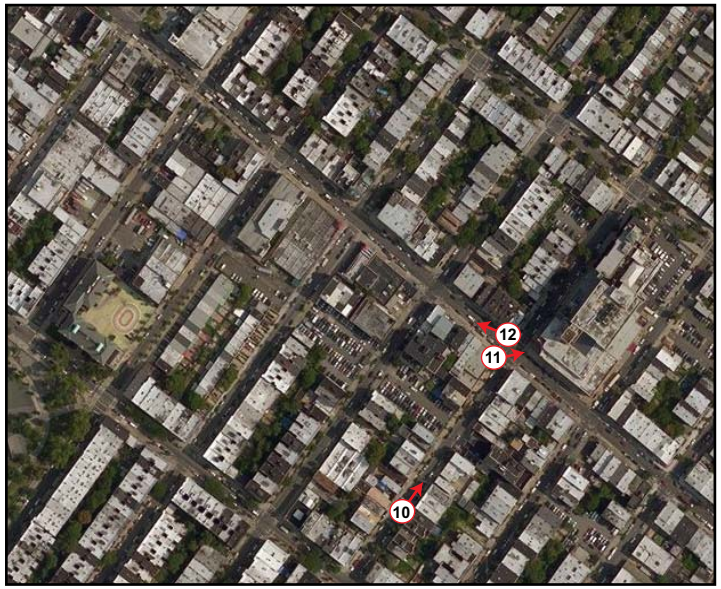
10. View of residential buildings in study area looking northeast from Stockholm Street.



11. View of Wyckoff Heights Medical Center looking east from southwestern corner of Wyckoff Avenue and Stockholm Street.



12. View of mixed-use buildings along Wyckoff Avenue looking west from northwestern corner of Wyckoff Avenue and Stockholm Street.





13. View of residential buildings in study area looking northeast from DeKalb Avenue.



14. View of residential buildings in study area looking south from DeKalb Avenue.



15. View of mixed-use buildings looking southwest towards the intersection of DeKalb & Wyckoff Avenues.





16. View of residential buildings in study area looking north from Hart Street.



17. View of mixed-use buildings in study area looking south from northwestern corner of Wyckoff Avenue & Suydam Street.



18. View of residential buildings looking southwest from Hart Street.



Heights Medical Center, a teaching hospital located in the eastern corner of the study area (see **Figure F-6**). Parking facilities.

Street Pattern and Streetscape

The street pattern in the study area is composed of rectilinear blocks within a street grid system. All streets within the study area, apart from DeKalb and Wyckoff Avenues, are one-way streets.

Natural Features and Open Space

There are no natural features or open space resources located within the secondary study area.

View Corridors and Visual Resources

There are no view corridors within the secondary study area, nor any visual resources that can be seen from the proposed rezoning area.

V. FUTURE WITHOUT THE PROPOSED ACTIONS (NO-ACTION CONDITION)

Primary Study Area (Proposed Rezoning Area)

In the future without the Proposed Actions, the proposed rezoning area's R6 and M1-1 zoning designations would remain in place and the maximum allowable FAR would remain at 1.0 in the M1-1 district (or up to 2.4 for allowed community facility uses). Residential uses are not permitted in M1-1 districts. The maximum allowable FAR would remain at 2.43 for residential uses and 4.8 for community facility uses in the R6 district. Commercial uses are not permitted in the R6 district. Therefore, it is anticipated none of the lots within the proposed rezoning area would be redeveloped in the future without the Proposed Actions. Lots 23, 47, and 48 which are owned by the Applicant, would not be redeveloped, as residential uses would not be allowed by existing zoning in the M1-1 portion of the development site. Lots 33 and 38 are currently developed at 89 percent and 100 percent, respectively, of the allowable 1.0 FAR under the No-Action condition and are therefore unlikely to be redeveloped. Lots 27 and 31 currently exceed the allowable FAR, and are therefore unlikely to be redeveloped in the No-Action condition as the surplus floor area would be lost. Lots 21 and 22 which are located in the existing R6 district are currently developed with low-rise residential uses and are unlikely to be redeveloped in the No-Action condition. As Lot 41 contains an illegal residential loft building, it is assumed that in the future without the Proposed Actions, the existing building would be converted into 8,000 gsf of office use, which is a legal use under the existing zoning. Therefore, under the No-Action condition, the proposed rezoning area would be occupied by parking, retail, a post office, two residential buildings, one legal converted residential building, and one office building.

Secondary Study Area

There is one known project that could be completed within 400 feet of the proposed rezoning area in the future without the Proposed Actions. Although there are no specific plans available at this time, preliminary information indicates that the owner of a 32,500 sf property falling partially within the 400-foot radius is proposing to rezone Block 3210, Lots 16, 17, 18, 19, 20, 21, 48, and 51 from M1-1 to M1-5 and M1-5/R7D. This rezoning would permit the construction of a new residential building at 1250 Willoughby Avenue (Lots 16, 17, 18, 19, 20, 21, and 48) and the enlargement of an existing manufacturing

building at 349 Suydam Street (Lot 51). That project is expected to be completed by 2021, however, no formal application for this rezoning action has been filed.

VI. FUTURE WITH THE PROPOSED ACTIONS (WITH-ACTION CONDITION)

This section describes the effects of the proposed actions on the urban design and visual resource conditions in the area by 2022 and evaluates the potential for the proposed actions to result in significant adverse impacts. As discussed above, because the With-Action condition would result in a larger development than the No-Action condition, the With-Action condition is analyzed for its potential to result in significant adverse urban design and visual resources impacts.

Primary Study Area (Proposed Rezoning Area)

In the future with the Proposed Actions (the With-Action scenario), the proposed zoning map amendment and zoning text amendment would be implemented in the proposed rezoning area. As such, the proposed rezoning area would be remapped with R6B and R7A zoning districts with a C2-4 commercial overlay along the Wyckoff Avenue frontage (at a depth of 100 feet). The R7A portion of the rezoning area would be designated as an MIH Area. Under With-Action conditions, the maximum allowable FAR in the proposed rezoning area would increase to 4.6 when fully utilizing the additional FAR under the MIH Program. As such, the Applicant-owned proposed development site would be redeveloped in accordance with the proposed R7A and R6B zoning districts and MIH Area.

Urban Design

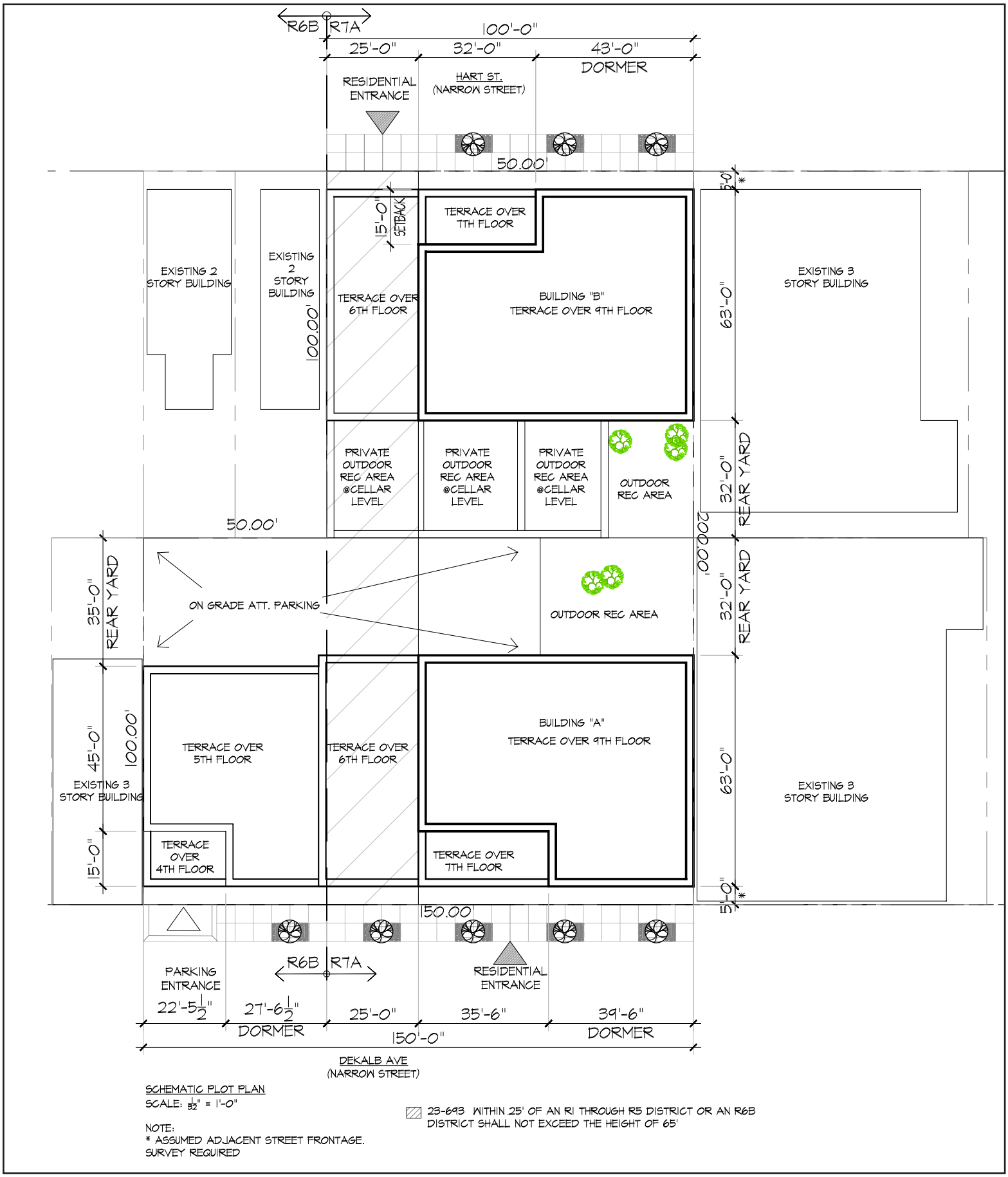
Buildings

The Applicant plans to redevelop the site with two residential buildings with an overall FAR of 4.08 (102,000 zsf) (see **Figure F-9**). The residential component would consist of approximately 118,378 gsf, with an estimated 122 DUs, of which 27 would be affordable units. In addition, 46 accessory parking spaces would be provided on-site. The parking will be attended and located on-grade in the rear yard located between the two buildings.

As shown in **Figure F-10**, the proposed development would have a maximum height of 89’6” feet. The proposed building that would front on DeKalb Avenue would have 9 stories with a base height of 75 feet, then a 15 foot setback before rising to a total height of 89'-6" feet on the R7A portion of the zoning lot and will scale down in height within 25-feet of the R6B portion of the zoning lot to 6-stories and then to a base height of 40 feet, then a 15 foot setback before rising to a total height of 49'-6" feet on the R6B portion of the zoning lot. The proposed building that would front on Hart Street would have a total of 9 stories with a base height of 75 feet, then a 15 foot setback before rising to a total height of 89'-6" feet on the R7A portion of the zoning lot and will scale down in height within 25-feet of the R6B zoning district to 6 stories.

The proposed building would be designed to complement the character of the surrounding area, which is predominantly mixed-density residential development. Within the study area, there is a range of existing building types and heights (see **Figures F-11** and **F-12**). As shown in Figure F-12, most of the buildings in the study area range between one- and four-stories. The northern portion of the study area is generally developed with medium density residential and mixed-use buildings, while lower density residential buildings and surface parking lots exist in the southern portion of the study area.

Proposed Development - Preliminary Plot Plan



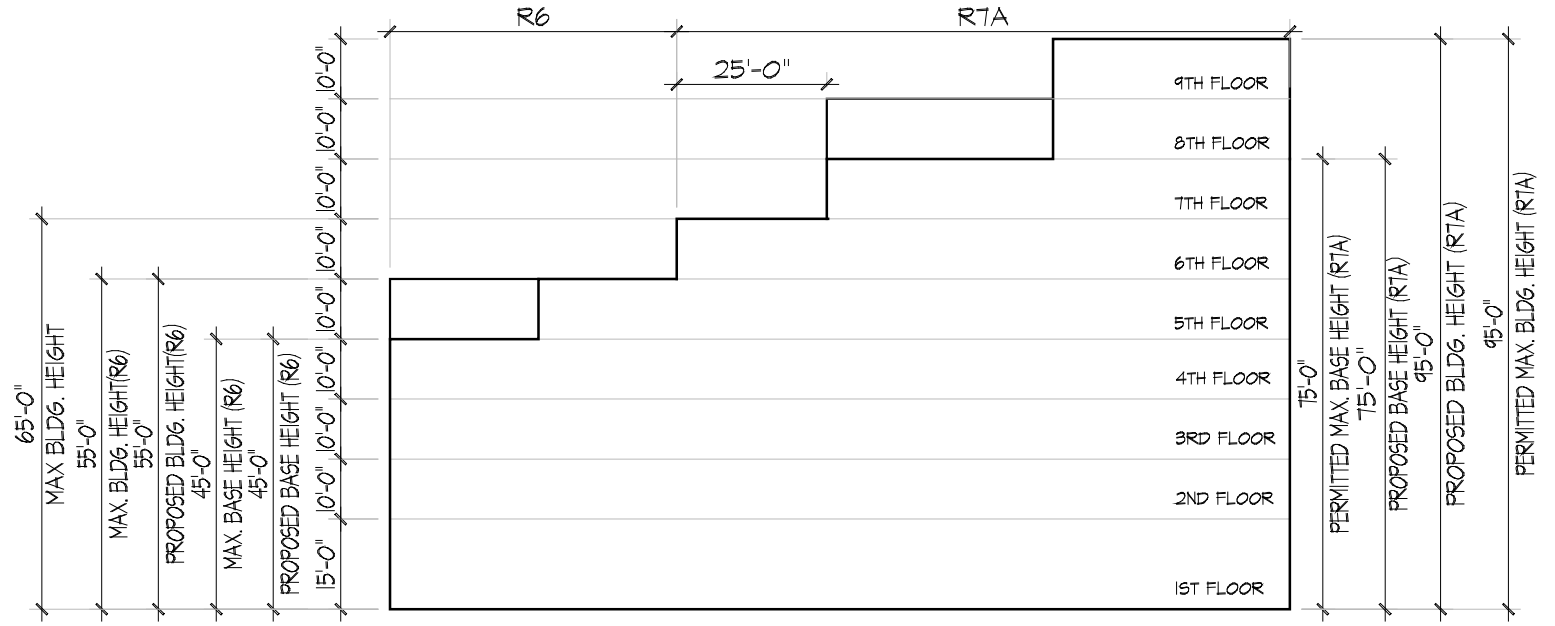
SCHEMATIC PLOT PLAN
SCALE: 1/32" = 1'-0"

NOTE:
* ASSUMED ADJACENT STREET FRONTAGE. SURVEY REQUIRED

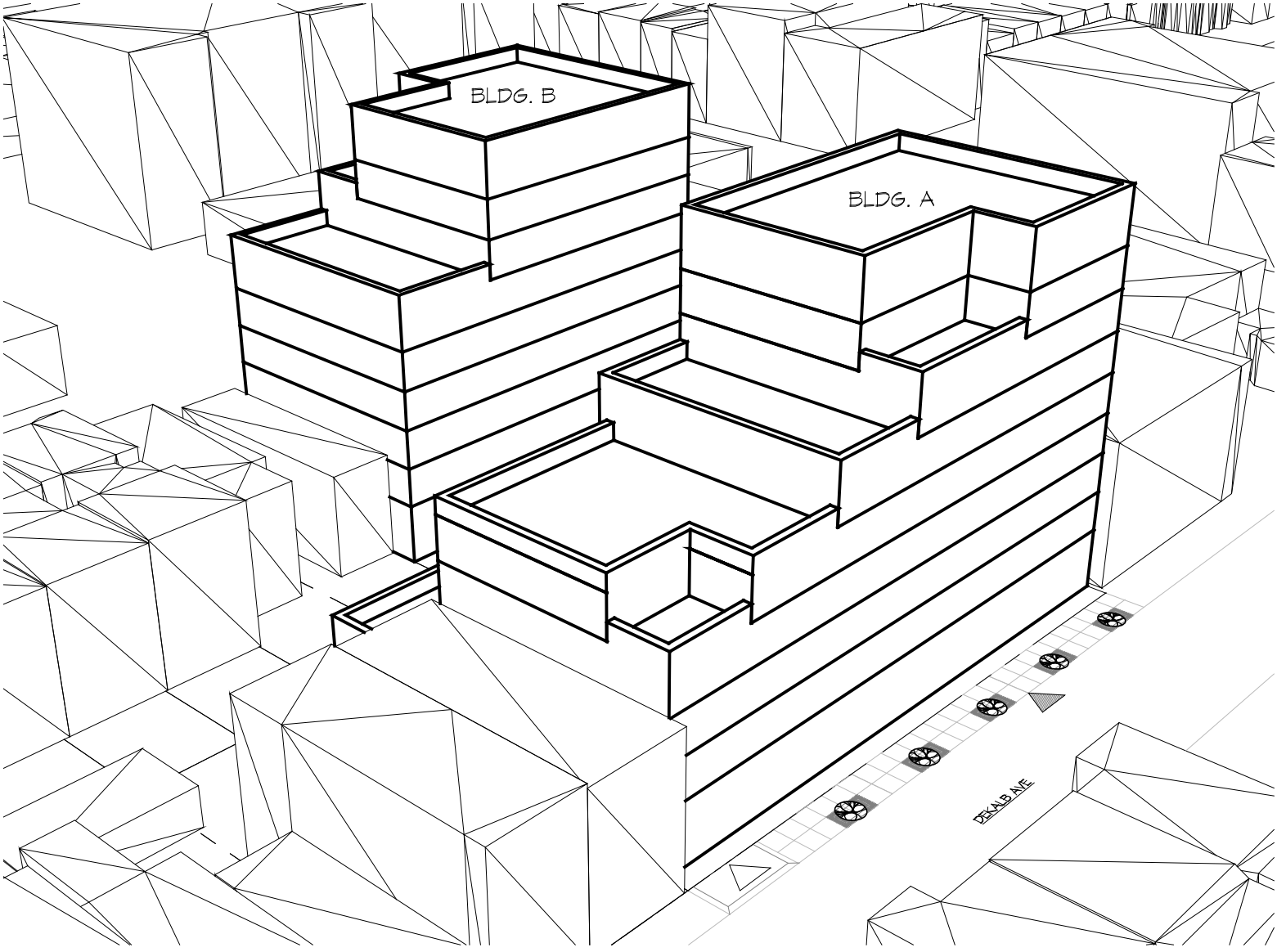
23-693 WITHIN 25' OF AN R1 THROUGH R5 DISTRICT OR AN R6B DISTRICT SHALL NOT EXCEED THE HEIGHT OF 65'

Source: Aufgang Architects
For Illustrative Purposes Only

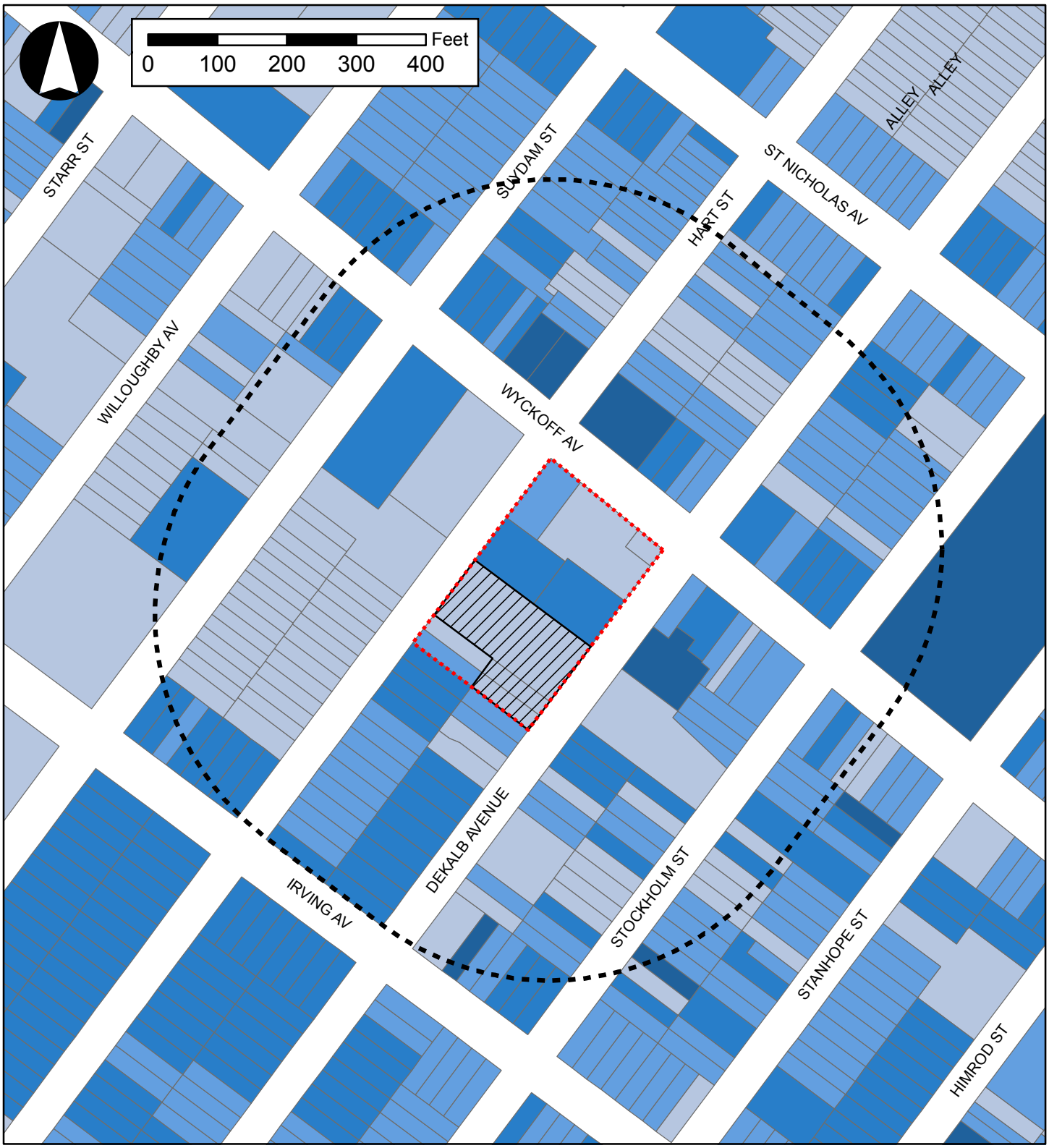
PROPOSED DEVELOPMENT - SCHEMATIC HEIGHT DIAGRAM AND ILLUSTRATIVE MASSING



SCHEMATIC HEIGHT DIAGRAM
SCALE: 1/32" = 1'-0"



SOURCE: AUFGANG ARCHITECTS

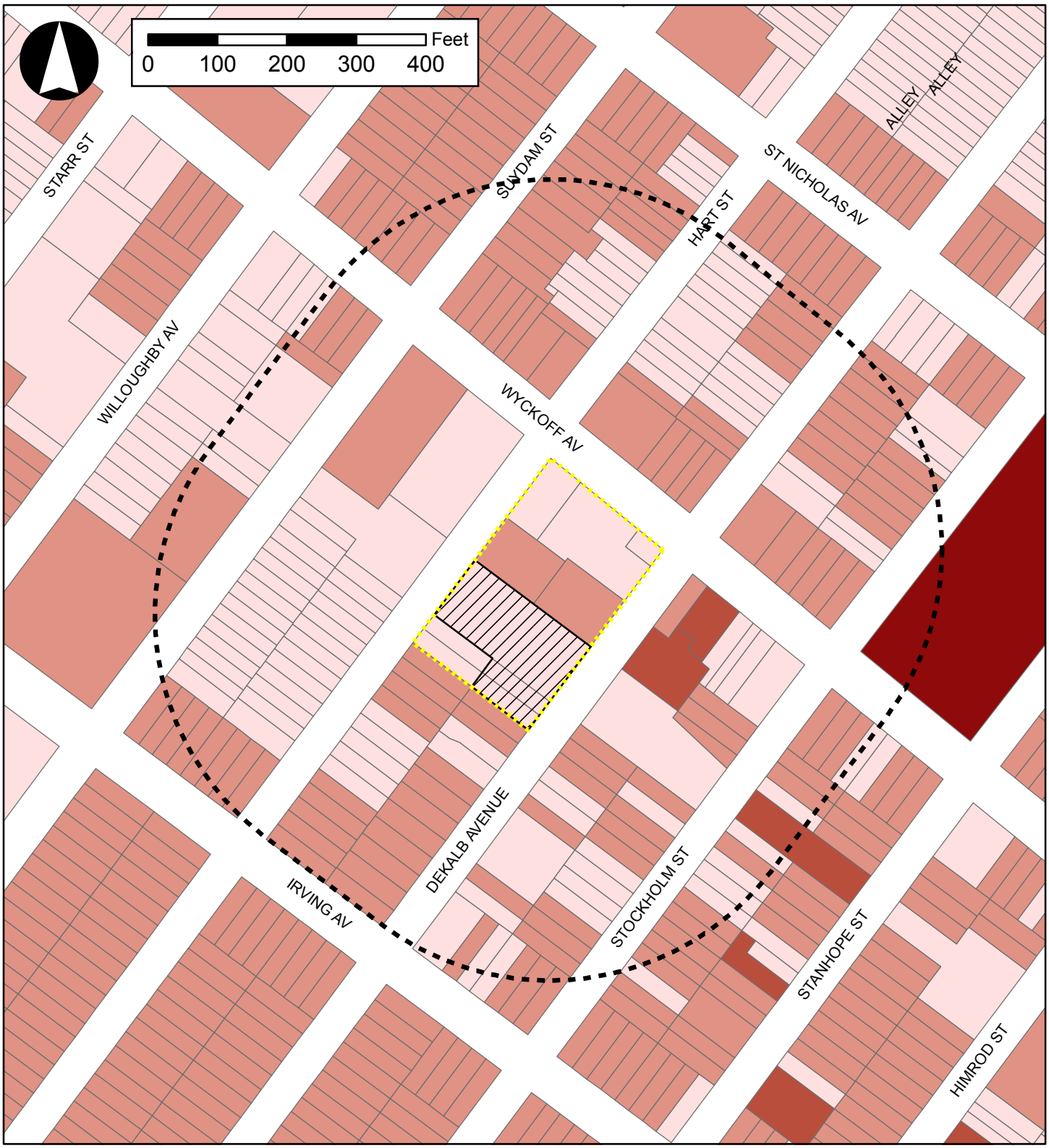


Legend

- 400-Foot Radius
- Proposed Rezoning Area
- Proposed Development Site
- **Built FAR**
- 0.0 - 1.0 FAR
- 1.1 - 2.0 FAR
- 2.1 - 3.0 FAR
- 3.1 + FAR

Source: NYCDCP (PLUTO 2016v2), DoITT

Building Heights Map



Legend

- 400-Foot Radius
- Proposed Rezoning Area
- Proposed Development Site
- **Number of Floors**
  - 1 - 2 Floors
  - 3 - 4 Floors
  - 5 - 8 Floors
  - 9 + Floors

Source: NYCDCP (PLUTO 2016v2), DoITT

It is also expected that Lots 31 and 41 in the proposed rezoning area would be redeveloped in the future with the Proposed Actions, in accordance with the proposed R7A zoning district, C2-4 commercial overlay, and MIH Area, under RWCDS With-Action conditions, Lot 31 would be redeveloped to the maximum permitted FAR of 4.6 and could reach up to a maximum permitted building height of 95 feet. Under this scenario, Lot 31 would be redeveloped with an approximately 26,032 gsf (23,842 zsf) mixed-use residential and commercial building, consisting of approximately 24 DUs, of which six would be MIH units (five "affordable" units assumed for CEQR purposes), and approximately 4,082 gsf of ground-floor retail space. The RWCDS With-Action development on Lot 31 would require 9 accessory parking spaces for the residential component, which are expected to be waived pursuant to ZR section 25-261. For the commercial component, pursuant to C2-4 regulations, it is assumed that the ground-floor retail would require one parking space per 1,000 sf, for a total of 4 accessory spaces, which are expected to be waived pursuant to ZR section 36-232. Lot 41 would be developed with an approximately 40,480 gsf residential building, consisting of 47 DUs, of which 9 would be affordable units. Both buildings could reach up to a maximum permitted height of 95 feet.

Street Pattern and Streetscape

The Proposed Actions would not result in changes to the streetscape or the arrangement or orientation of streets surrounding the proposed rezoning area.

Natural Features and Open Space

As discussed above, there are no natural features or open space resources located within the proposed rezoning area.

Visual Resources and View Corridors

There are no visual resources, nor any view corridors that can be seen from the primary study area. As such, the Proposed Actions would not result in a significant adverse impact to visual resources and view corridors within the proposed rezoning area.

Assessment

As shown in **Figures F-13** through **F-16** which depict the proposed development under the With-Action scenario, the Proposed Actions would alter the urban design character of the primary study area. The proposed development on all three projected development sites would introduce buildings which would be larger and taller than existing conditions. The increased scale, both in terms of bulk and height, would be a significant change from the pedestrian's perspective to the appearance and character of the rezoning area compared to the No-Action conditions.

Compared to the future without the Proposed Actions, in the future with the Proposed Actions, the visual appearance would differ and thus the pedestrian experience of the rezoning area would change. However, the Proposed Actions would not meet the *CEQR Technical Manual* threshold for a significant adverse urban design impact in that it would not alter the arrangement, appearance, or functionality of the development site and projected development sites such that the alteration would negatively affect a pedestrian's experience of the area.



No-Action view of the project site looking southwest long Dekalb Avenue



With-Action view of the project site looking southwest long Dekalb Avenue



No-Action view of the project site looking southwest long Hart Street



With-Action view of the project site looking southwest long Hart Street



No-Action view of Lot 31 site looking southwest long Wyckoff Avenue



With-Action view of Lot 31 site looking southwest long Wyckoff Avenue



No-Action view of Lot 41 site looking southwest long Dekalb Avenue



With-Action view of Lot 41 site looking southwest long Dekalb Avenue



Source: Aufgang Architects

Secondary Study Area

Urban Design

Buildings

The Proposed Actions would not have significant adverse impacts on the urban design characteristic of the study area. The residential uses that would be developed under the With-Action scenario would be in keeping with the predominant character of the study area. In addition, there would be no change to building arrangement, bulk, use or type in the secondary study area as a result of the Proposed Actions.

Street Pattern and Streetscape

The proposed With-Action development is expected to be consistent with the street pattern and streetscape found throughout the secondary study area.

Natural Features and Open Space

There are no natural features or open space features within the secondary study area. The Proposed Actions would not affect any public or private open space resources located within the secondary study area.

Visual Resources and View Corridors

There are no visual resources, nor any view corridors that can be seen from the secondary study area. As such, the Proposed Actions would not have any significant adverse impacts on visual resources in the secondary study area.

Assessment

Overall, the Proposed Actions are expected to improve urban design conditions within the secondary study area. As such, the Proposed Actions would not result in a significant adverse impact to urban design in the secondary study area.

I. INTRODUCTION

As defined in the 2014 *CEQR Technical Manual*, a hazardous material is any substance that poses a threat to human health or the environment. Substances that can be of concern include, but are not limited to, heavy metals, volatile and semivolatile organic compounds, methane, polychlorinated biphenyls and hazardous wastes (defined as substances that are chemically reactive, ignitable, corrosive, or toxic). According to the 2014 *CEQR Technical Manual*, the potential for significant adverse impacts from hazardous materials can occur when: (a) hazardous materials exist on a site, and (b) an action would increase pathways to their exposure; or (c) an action would introduce new activities or processes using hazardous materials.

A Phase I Environmental Site Assessment (ESA) was conducted for the Applicant's development site. The sites not owned or controlled by the Applicant and expected to be developed as a result of the proposed rezoning was reviewed for possible hazardous material contamination. This assessment was undertaken to determine whether additional investigations are necessary and whether an (E) designation should be placed on the Applicant's projected development site (Block 3237, Lots 23, 47, & 48) and the non-Applicant projected development sites (Block 3237, Lots 31 and 41) under the Proposed Actions to avoid the potential for impacts pertaining to hazardous materials.

II. PRINCIPAL CONCLUSIONS

The hazardous materials assessment identified that the proposed development site has some associated concern regarding environmental conditions. As a result, the proposed zoning map actions may include an (E) designation for the proposed development site and projected development sites. Therefore the Proposed Actions are not expected to result in significant adverse impacts for hazardous materials.

With the requirements of the (E) designation on the projected development sites, it is expected that there would be no impact from the potential presence of contaminated materials. The implementation of the preventative and remedial measures outlined below would reduce or avoid the potential that significant adverse hazardous materials impacts would result from potential construction in the rezoning area resulting from the Proposed Actions. Following such construction, there would be no potential for significant adverse impacts.

III. METHODOLOGY

As per Chapter 24 of Title 15 of the Rules of the City of New York, reviews of the regulatory database and/or Sanborn maps and city directories were used to determine past uses of the property and enable an assessment of whether the development site should receive an (E) designation.

Chapter 24 of Title 15 of the Rules of the City of New York specifies the process for determining if an (E) designation should be placed on a specific site. Section 24-04 describes the preliminary screening process, which includes reviewing historical documentation for past or current uses that may have affected or be affecting a projected or potential development site or an adjacent site. Appendix A of the Hazardous Materials Appendix 5 (Chapter 24 of Title 15 of the Rules of the City of New York) provides a list of types of facilities, activities or conditions which would lead to a site receiving an (E) designation.

A Phase I ESA was conducted for the proposed development site using the following parameters:

- *Historical Land Use* – The land use history was evaluated using available historical Sanborn fire insurance maps. Sanborn Maps from the years 1890 through 2005 were obtained and reviewed for the proposed development site, as well as the adjacent and surrounding areas.

- *Regulatory Agency List Review* – A review of the federal and state hazardous materials databases, maintained by the United States Environmental Protection Agency (US EPA) and New York State Department of Environmental Conservation (NYSDEC), respectively, was performed. This review identified the sites where storage, handling, emission, and /or spill cleanup of hazardous or toxic materials have been performed in order to determine whether they may have impacted the proposed development site.

IV. EXISTING CONDITIONS

A Phase I ESA was prepared for the development site by Hydro Tech Environmental, Corp. in August 2016. The Phase I ESA identified a recognized environmental conditions (REC) based on the historic and current usage of the surrounding properties. The Phase I ESA identified the historic use of the eastern adjacent property at 1600 DeKalb Avenue as parking and gas station as an REC. Based on the REC disclosed in the Phase I ESA, more work is required to determine the nature and extent of the contamination so that the potential for significant adverse impacts can be fully disclosed and mitigation developed, as appropriate. A Phase II ESA (described in Section 330) should be performed to determine the nature and extent of any contamination.

V. THE FUTURE WITHOUT THE PROPOSED ACTION (NO-ACTION CONDITION)

In the future without the Proposed Actions, the proposed development site and projected development sites would not be rezoned and an (E) designation would not be assigned to the affected lots. The existing parking lot would remain on the proposed development site and the existing buildings would remain on the projected development site.

VI. THE FUTURE WITH THE PROPOSED ACTION (WITH-ACTION CONDTION)

In the future with the Proposed Actions, the rezoning would convert the area to a R6B, R7A, and R7A/C2-4 zoning districts from the existing R6 and M1-1 zoning. The assessment above established that the proposed development site and projected development sites have some potential of hazardous material contamination. The New York City Department of Environmental Protection (DEP) has reviewed the Phase I ESA and determined further investigation is required. Therefore, the Proposed Actions would include

assigning a hazardous materials (E) designation on Lots 23, 31, 41, 47, and 48 on Block 3237. The (E) designations that would be assigned to these lots would require that further investigation be performed to determine the presence and nature of contaminants of concern and the proper remedial and/or health and safety measures that would be employed during construction.

The New York City Office of Environmental Remediation (OER) will be notified at least one week prior to the start of investigative activities on the project site. Such obligations will be made binding through the Restrictive Declaration tied to the Applicant's development site (which will outline the timing for all obligations).

In addition, by assigning (E) designations on the projected development sites, the potential for an adverse impact to human health and the environment resulting from the Proposed Actions would be reduced or avoided. The (E) designation provides the impetus to identify and address environmental conditions so that significant adverse impacts during site development would be reduced, with OER providing the regulatory oversight of the environmental investigation and remediation during the process. Building permits are not issued by the New York City Department of Buildings (DOB) without prior OER approval of the investigation and/or remediation pursuant to the provisions of Section 11-15 of the New York City Zoning Resolution (Environmental Requirements).

The text of the hazardous materials (E) designation (E-465) for the projected development sites (Block 3237, Lots 23, 31, 41, 47, 48) would be as follows:

Task 1: Sampling Protocol

> **Prior to construction, the applicant must submit to the New York City Mayor's Office of Environmental Remediation (OER), for review and approval, a Phase II Investigation protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented.**
>
> **No sampling should begin until written approval of a protocol is received by OER. The number and location of sample sites should be selected to adequately characterize the site, the specific source of suspected contamination (i.e., petroleum based contamination and non-petroleum based contamination), and the remainder of the site's condition. The characterization should be complete enough to determine what remediation strategy (if any) is necessary after review of the sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by OER upon request.**

Task 2: Remediation Determination and Protocol

> **A written report with findings and a summary of the data must be submitted to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by OER if the results indicate that remediation is necessary. If OER determines that no remediation is necessary, written notice shall be given by OER.**

If remediation is indicated for the test results, a proposed remedial action plan (RAP) must be submitted by OER for review and approval. The applicant must complete such remediation as determined necessary by OER. The applicant should then provide proper documentation that the work has been satisfactorily completed.

An OER-approved construction-related health and safety plan (CHASP) would be implemented during excavation and construction activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil and/or groundwater. This plan would be submitted to OER for review and approval prior to implementation.

With these measures in place, the Proposed Actions would not result in any significant adverse impacts related to hazardous materials.

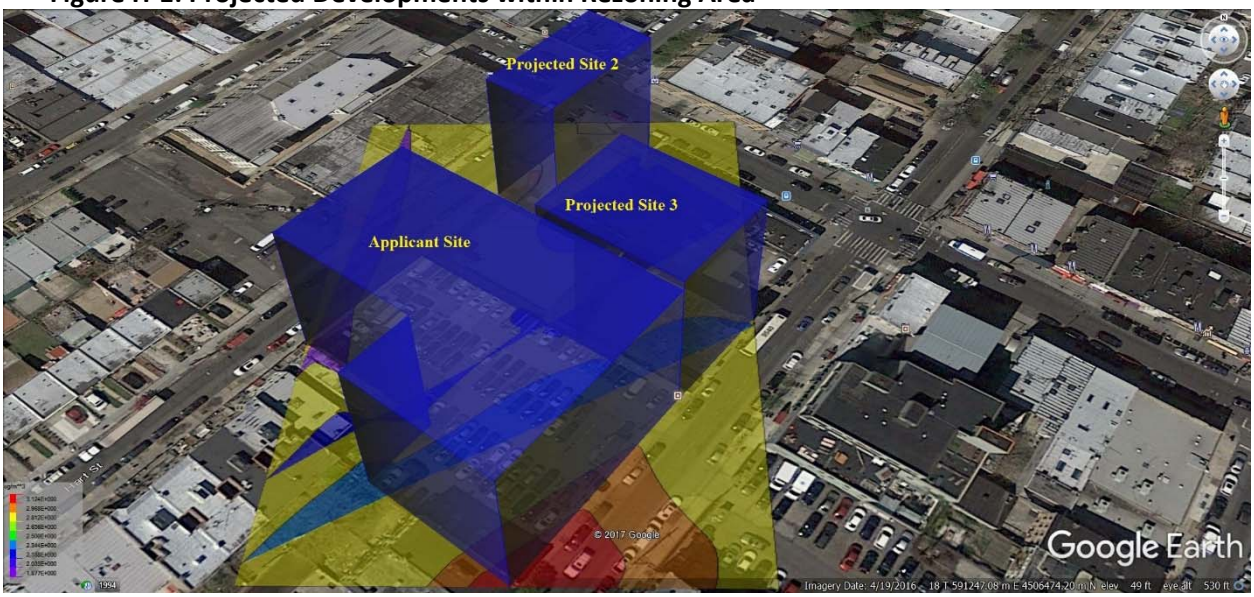
I. INTRODUCTION

The Proposed Actions under the Reasonable Worst-Case Development Scenario (RWCDS) would facilitate development of three buildings at 1601 Dekalb Avenue (on Block 3237) in Brooklyn, as follows:

- Projected Site 1 (Applicant Site) would be located on Lots 23, 47, and 48 and contain 118,378 gross square foot (gsf) residential floor area;
- Projected Site 2 would be located on Lot 31 and contain 21,950 gsf of residential and 4,082 gsf of commercial area; and
- Projected Site 3 would be located on Lot 41 and contain 40,480 gsf of residential area.

The proposed development (Projected Site 1) would be 89'6" tall and the remaining two projected sites are assumed to be 95' tall, are shown on **Figure H-1**.

Figure H-1: Projected Developments within Rezoning Area



In accordance with the *New York City Environmental Quality Review Technical Manual (CEQR Technical Manual*), the following analyses were conducted:

- Project-on Project HVAC Analysis. Emissions released from the heating, ventilation, and air conditioning (HVAC) systems of each of the proposed building could potentially impact the other buildings. As Projected Development Site 1 would be shorter than the two other projected sites, the HVAC emissions from this building could impact both taller buildings. In addition, emissions from Projected Sites 2 and 3, being of the same height, could impact each other. Therefore, a

project-on-project analysis was conducted to determine whether the potential impacts of the HVAC emissions of each building on the residential uses of the other building would be significant.

- Project-on-Existing HVAC Analysis. A review of existing land uses using NYC Oasis interactive mapping application and Google aerial photos shows that there is an existing building taller than the proposed buildings located within 400 feet of the projected development sites. This is the 12-story Wyckoff Heights Medical Center at 374 Stockholm Street. As such, an analysis was conducted to determine whether the potential impacts of the HVAC emissions of the proposed buildings on the Medical Center would be significant.

- Major Source Analysis. A review of the New York State Department of Environmental Conservation (NYSDEC) permit database identified the Wyckoff Medical Center as a major combustion emission source (having a State Facility Permit) located within 400 feet of the development sites. As such, in accordance with *CEQR* guidance, a major source analysis was conducted.

- Industrial Source Analysis. In accordance with the *CEQR TM*, "projects that would result in new uses (particularly schools, hospitals, and residences) located within 400 feet of manufacturing or processing facilities" may result in potentially significant impacts, and therefore require stationary source analyses. As several industrial facilities are located within 400 feet of the applicant and projected development sites, an analysis to determine whether the potential impacts of the air toxic emissions released from these facilities would significantly impact the proposed developments was conducted.

The potential air quality impacts associated with each of these analyses were estimated following the procedures and methodologies prescribed in the *CEQR Technical Manual*.

PROJECT-ON-PROJECT HVAC ANALYSIS

Relevant Air Pollutants

The EPA has identified several pollutants, which are known as criteria pollutants, as being of concern nationwide. As the proposed developments' HVAC systems would use natural gas, the two criteria pollutants associated with natural gas combustion – nitrogen dioxide (NO_2) and particulate matter smaller than 2.5 microns ($PM_{2.5}$) – would be the primary concern. For the major source analysis, which uses both natural gas and fuel oil number 2, particulate matter smaller than 10 microns (PM_{10}) and sulfur dioxide (SO_2), in addition to NO_2 and $PM_{2.5}$, also need to be considered.

Applicable Air Quality Standards and Significant Impact Criteria

As required by the Clean Air Act, National Ambient Air Quality Standards (NAAQS) have been established for the criteria pollutants by EPA. The NAAQS are concentrations set for each of the criteria pollutants in order to protect public health and the nation's welfare, and New York has adopted the NAAQS as the State ambient air quality standards. This analysis addressed compliance of the potential impacts with the 1-hour and annual NO_2 NAAQS.

In addition to the NAAQS, the *CEQR Technical Manual* requires that projects subject to *CEQR* apply a $PM_{2.5}$ significant impact criteria (based on concentration increments) developed by the New York City Department of Environmental Protection (DEP) to determine whether potential adverse $PM_{2.5}$ impacts would be significant. If the estimated impacts of a proposed project are less than these increments, the impacts are not considered to be significant.

This analysis addressed compliance of the potential impacts with the 24-hour and annual $PM_{2.5}$ *CEQR* significant incremental impact criteria. The current standards and *CEQR* significant impact criteria that were applied to this analysis, together with their health-related averaging periods, are provided in **Table H-1.**

TABLE H-1
APPLICABLE NATIONAL AMBIENT AIR QUALITY STANDARDS AND CEQR THRESHOLD VALUES

Pollutant	Averaging Period	NAAQS	CEQR Thresholds
NO_2	1 Hour	0.10 ppm (188 µg/m^3)	--
	Annual	.053 ppm (100 µg/m^3)	--
$PM_{2.5}$	24 Hour	35 µg/m^3	7.25
	Annual	12 µg/m^3	0.3
PM_{10}	24 Hour	150 µg/m^3	--
SO_2	1 Hour	0.75 ppb (196 µg/m^3)	--

NO_2 NAAQS

Nitrogen oxide (NOx) emissions from gas combustion consist predominantly of nitric oxide (NO) at the source. The NOx in these emissions are then gradually converted to NO_2, which is the pollutant of concern, in the atmosphere (in the presence of ozone and sunlight as these emissions travel downwind of a source).

The 1-hour NO_2 NAAQS of 0.100 ppm (188 ug/m^3) is the 3-year average of the 98th percentile of daily maximum 1-hour average concentrations in a year. For determining compliance with this standard, the EPA has developed a modeling approach for estimating 1-hour NO_2 concentrations that is comprised of 3 tiers: Tier 1, the most conservative approach, assumes a full (100%) conversion of NOx to NO_2; Tier 2 applies a conservative ambient NOx/NO_2 ratio of 80% to the NOx estimated concentrations; and Tier 3, which is the most precise approach, employs AERMOD's Plume Volume Molar Ratio Method (PVMRM) module. The PVMRM accounts for the chemical transformation of NO emitted from the stack to NO_2 within the source plume using hourly ozone background concentrations. When Tier 3 is utilized, the model utilizes the following methodology to estimate 1-hour maximum values:

1. The model selects the highest-concentration hour from each day at each receptor, and discards the other 23 hours of each day;
2. From this pool of 365 1-hour values (one from each day), the 8th highest NO_2 value from each year is selected, leaving one value per year; and
3. These 5 values, one from each year of the 5-year analysis period, are averaged together to produce the final concentration that can be compared to the 1-hour NO_2 NAAQS value.

The AERMOD-generated 8th highest daily 1-hour NO_2 concentration (with added NO_2 hourly background concentration) was then compared directly to the 1-hour NO_2 NAAQS standard.

Based on New York City Department of Planning (DCP) guidance, the Tier 1 approach, as the most conservative approach, should initially be applied as a preliminary screening tool to determine whether violations of the NAAQS is likely to occur. If exceedances of the 1-hour NO_2 NAAQS were estimated, the less conservative, more realistic, Tier 3 approach would be applied.

The annual NO_2 standard is 0.053 parts per million (ppm or 100 ug/m^3). In order to conservatively estimate annual NO_2 impacts, a NO_2 to NOx ratio of 0.75 percent, which is recommended by the DEP for an annual NO_2 analysis, was applied.

$PM_{2.5}$ CEQR Significant Impact Criteria

CEQR Technical Manual guidance includes the following criteria for evaluating significant adverse $PM_{2.5}$ incremental impacts:

> *Predicted 24-hour maximum $PM_{2.5}$ concentration increase of more than half the difference between the 24-hour $PM_{2.5}$ background concentration and the 24-hour standard.*

A 24-hour $PM_{2.5}$ background concentration of 20.5 ug/m^3 was obtained from Brooklyn JHS-126 monitoring station as the average of the 98th percentile for the latest 3 years of available monitoring data collected by the NYSDEC for 2014-2016. As the applicable background value is 20.5 ug/m^3, half of the difference between the 24-hour $PM_{2.5}$ NAAQS and this background value is 7.25 ug/m^3. As such, a significant impact criterion of 7.25 ug/m^3 was used for determining whether the potential 24-hour $PM_{2.5}$ impacts of the proposed development are considered to be significant.

For an annual average adverse $PM_{2.5}$ incremental impact, according to *CEQR* guidance:

> *Predicted annual average $PM_{2.5}$ concentration increments greater than 0.3 ug/m^3 at any receptor location for stationary sources.*

The above 24-hour and annual significant impact criteria were used to evaluate the significance of predicted $PM_{2.5}$ impacts.

HVAC Screening Analysis

Based on *CEQR* guidance, a preliminary screening analysis needs to be conducted as a first step to predict whether the potential impacts of the HVAC emissions would be significant and if this step determines a potential for significant impacts, a detailed analysis would be required. The *CEQR* screening procedure, however, is only applicable to emissions from single buildings that are more than 30 feet apart from the nearest building of similar or greater height. Therefore, the screening procedure could only be applied to Projected Site 1 as it impacts Projected Site 2 and Projected Site 3 as it impacts Projected Site 2 (and vice versa). For the Projected Sites 1 and 3, which are adjacent to each other, the screening procedure is not applicable, and detailed analyses need to be conducted.

The total square footages of Buildings 1, 2, and 3 were used in the analysis and the conservative generic nomograph shown on Figure 17-3 of the *CEQR Technical Manual* "Stationary Source Screen," for a corresponding stack height, was applied. This nomograph depicts the size of a development versus the distance below which a potential impact could occur, and provides a threshold distance. As required by the *CEQR* screening procedure, the 30-foot curve in Figure 17-3 was applied as the 30-foot curve height is closest to but not higher than the stack heights of Projected Site 1 as well as the buildings on Projected Sites 2 and 3 (with an assumed stack height of 3 feet).

If the actual distance between a building with an HVAC stack and an affected building is greater than the threshold distance for a building size, then that building passes the screening analysis (and no significant impact is predicted). However, if the actual distance is less than the threshold distance for a building, then there is a potential for a significant impact, and a detailed analysis would be required. Results of the screening analysis for project-on-project and project-on-existing are provided in **Tables H-2** and **H-3**.

Table H-2: Results of the Project-on-Project Screening Analysis with Natural Gas

Projected Site	Floor Area	Stack Height	Nearest Building	Distance Between Buildings	Threshold Distance CEQR Figure 17-3	CEQR Figure 17-3 Results	
	sq. ft.	feet	feet	feet	feet	Pass	Fail
Site 1	118,378	92'6"	Projected Site 2	75	155		Fail
Site 2	26,032	98	Projected Site 1	75	75		Fail
Site 3	40,480	98	Projected Site 2	50	100		Fail

Table H-3: Results of the Project-on-Project Screening Analysis with Fuel Oil # 2

Projected Site	Floor Area	Stack Height	Nearest Building	Distance between Buildings	Threshold Distance Figure 17-3	CEQR Figure 17-3 Results	
	sq. ft.	feet	feet	feet	feet	Pass	Fail
Site 1	118,378	92'6"	Projected Site 2	75	110		Fail

The result of the project-on-project screening analysis is that none of the sites passed the screening analysis because the actual distances between buildings on these sites is less than the threshold distances determined from *CEQR* Figure 17-3, indicating that further (detailed) analysis is required. In addition, Projected Site 1 with fuel oil # 2 also failed the screening analysis on Projected Site 2 using *CEQR* Figure 17-5 (SO_2 Boiler Screen), where the threshold distance was determined to be 110 feet. As such, detailed building-on-building analyses were conducted.

Detailed Project-on-Project HVAC Analysis

A dispersion modeling analysis was conducted to estimate impacts from the HVAC emissions of each of the proposed buildings using the latest version of EPA's AERMOD dispersion model (EPA version 16216r). In accordance with *CEQR* guidance, this analysis was conducted assuming stack tip downwash, urban dispersion surface roughness length, and elimination of calms. AERMOD's Plume Volume Molar Ratio Method (PVMRM) module was utilized for the 1-hour NO_2 analysis -- to account for NOx to NO_2 conversion if warranted. Analyses were conducted with and without the effects of wind flow around the proposed Buildings (i.e., with and without downwash) utilizing the AERMOD Building Profile Input Program (BPIP) algorithm, and both results are reported.

Emission rates for HVAC analysis were estimated as follows:

- As the proposed developments will be heated by natural gas, emission rates of NOx and $PM_{2.5}$ were calculated based on annual natural gas usage corresponding to the gross floor area of building (gsf) and EPA AP-42 emission factors for firing natural gas combustion in small boilers;
- $PM_{2.5}$ emissions from natural gas combustion accounted for both filterable and condensable particulate matter;
- Short-term NO_2 and $PM_{2.5}$ emission rates were estimated by accounting for seasonal variation in heat and hot water demand; and
- The natural gas fuel usage factor 59.1 cubic foot per square foot per year was obtained from *CEQR* Table US1, Total Energy Consumption, Expenditures and Intensities, 2005, Part I: Housing Unit

Characteristics and Energy Use Indicators for New York using the conservative factor for residential uses (even though some of the buildings are mixed use).

Table H-4 provides estimated $PM_{2.5}$ and NO_2 short-term (e.g., 24-hour and 1-hour) and annual emission rates for each development from the boiler firing natural gas. The diameter of the stacks and the exhaust's exit velocities were estimated based on values obtained from NYCDEP "CA Permit" database for the corresponding boiler sizes (i.e., rated heat input or million BTUs per hour). Boiler sizes were estimated based on assumption that all fuel would be consumed during the 100-day (or 2,400 hour) heating season. A stack exit temperature was assumed to be 300°F (423°K), which is appropriate for boilers, was assumed for all boilers.

Table H-4: Estimated Pollutant Short-term and Annual Emission Rates

Projected Site	Lot(s)	Stack Height	Total Floor Area	$PM_{2.5}$ Emission Rate (1)		NO_2 Emission Rate (2)	
		feet	ft^2	g/sec	g/sec	g/sec	g/sec
				24-hr	Annual	1-hr	Annual
Site 1	23, 47, 48	92'6"	118,378	2.79E-03	7.65E-04	3.67E-02	1.01E-02
Site 2	31	98	26,032	6.14E-04	1.68E-04	8.08E-03	2.21E-03
Site 3	41	98	40,480	9.55E-04	2.62E-04	1.26E-02	3.44E-03

Notes:

1. $PM_{2.5}$ emission factor for natural gas combustion of 7.6 lb/10^6 cubic feet included filterable and condensable particulate matter (Filterable $PM_{2.5}$ =1.9 lb/10^6 ft^3 and condensable $PM_{2.5}$=5.7 lb/10^6 ft^3 (AP-42, Table 1.4-2).
2. NOx emission factor for natural gas of 100 lb/10^6 ft^3 for uncontrolled boilers with <100MMBtu/hr (AP-42, Table 1.4-1).

Meteorological Data

All analyses were conducted using the latest five consecutive years of meteorological data (2012 through 2016). Surface data were obtained from La Guardia Airport and upper air data were obtained from the Brookhaven New York station. These data were processed by Trinity Consultants, Inc. using current EPA AERMET and EPA procedures. These meteorological data provide hour-by-hour wind speeds and directions, stability states, and temperature inversion elevations over the 5-year period.

Five years of meteorological data were combined into a single multiyear file to conduct 24-hour $PM_{2.5}$ and 1-hour NO_2 modeling. The $PM_{2.5}$ special procedure, which is incorporated into AERMOD, calculates concentrations at each receptor for each year modeled, averages those concentrations across the number of years of data, and then selects the highest values across all receptors of the 5-year averaged highest values.

Background Concentrations

Because the nearest monitoring station at Brooklyn JHS-126 does not collect hourly ozone and NO_2 background data, hourly NO_2 and hourly ozone background concentrations were developed from data collected at the next closest monitoring station in Queens (College #2 monitoring station) for 5 consecutive years (2012 through 2016), and compiled into AERMOD's required hourly emission (NO_2) and concentration (ozone) data format.

The maximum 1-hour NO_2 background concentration from the Queens College #2 monitoring station is 64.3 ppb or 121.3 ug/m^3, which is the 3-year average of the 98th percentile of daily maximum 1-hour concentrations, and the annual NO_2 background concentration of 16.6 ppb or 31.3 ug/m^3 is the maximum annual average for 2014 through 2016.

The 1-hour SO_2 background concentrations obtained from Queens College #2 monitoring station is 9.47 ppb or 24.7 ug/m^3, which is the 99th percentile of daily maximum 1-hour concentration averaged over the most recent 3 years (2014-2016). The maximum 24-hour PM_{10} background concentration from Queens College #2 monitoring station is 44 ug/m^3.

The maximum annual $PM_{2.5}$ background concentration was obtained from Brooklyn JHS-126 monitoring station is 8.6 ug/m^3.

Stack and Receptor Locations for HVAC Analysis

It was assumed that emissions from each development site building would be released through a single stack located on the roof of each building. Stack heights were assumed to be 3 feet above the height on each building's roof. Initially, stacks were placed at the minimum distance (as per NYC Building Code provision) from the lot line facing impacted building. If exceedances of the CEQR significant threshold values or NAAQS were predicted, stack were gradually set back until no exceedances of the CEQR thresholds or NAAQS were predicted.

Receptors were placed around all faces of each building in 10-foot increments on all floor levels, starting 10 feet above the ground and extending up to the level of the upper windows (which were assumed to be 5 feet below roof level).

Modeling parameters used in the analysis are provided in **Table H-5**.

Table H-5: Modeling Parameters for HVAC Analysis

Model	AERMOD (EPA Version 16216r)
Source Type	Point Source
Number of emission points (stacks) considered	One on each building
Surface Characteristic	Urban Area Option
Urban Surface Roughness Length	1
Downwash effect	BPIP Program
Meteorological Data	Preprocessed by the AERMET meteorological preprocessor program by Trinity Consultants, Inc. Yearly meteorological data for 2012-2016 concatenated into single multiyear file for $PM_{2.5}$ modeling, as EPA recommended
Surface Meteorological Data	LaGuardia 2012-2016
Profile Meteorological Data	Brookhaven Station 2012-2016
Pollutant Background Concentrations	Brooklyn JHS-126 and Queens College 2 monitoring stations data for 2012-2016
$PM_{2.5}$ Analysis	Special procedure incorporated into AERMOD where model calculates concentration at each receptor for each year modeled, averages those concentrations across the number of years of data, and then selects the highest across all receptors of the 5-year averaged highest values

Results of Building-on-Building Analysis

When the HVAC emissions from a shorter building (e.g., Projected Site 1) impact a taller building (e.g., Projected Sites 2 or 3), relatively large impacts could occur because the exhaust plume of the shorter building could directly impact receptors (e.g., windows) on the taller building. For example, the stack on Projected Site building would be 92.5 feet tall (3 feet above the roof height) while the upper windows of the impacted building (where the highest impacts occur) would be 90 feet in height (5 feet below the roof height). As such, even though the stack height is greater than the receptor height, the height separation between the stack and receptors would be only 2.5 feet (or greater with plume rise) and greater impacts could occur.

On the other hand, when emissions from buildings of the same height impact each other (e.g., Projected Sites 2 and 3 impacting each other), lower impacts would generally occur because exhaust stacks are 3 feet above the roof height while the upper receptor windows of the impacted building are 5 feet below roof height, and, as such, the height separation between the stack and receptors would be more significant -- 13 feet (or greater with plume rise).

$PM_{2.5}$ Results

The initial result of the $PM_{2.5}$ analysis is that emissions from the shorter Projected Site 1 building, if the stack were located at a minimum distance from the façade of the adjacent Projected Site 3, could significantly impact Site 3 -- exceedances of both the 24-hour and annual *CEQR* significant impact criteria would occur (as well as the 1-hour NO_2 impact).

Iterative analyses were therefore conducted to estimate the distance that the stack on Projected Site 1 would have to be set back from Projected Site 3 to avoid significant impacts. The result of these analyses is that the stack on Projected Site 1 would have to be set back at least of 50 feet from the lot line facing Projected Site 3 to avoid significant impacts. As such, an (E) designation should be mapped on Projected Site 1 that would restrict the stack location to at least 51 feet from Wyckoff Avenue and 161 feet from DeKalb Avenue. The (E) designation for Projected Site 1 will also include a requirement that will limit fuel use exclusively to the natural gas as Projected Site 1 failed the screening analysis with fuel oil.

With this stack setback distance, the potential 24-hour and annual $PM_{2.}$impacts from Projected Site 1 emissions on the Projected Site 3 (and Projected Site 2, which is further from Projected Site 1) are all less than the *CEQR* significant impact thresholds of 7.25 ug/m^3 and 0.3 ug/m^3, respectively.

Compliance with the *CEQR* significant impact criteria is also found for the Projected Sites 2 and 3 as they impact each other -- without a stack set back requirement. As such, the (E) designations for Projected Sites 2 and 3 will include restrictions on fuel use that will limit fuel use exclusively to the natural gas and stack height.

Table H-6: $PM_{2.5}$ Analysis Results

Projected Building	Receptor Buildings	Maximum 24-hr $PM_{2.5}$ Impacts	Maximum Annual $PM_{2.5}$ Impacts	CEQR Significant Impact Criteria 24hr/Annual
		µg/m^3	µg/m^3	µg/m^3
Site 1	Site 3	5.1	0.27	7.25/0.3
Site 1	Site 2	1.1	<0.1	7.25/0.3
Site 2	Site 3	0.2	<0.1	7.25/0.3
Site 3	Site 2	0.2	<0.1	7.25/0.3

NO_2 Results

The NO_2 analysis was conducted using the same stack locations as determined in the $PM_{2.5}$ analysis (with the setback for the Applicant Site). For the 1-hour NO_2 analysis, for Projected Site 1 on Projected Site 2 and Projected Site 2 on Projected Site 3 (and vice versa), a Tier 1 was sufficient to demonstrate compliance with the applicable standards. However, for Projected Site 1 on the adjacent Projected Site 3, a Tier 1 analysis was insufficient to demonstrate the compliance with 1-hour NO_2 NAAQS of 188 ug/m^3 for, and a Tier 3 analysis was conducted.

For the Tier 1 analyses, a 1-hour NO_2 background concentration is added to the maximum estimated impacts, and the total concentrations are compared to the 1-hour NO_2 NAAQS. With the Tier 3 analysis, the hourly NO_2 background concentration is added internally by the model to the hourly estimated impacts, and the total concentration is directly compared to the 1-hour NO_2 NAAQS.

Results of the 1-hour NO_2 analysis is that all estimated 1-hour NO_2 concentrations for Projected Site 1 and the Projected Sites 2 and 3 were less than the 1-hour NO_2 NAAQS of 188 ug/m^3. The estimated annual average NO_2 total concentrations, which include impacts and the NO_2 annual background concentration, were also less than the annual NO_2 NAAQS of 100 ug/m^3 for all building combinations. The results of the NO_2 analysis are provided in **Table H-7**.

Therefore, NO_2 emissions would not cause significant impacts with the proposed (E) designations.

Table H-7: NO_2 Analysis Results

Projected Building	Receptor Buildings	1-hr NO_2 Total Conc. Tier1	Annual NO_2 Total Conc. [3]	NAAQS 1-hr/Annual
		µg/m^3	µg/m^3	µg/m^3
Site 1	Site 3	133.5 [1]	34.0	188/100
Site 1	Site 2	143.8 [2]	31.6	188/100
Site 2	Site 3	126.3 [2]	31.3	188/100
Site 3	Site 2	127.0 [2]	31.3	188/100

Notes:

[1] Tier 3 analysis

[2] Tier 1 Analysis include 1-hour NO_2 background value of 121.3 ug/m^3.

[3] Total annual NO_2 concentrations include background value of 31.3 ug/m^3.

As the results in **Tables H-7** and **H-8** show, no exceedances of the *CEQR* significant impact thresholds or 1-hour NO_2 NAAQS were found for all building combinations analyzed. Therefore, no restrictions on stack locations are warranted for any of the proposed buildings with the use of natural gas.

A summary of the results for all averaging time periods, with and without downwash effect, is provided in Table H-8.

(E) Designations

(E) designations would be required (E-465) to restrict stack location and fuel to the exclusive use of natural gas in the HVAC systems as follows:

Projected Development Site 1: Block 3237, Lots 23, 47, and 48

Any new development or enlargement on the above referenced property must use natural gas as the type of fuel for heating, ventilating, and air conditioning (HVAC) and ensure that HVAC stack is located

at least 51 feet from Wyckoff Avenue, at least 161 feet from the lot line facing DeKalb Avenue and at least 92.6 feet above the grade to avoid any potential significant adverse air quality impacts.

Projected Development Site 2: Block 3237, Lot 31

Any new commercial or residential development on the above referenced property must exclusively use natural gas as the type of fuel for heating, ventilating, air conditioning (HVAC) and hot water systems and ensure that HVAC stack is located at a height at least 98 feet above grade to avoid any potential significant adverse air quality impacts.

Projected Development Site 3: Block 3237, Lot 41

Any new commercial or residential development on the above referenced property must exclusively use natural gas as the type of fuel for heating, ventilating, air conditioning (HVAC) and hot water systems and ensure that HVAC stack is located at a height at least 98 feet above grade to avoid any potential significant adverse air quality impacts.

Table H-8: Summary of the HVAC Analysis Results (ug/m^3)

Pollutant	Modeled	Background Conc.	Total Conc.	Evaluation Criteria
$PM_{2.5}$				
Projected Site 1 on Projected Site 3				
24-hr $PM_{2.5}$	0.5 0/ 5.1 (1)	N/A	5.1	7.25 (*CEQR Criteria)*
Annual $PM_{2.5}$	<0.1/0.27	N/A	0.27	0.3 (*CEQR Criteria*)
Projected Site 1 on Projected Site 2				
24-hr $PM_{2.5}$	0.2/1.1	N/A	1.1	7.25 (*CEQR Criteria)*
Annual $PM_{2.5}$	<0.1	N/A	<0.1	0.3 (*CEQR Criteria*)
Projected Site 2 on Projected Site 3				
24-hr $PM_{2.5}$	0.21/0.11	N/A	0.2	7.25 (*CEQR Criteria)*
Annual $PM_{2.5}$	<0.1	N/A	<0.1	0.3 (*CEQR Criteria*)
Projected Site 3 on Projected Site 2				
24-hr $PM_{2.5}$	0.15/0.17	N/A	0.2	7.25 (*CEQR Criteria)*
Annual $PM_{2.5}$	<0.1	N/A	<0.1	0.3 (*CEQR Criteria*)
NO_2				
Projected Site 1 on Projected Site 3 (2)				
1-hr NO_2 (2)	97.2 / 133.5		133.5	188 (NAQQS)
Annual NO_2	0.3/2.7	31.3	34.0	100 (NAAQS
Projected Site 1 on Projected Site 2				
1-hr NO_2	7.6/ 22.5	121.3	143.8	188 (NAQQS)
Annual NO_2	<0.1/0.3	31.3	31.6	100 (NAAQS)
Projected Site 2 on Projected Site 3				
1-hr NO_2 (2)	4.1/5.0	121.3	126.3	188 (NAQQS)
Annual NO_2	<0.1	31.3	31.3	100 (NAAQS)
Projected Site 3 on Projected Site 2				
1-hr NO_2 (2)	5.47/5.71	121.3	127.0	188 (NAQQS)
Annual NO_2	<0.1	31.3	31.3	100 (NAAQS)

Notes:

(1) With stack setback distance

(2) With Tier 3 approach, the total 1-hour NO_2 concentration included background concentration added internally by the model

(3) Modeled concentrations are shown with/without downwash effects.

CONCLUSION OF THE HVAC ANALYSIS

The results of the air quality project-on-project and project-on-existing HVAC analyses are as follows:

- No significant adverse air quality impacts from the HVAC emissions of each proposed development building on each other or on existing buildings are predicted; and
- All development buildings would require the exclusive use of natural gas in their HVAC systems.

These (E) designations will assure that no significant adverse air quality impacts will occur from the projected developments' HVAC emissions.

MAJOR COMBUSTION EMISSION SOURCE ANALYSIS

The Wyckoff Heights Medical Center's heating plant is a major Title V (DEC Permit #2-6104-01298/00002) emission source with a permit that is effective from November 20, 2012 to November 19, 2017. However, this permit was converted to a State Facility permit with an expiration date of August 7, 2027 -- with a capped annual NOx emission rate of 24.9 tons per year, which is below the Title V major source permit applicability requirement (and as such no longer requires a federal permit).

Wyckoff Medical Center's heating plant is dual-fuel facility that operates three (3) boilers with a design capacity of 15.4 million BTUs per hour (MMBTU/hr) each. The boilers utilize both natural gas and fuel oil number 2 (with 15 ppm [0.0015 percent] sulfur). The boilers work in assembly with two chillers equipped with dual-fuel spark-ignition internal combustion engines (SI ICE) from which heat is transferred to the boilers to generate steam or hot water.

The chillers use only natural gas and are utilized for the facility's heating, cooling, and hot water supply purposes. Each chiller has two engines with 1.532 MMBTU/hr design capacity each. The chillers also have their own permit, which is not included in State Facility permit, but which was considered as part of this analysis.

The State Facility permit lists only one regulated pollutant – oxides of nitrogen (NOx), while the report issued for Title V permit also lists two other regulated pollutants -- particulates PM/PM_{10} (with a New York State identification number of NY-075-00-0) and VOCs (NY-998-00-0). The Title V permit also defined emission limits (in grams per horsepower-hour) for all of three pollutants.

According to Title V and State Facility permit, emissions from the boilers are released through 195-foot tall stacks that are 36 inches in diameter. The State Facility permit, in addition, identified four chiller stacks that have different diameters (from 6 to 36 inches) but the same height as the boiler stack (195-foot). The stack for boiler and the chillers have the same UTM coordinates -- 591,451E and 4506,518N. View of Wyckoff Medical Center in Google map shows only one tall stack with the same coordinates. As such, it is likely that emissions from the four chiller's engines stacks and boilers stack were routed into one common exhaust stack. Therefore, based on this, and for conservative purposes, it was assumed that all emissions from Wyckoff Medical Center combustion installations would be released through one 195-foot tall common stack that is 36 inches diameter.

The State Facility permit regulates annual NOx emissions rate at 24.9 tons/year to be within the State Facility permit limit. However, the permit does not contain emission factors or hourly limits for NOx or the other applicable pollutants (PM_{10} or SO_2). Therefore, an emission factor for NOx was obtained from the Title V permit for this facility, which is based on Reasonably Available Control Technology (RACT) conditions for NOx that should be implemented for the State Facility permit. These estimated NOx emissions defined as the upper NOx emission limit of one gram per horse power-hour, which corresponds

to 0.31 lb/MM/BTU. For PM_{10}, the upper emission limit of 0.1 gram/horsepower-hour was used to estimate PM_{10} short-term and annual emission rates.

For the $PM_{2.5}$, an emission factor of 5.6E-03 MMBTU/hour (fuel input) was obtained from USEPA's AP-42 based on particle size distribution for uncontrolled stationary diesel engines and includes both filterable (4.78E-02 lb/MMBTU/hour) and condensable (7.7E-03 lb/ MMBTU/hour) particles. For SO_2 emissions, an AP-42 emission factor for fuel oil # 2 for diesel engines was calculated using the equation 1.01x S, where S (sulfur content in fuel) is 15 ppm or 0.0015%.

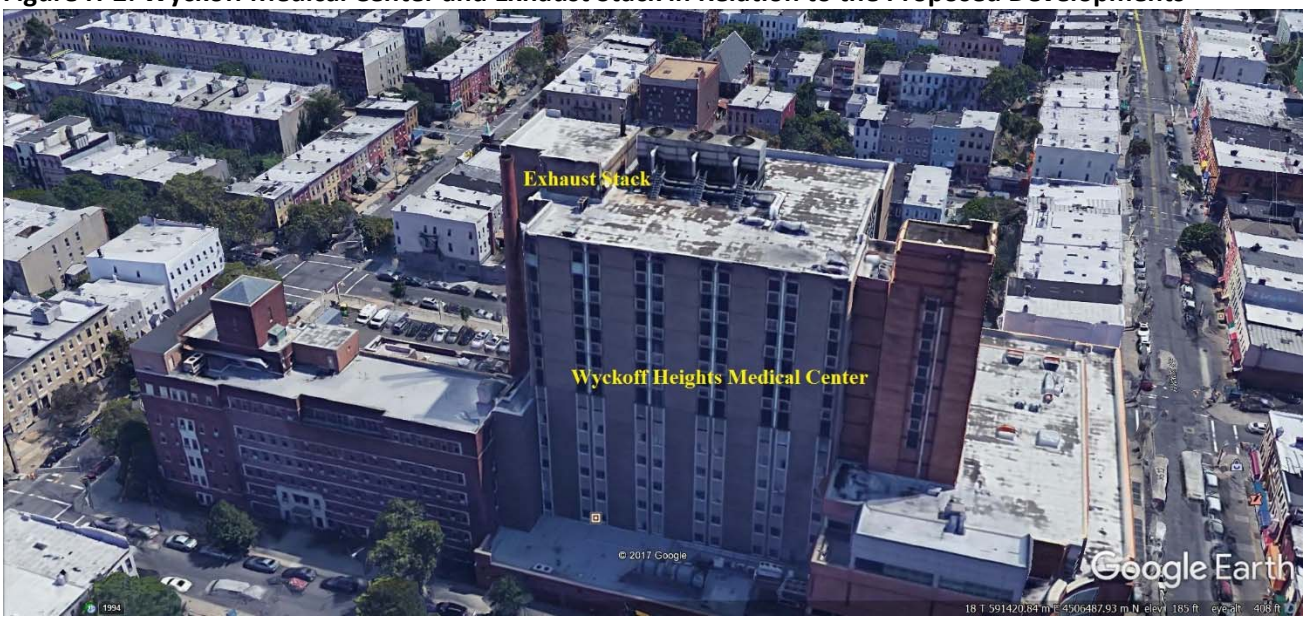
Even though the State Facility permit does not contain an annual emission rate for particulates, this value was obtained from the Title V permit for this facility as the Potential to Emit (PTE) value, which represents a facility-wide emission cap with an operational limitation for that contaminant, and should be treated as enforceable for the State Facility permit. Due to limitations and the State Facility status, the PTE for total particulates and PM_{10} could be less than for those provided in the Title V permit. However, for conservative purposes, the PTE for PM_{10}, defined as 10,313 pounds per year, was used in this analysis as the annual emission rates for both PM_{10} and $PM_{2.5}$.

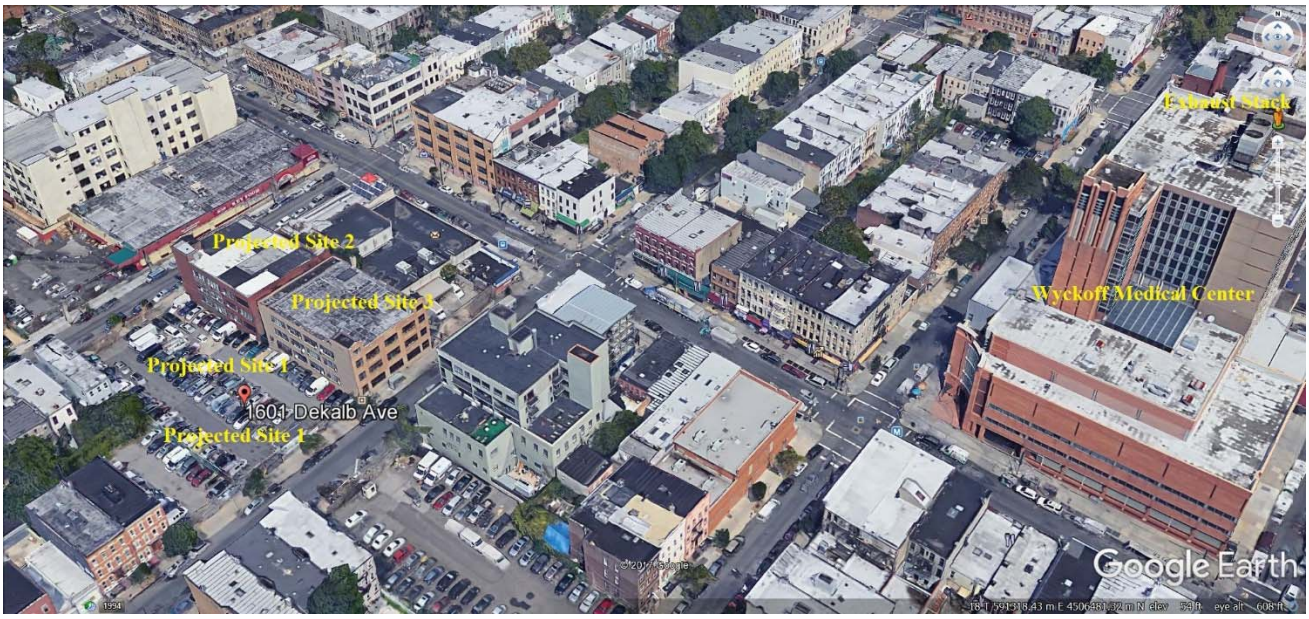
The emissions from the Wyckoff Medical Center combustion installations (boilers and chillers) could potentially impact all three proposed developments. Therefore, an analysis was conducted to estimate whether the potential impact of these emissions would be significant.

Dispersion Analysis

The same AERMOD model and dispersion modeling options as for HVAC analysis were used for the Wyckoff Medical Center emission analysis. The stack, as indicated above, was located at 591,451E and 4506,518N UTM coordinates on the NYCDCP PLUTO shape file, which was used as a base map for the AERMOD modeling. The distance from this common stack to the nearest Projected Site 3 is approximately 610 feet (**Figure H-2**).

Figure H-2: Wyckoff Medical Center and Exhaust Stack in Relation to the Proposed Developments




Exhaust Stack
Projected Site 2
Projected Site 3
Wyckoff Medical Center
Projected Site 1
1601 Dekalb Ave
Projected Site 1
Google Earth

Emission Rates

Even though EPA's AP-42 indicates that duel fuel engines assume a mix of 95% natural gas and 5% diesel fuel, emission factors used for this analysis (when they were not available from the permit) were those for diesel fuel because diesel engines emit more pollutants. The emission factors used in this analysis are as follows:

- $PM_{2.5}$ – combined 5.56E-02 lb/MMBtu which includes 4.78E-02 lb/MMBtu of filterable and 7.7E-03 condensable particles less than 1 micron in diameter (AP-42 Table 3.4-2 "Particle and particle-sizing Emission Factors for Large Uncontrolled Stationary Diesel Engines");
- PM_{10} – 0.1 lb/MMBtu (Title V permit)
- NOx – 3.1E-01 lb/MMBtu (Title V permit)
- SO_2 – 1.5E-03 lb/MMBtu (Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines based on 0.0015% sulfur content in fuel (AP-42, Table 3.4-1).

Table H-10: Estimated Pollutant Emission Rates with Fuel Oil No. 2 Under State Facility Permit #2-6104-01298

	Boiler/Engines Combined Heat Input	**Peak Short-term Emission Rates**		**Annual Emission Rates**	
lb/MMBtu	**MMBtu/hr**	**lb/hr**	**g/sec**	**lb/year**	**g/sec**
Permit # 2-6104-01298		**$PM_{2.5}$ Emission Rates**			
		lb/hr	**g/sec**	**lb/year**	**g/sec**
5.6E-02	52.33	2.90E+00	3.66E-01	10,313	1.48E-01
Permit # 2-6104-01298		**PM_{10} Emission Rates**			
		lb/hr	**g/sec**	**lb/year**	**g/sec**
1.0E-01	52.33	5.23E+00	6.59E-01	10,313	1.48E-01
Permit # 2-6104-01298		**NOx Emission Rates**			
		lb/hr	**g/sec**	**lb/year**	**g/sec**
3.1E-01	52.33	1.62E+01	2.04E+00	49,800	7.16E-01
Permit # 2-6104-01298		**SO_2 Emission Rates**			
		lb/hr	**g/sec**	**lb/year**	**g/sec**
1.5E-03	52.33	7.93E-02	9.99E-03	694	9.99E-03

Note: Heat input is the combined heat input from three boilers at 15.4 MMBtu/hr each and four engines at 1.532 MMBtu/hr each

As described above, the stack height and diameters were obtained from the facility's permit. The stack exit velocity, which is not listed in the permit, was estimated based on values obtained from NYCDEP "CA Permit" database for the corresponding boiler sizes (i.e., rated heat input in million BTUs per hour). The stack exit temperature was assumed to be 300°F (423°K), which is appropriate for boilers. Stack parameters data used in this analysis are provided in **Table H-11**.

Table H-11: Stack Parameters

Title V Permit	Total Boiler Capacity	Stack Height		Diameter		Temp.	Velocity
	MMBtu/hr	feet	meters	feet	meters	deg K	m/sec
#2-6104-01298	52.33	195	59.44	3	0.9144	423	6.4

Receptor Locations

Receptors, which, for this analysis, are the operable windows of the proposed projected sites, were placed around all faces of each building on Projected Sites 1, 2, and 3 -- in 10-foot increments on all floor levels starting at 10 feet above the ground and extending up to the upper windows level (i.e., 84.5 feet for Projected Site 1 and 90 feet for Projected Sites 2 and 3). More than 1,500 receptors were considered for the analysis to ensure that the maximum impacts are estimated.

Results of the Major Source Analysis

Potential impacts of the $PM_{2.5}$, $PM_{10,}$ NO_2, and $SO_{2,}$ emissions from the Wyckoff Heights Medical Center's heating plant on the proposed Projected Sites 1, 2, and 3 were estimated and compared with the 24-hour/annual $PM_{2.5}$ *CEQR* significant impact criteria, and the 1-hour/annual NO_2, 1-hour SO_2, and 24-hour PM_{10} NAAQS.

The result of the dispersion analysis is that all impacts are lower than both the applicable standards and the *CEQR* significant threshold values. This is because the difference between plume centerline of 195-foot tall Wyckoff Medical Center stack and the upper level (windows) receptors (i.e., where the highest impacts are likely to occur) on the proposed development sites is more than 100 feet. This is true even though estimated concentrations are substantially higher with the downwash affects caused by the tall and wide Wyckoff Medical Center buildings.

$PM_{2.5}$

The results of the $PM_{2.5}$ analysis is that the maximum 24-hour impact is estimated to be 4.14 ug/m^3 with downwash and 0.81 ug/m^3 without downwash effect –values that are less than the *CEQR* significant impact criteria. The maximum annual average impact is estimated to be 0.19 ug/m^3 with downwash and 0.04 ug/m3 without downwash – values that are less than the *CEQR* annual significant impact criteria. Therefore, PM_{25} emissions from the Wyckoff Medical Center would not cause a significant air quality impact on the residential uses of the projected developments.

1-Hour NO_2

Because the Tier 1 NO_2 analysis resulted in exceedances of the 1-hour NO_2 NAAQS, a Tier 3 analysis was conducted. The analysis, with the PVMRM module, was conducted using the DEP recommendation that the in-stack NO_2/NOx concentration ratio should be 0.5, as the EPA default value, and missing ozone background concentration as a full single value should be 0.04 ppm. Under the Tier 3 analysis, hourly NO_2 background concentrations are added internally by the model, and resulting total 1-hour NO_2 concentration could be directly compared to the 1-hour NO_2 NAAQS.

The result of the 1-hour NO_2 Tier 3 analysis is that the 8th highest daily 1-hour NO_2 concentration is 119.4 ug/m^3 with downwash and 109.4 ug/m^3 without downwash. The maximum average annual NO_2 total concentration is estimated to be 32.0 ug/m^3 (with a maximum impact of 0.7 ug/m^3 and background value of 31.3 ug/m^3). Both the 1-hour and annual NO_2 concentrations are less than the 1-hour and annual NO_2

NAAQS of 188 ug/m^3 and 100 ug/m^3, respectively. Therefore, 1-hour and annual NO_2 emissions from the Wyckoff Medical Center would not cause a significant air quality impact on the projected developments.

1-hour SO_2

The results of the 1-hour SO_2 analysis is that the maximum 1-hour SO_2 impact is estimated to be 0.2 ug/m^3 and the total 1-hour SO_2 4th highest daily 1-hour averaged concentration (including a background value of 24.7 ug/m^3) is estimated to be 24.9 ug/m^3, which is less than the 1-hour SO_2 NAAQS of 196 ug/m^3. Therefore, 1-hour SO_2 emissions from the Wyckoff Medical Center would not cause a significant air quality impact on the projected developments.

24-hour PM_{10}

The result of the 24-hour PM_{10} analysis is that the maximum 24-hour PM_{10} impact is 7.5 ug/m^3. The maximum total 24-hour PM_{10} concentration, including a background value of 44 ug/m^3, is estimated to be 51.5 ug/m^3, which is less than the 24-hour PM_{10} NAAQS of 150 ug/m^3. Therefore, the 24-hour PM_{10} emissions from the Wyckoff Medical Center would not cause a significant air quality impact on the projected developments.

A summary of the results for all averaging time periods, with and without downwash effect, are presented in **Table H-12**. **Figures H-3** and **H-4** show the 24-hr $PM_{2.5}$ and 1-hr NO_2 concentration contours together with the point of maximum impact.

Table H-12: Summary of Results of Major Emission Source Analysis

Pollutant	Modeled Concentration [(1)]	Background Conc.	Total Conc.	Evaluation Criteria
	ug/m^3	ug/m^3	ug/m^3	ug/m^3
$PM_{2.5}$				
24-hr $PM_{2.5}$	4.14/0.81	-	4.1	7.25 (*CEQR Criteria)*
Annual $PM_{2.5}$	0.19/0.04	-	0.19	0.3 (*CEQR Criteria*)
NO_2				
1-hr NO_2[(2)]	119.4/109.4		119.4	188 (NAQQS)
Annual NO_2	0.69/0.15	31.3	32.0	100 (NAAQS
SO_2				
1-hr SO_2	0.2/0.09	24.7	24.9	196 (NAQQS)
PM_{10}				
24-hr PM_{10}	7.46/1.46	44	51.5	150 (NAQQS)

Notes:

(1) Modeled concentrations with/without downwash effects.

(2) Results with Tier 3 analysis

As shown, no exceedances of the *CEQR* significant impact criteria for $PM_{2.5}$ or the respective NAAQS for all pollutants on the proposed developments from Wyckoff Medical Center's emissions are predicted.

Figure H-3: 24-hr $PM_{2.5}$ Contour Map

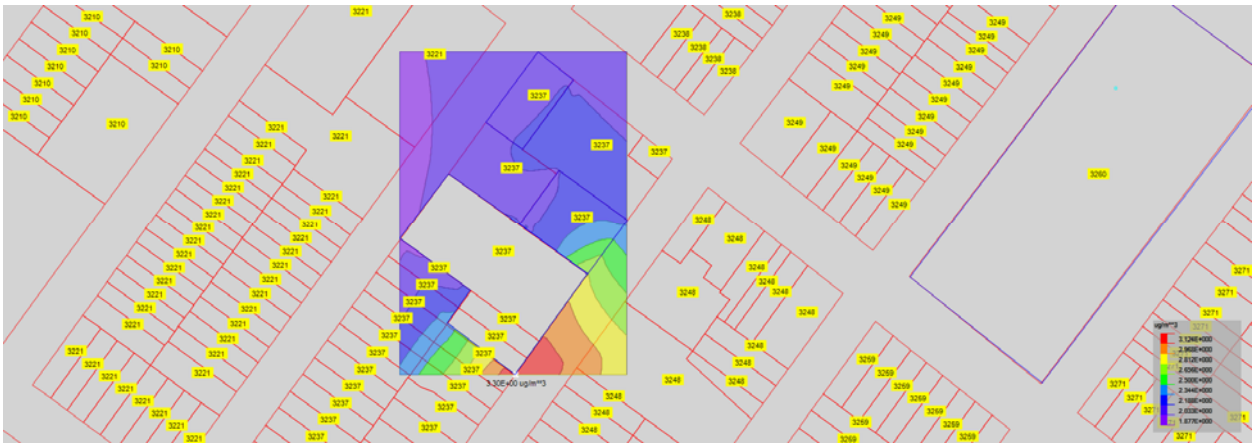
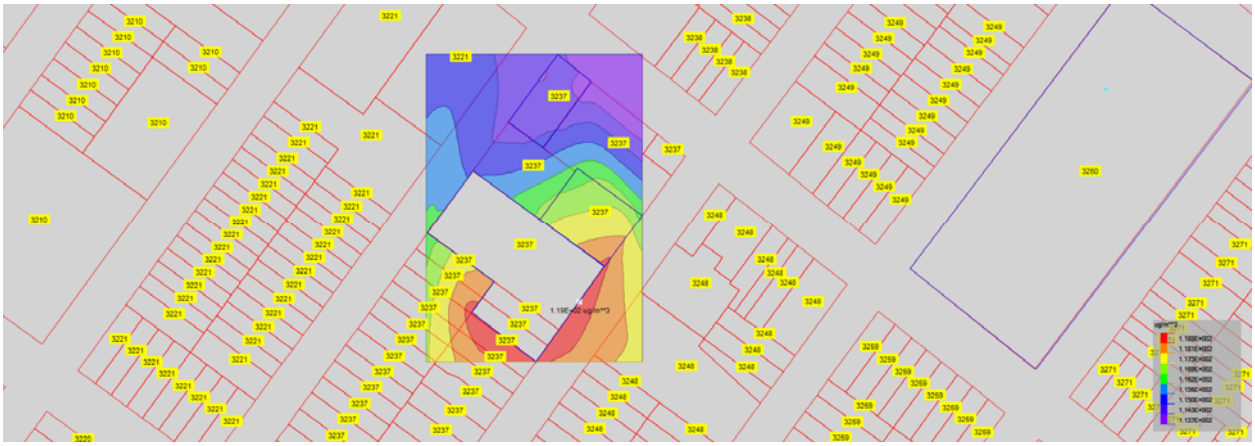


Figure H-4: 1-hr NO_2 Contour Map



INDUSTRIAL SOURCE ANALYSIS

In accordance with Section 220 (Stationary Sources) of the *CEQR Technical Manual*, "projects that would result in new uses (particularly schools, hospitals, and residences) located within 400 feet of manufacturing or processing facilities" may result in potentially significant impacts, and therefore require stationary source analyses. As several industrial facilities are located within 400 feet of the rezoning area, an analysis was conducted to determine whether the potential impacts of the air toxic emissions released from these facilities would significantly impact the proposed development.

Emissions

The first step in this analysis, which is to determine the types and amounts of emissions generated by the nearby industrial facilities, was to obtain emission data for these facilities that are permitted by DEP.

A formal request for this information, with nearby block and lot numbers, was submitted to the DEP, and, based on the information received, permits for ten (10) industrial facilities were identified as currently operating within 400 feet of the rezoning area. The data received from DEP contained in the permits were reviewed to determine the types of operations and pollutant emission rates, and served as the primary basis of the emission data for this analysis.

The ten (10) permits that were identified by the DEP are as follows:

1. **PB035210M** at 303 Stockholm Street (Block 3248, Lot 51) for Bert's Auto Body Repair Facility with touch-up operations in a spray booth
2. **PA055695X** at 1288 Willoughby Ave (Block 3210, Lot 23) for Wilco Finishing Corp involved in polishing of metal parts
3. **PA055795X** at 1288 Willoughby Ave (Block 3210, Lot 23) for Wilco Finishing Corp involved in polishing of metal parts
4. **PB023914H** at 374 Stockholm Street for Wyckoff Medical Center (Block 3260, Lot 1) involving operations of the four (4) internal TECOGEN gas combustion chiller engines
5. **PB026909 at 316** Stockholm Street (Block 3259 Lot 22) for Cholos Auto Repair Body Shop involved in car painting operations in a spray booth
6. **PA037092H** at1288 Willoughby Ave (Block 3210, Lot 23) for Wilco Finishing Corp involved in decorative plating process in tank contained chromic and sulfuric acids mist
7. **PA037192P** at1288 Willoughby Ave (Block 3210, Lot 23) for Wilco Finishing Corp involved in removing of chromic acid salts from rinse water via evaporation
8. **PA010994** is for an emergency generator used at Wyckoff Medical Center at 374 Stockholm Street
9. **PA017486** is for an emergency generator used at Wyckoff Medical Center at 374 Stockholm Street
10. **PA020911** is for an emergency generator used at Wyckoff Medical Center at 374 Stockholm Street

The last three permits (PA010994, PA017486, and PA020911) are for Wyckoff Medical Center's emergency generators that are not used to generate electricity. Therefore, in accordance with DCP guidance, these units were eliminated from further consideration.

Two permits (PA037092H and PA037192P) are for Wilco Finishing Corp. which is involved in chromic acid decorative metal plating and removing of chromic acid salts from rinse water. Permit PA-37092H, with an expiration date of 11/16/16, lists two pollutants (chromic acid mist and sulfuric acid mist) as being emitted from the metal decorative plating process. However, a recertified permit for this facility, issued after 2016, with expiration date of 11/16/2019, lists VOCs as the only contaminant, and all data related to chromic acid (or sulfuric acid) mist emissions were deleted from the revised permit. A similar situation occurred with PA037192P, where data related to the chromic acid shown on the "Industrial Processes Field Inspection Report," issued on 9/28/2016, were deleted.

An analysis of the previous versions of the same two Wilco Finishing permits (PA037092H and PA037192P) was conducted in 2006 under the Wyckoff Avenue Rezoning Project EAS, which considered chromic acid mist emissions released from these sources on a proposed project. The conclusion of that analysis was that the chromic acid emissions would not significantly impact the proposed development, which was located 165 feet from the industrial facility, and the project was certified. As the current proposed developments are located almost twice the distance from the industrial sources (approximately 310 feet), it is anticipated that even if chromic acid mist were still being released to the atmosphere, the impacts would also not be significant. However, the current permits no longer identify chromic acid (or sulfuric acid) fumes as pollutants being released from this facility, and only VOCs are identified.

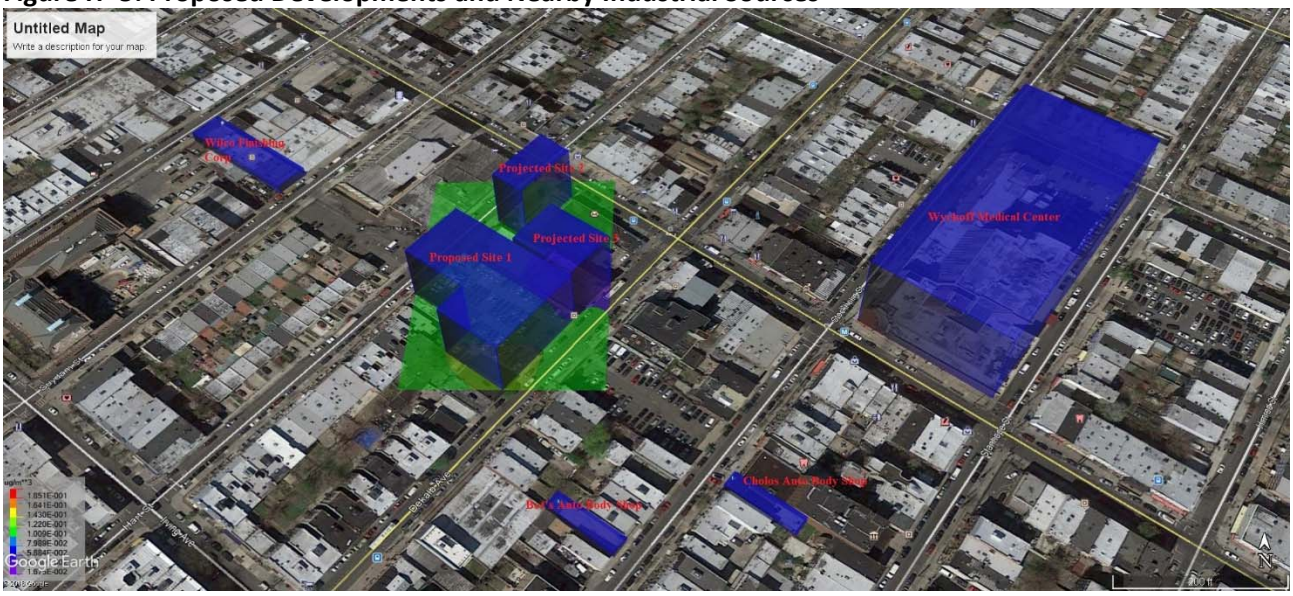
Both of the Wilco permits use vapor fume suppressants intended to reduce the evaporation of the chromic and sulfuric acids mist, and these suppressants could generate fugitive emissions. It is conceivable that suppressant-related emissions would prevail and replace chromic acid fume emissions in the exhaust stream. According to the research, chemical fume suppressors reduce the surface tension and gas bubbles become smaller and rise more slowly than large bubbles. Slower rising bubbles reduce kinetic energy, so that when bubbles do burst at the surface, the hexavalent chromium is less likely to be emitted into the air, and the droplets fall back onto the surface of the bath. These fume suppressors are referred as fluorinated sulfonate surfactants (PFOS or PFAC) (California EPA CARB, Proposed Amendments to the

Hexavalent Chromium Airborne Toxic Control Measure for Chrome Plating and Chromic Acid Anodizing Operations, 2006]).

The VOCs listed in the current permit (PA037092H) is not an individual contaminant but a group of chemicals with varying toxicity and, as such, no guideline values for VOCs are provided in the DEC DAR-1 database. For VOCs to be considered as a type of emissions released from the process, it should be substituted for by individual chemicals with known guideline values. However, fluorinated sulfonate surfactants (whether it PFOS or PFAC) currently have no applicable guideline values as toxic pollutants, such as short-term/chronic reference concentration or cancer risk. Their chemical properties are under study and no actual data exist at this time to evaluate their potential impacts. Therefore, both permits were excluded from further consideration.

Overall, a total of five (5) permits out of nine permits identified by the DEP were considered in the industrial source analysis. The proposed developments and nearby industrial sources are shown on **Figure H-5.**

Figure H- 5: Proposed Developments and Nearby Industrial Sources



Facilities Considered

Facility types, addresses, block and lot numbers, permit numbers, and emitted pollutants for the five (5) facilities considered are provided in **Table H-13**.

Permits and Pollutants

This analysis is based on the current (August 2016) edition of the DEC DAR-1 database, which no longer includes short-term (1-hour) and annual guideline values (SGC and AGC) for $PM_{2.5}$,$PM_{10,}$ NO2, and CO but uses the federal standards (NAAQS) for these pollutants.

In accordance with the current version of DAR-1, if a $PM_{2.5}$ analysis from industrial sources is required, the 24-hour federal standard of 35 ug/m^3 and annual standard of 12 ug/m^3 have to be applied. Because the federal standards, as well as the *CEQR* significant incremental impact criteria established for $PM_{2.5}$, are based on a 24-hour and annual averaging time periods, the analysis of $PM_{2.5}$ requires the use of the USEPA

AERMOD dispersion model, which contains a special procedure for this type of analysis (see Dispersion Analysis with AERMOD).

Table H-13: Existing Toxic Facilities Permit Information

N	Facility	Block	Lot	Address	Permit No.	Facility Type	Pollutant Name	CAS No.	Emission	
									lb/h	lb/y
1	Bert's Auto Body	3248	51	303 Stockholm Street	PB035210M	Spray Booth	Particulates	NY075-	0.013	23.4
							Acetone	67-64-1	0.024	42.4
							Methanol	67-56-1	0.004	6.7
							Isopropyl Alcohol	67-63-0	0.006	11.2
							MIK [1]	108-10-1	0.010	17.9
							Toluene	108-88-3	0.063	113.8
							Isobutyl	110-19-	0.022	40.2
							MPA [1]	108-65-6	0.002	4.5
							Dibutyl Phthalate	84-74-2	0.001	2.2
							Titanium Dioxide	13463-67-7	0.009	15.6
							Carbon Black	1333-86-4	0.002	4.5
2	Wilco Finishing Corp.	3210	23	1288 Willoughby Avenue	PA055695X	Polishing of Metal Parts	Particulates	NY075-00-0	0.001	0.480
3	Wilco Finishing Corp.	3210	23	1288 Willoughby Avenue	PA055795X	Polishing of Metal Parts	Particulates	NY075-00-0	0.001	0.480
4	Wyckoff Medical Center	3260	1	374 Stockholm Street	PB023914H	Chiller SI ICE Engines	NOx	10102-44-0	7.10E-01	3,578
							CO	630-08-	1.42E	7,156
5	Cholos Auto Repair Body Shop	3259	22	316 Stockholm Street	PB035210M	Spray Booth	Particulates	NY075-	0.013	26.0
							Acetone	67-64-1	0.024	47.1
							Methanol	67-56-1	0.004	7.4
							Isopropyl	67-63-0	0.006	12.4
							MIK [1]	108-10-1	0.010	19.8
							Toluene	108-88-3	0.063	126.5
							Isobutyl	110-19-	0.022	44.6
							MPA [1]	108-65-6	0.002	5.0
							Dibutyl Phthalate	84-74-2	0.001	2.5
							Titanium Dioxide	13463-67-7	0.009	17.4
							Carbon Black	1333-86-4	0.002	5.0

1. MIK and MPA are methyl isobutyl ketone and methoxypropylacetate, respectively.

Facility No. 1

Bert's Auto Body Shop (PB035210M) at 303 Stockholm Street is involved in auto body painting touch-up operations, and has a spray booth that emits two types of pollutants – solids (CAS number of NY079-00-0) and VOCs (CAS # NY998-00-0). According to the facility's description, 0.02 gallons of paint is consumed per hour for 8 hours a day and 250 day a year. Solids, which are particulate matter with a current CAS number NY075-00-0, are not controlled. The permit also contains hourly and annual emission rates for all pollutants that are based on detailed material balance calculations. Hourly and annual solvents emission rates are estimated to be 0.124 pounds per hour (lb/hr) or 223.2 lb/year. The hourly and annual solid emission rates are estimated to be 0.013 lb/hr or 23.4 lb/yr.

Estimated emission rates are in line with those estimated for similar facilities with touchup operations in spray booths that use less paint than the full body paintings operations. However, solid emission rates are higher because no solid emission control is used at this facility while other facilities equipped with spray booths, use high efficiency fiberglass filters to substantially reduce particulates from the exhaust.

The group of VOCs for these operations are a mixture of contaminants with various toxicities – not individual compounds. Therefore, the VOC group has no established guideline values in the DAR-1 database and representative specific contaminants that should be considered instead. However, no paint type or MSDS for the paint used at this facility are available from the permit application to identify the specific organic compounds. Therefore, based on evaluating different types of paints and thinners used in automotive paint composition in spray booth applications, Sherwin-Williams paint was selected as representative, and the maximum percentages of each hazardous ingredient found in different types of Sherwin-Williams pains were applied. A total of ten ingredients were included in the evaluation, as identified by the MSDS, and these are shown in **Table H-13** above, with some compounds having strict guideline values in the NYSDEC DAR-1 database.

Facility No.2

Wilco Finishing Corp (PA055695X) at 1288 Willoughby Ave (Block 3210, Lot 23) is involved in polishing of metal parts. The pollutant identified is particulate matter, and the facility is equipped with a cyclone dust collector with filter capable of removing 99.9% of particles from the exhaust stream.

Facility No.3

Wilco Finishing Corp (PA055795X) at 1288 Willoughby Ave (Block 3210, Lot 23) is involved in polishing of metal parts. The pollutant identified is particulate matter, and the facility is equipped with a cyclone dust collector with filter capable of removing 99.9% of particles from the exhaust stream.

Facility No.4

Wyckoff Medical Center (PB023914H) at 374 Stockholm Street (Block 3260, Lot 1) includes operation of two internal TECOGEN gas combustion chiller with two engines to provide heat and electricity. TECOGEN units are equipped with ultra-clean emission efficient control technology reducing emissions of two criteria pollutants to near zero levels. Emission rates of NOx and CO were estimated using emission factors listed in the specification sheet for TECOCHILL CH-400x engines.

Facility No. 5

The Cholos Auto Repair Body Shop (PB026909) at 316 Stockholm Street is involved in auto body painting operations via a spray booth that emits two types of pollutants – solids (CAS number of NY079-00-0) and VOCs (CAS # NY998-00-0). Solids, which are particulate matter with a current CAS number of NY075-00-0, are controlled with a fiberglass filter. Hourly and annual VOCs emission rates are estimated to be 0.124 pounds per hour (lb/hr) and 248 lb/year. The hourly and annual solids emission rates are estimated to be 0.013 lb/hr and 26.0 lb/yr.

Both solids and VOCs hourly emission rates are exactly the same as those for Bert's Auto Body Shop (PB035210M) with spray booth operations while the annual emission rates for them are only slightly different. Therefore, it was assumed that the same VOC composition as those used under permit PB035210M represent the individual solvents comprised for the VOCs under permit PB026909. The same ten ingredients from the Sherwin-Williams paints are therefore included in the evaluation, as shown in **Table H-13**.

Toxic Assessment Methodology

Toxic air pollutants can be grouped into two categories: carcinogenic air pollutants, and non-carcinogenic air pollutants. These include hundreds of pollutants, ranging from high to low toxicity. While no federal standards have been promulgated for toxic air pollutants, the USEPA and the New York state Department of Environmental Conservation (NYSDEC) have issued guidelines that establish acceptable ambient levels for these pollutants based on human exposure criteria. All of pollutants listed in the permits are non-carcinogens.

In order to evaluate short-term and annual impacts of the non-carcinogenic toxic air pollutants, the NYSDEC has established short-term ambient guideline concentrations (SGCs) and ambient annual-average-based guideline concentrations (AGCs) for exposure limits. These are maximum allowable 1-hour and annual guideline concentrations, respectively, that are considered acceptable concentrations below which there should be no adverse effects on the health of the general public. DAR-1 SGC and AGC values were applied to all solvents and total particulates

If the estimated1-hour and annual concentrations of each pollutant is less than its applicable guideline value (either SGC or AGC), no adverse health effects would occur. If the concentration of any pollutant exceeds either SGC or AGC, a more detailed analysis would be required.

CEQR Screening Analysis

For estimating potential impacts, the *CEQR Technical Manual* recommends using a screening procedure for industrial emission sources with toxic air pollutants as a first step in an analysis. This procedure uses pre-tabulated pollutant concentration values based on a generic emission rate of 1 gram per second from Table 17-3, "Industrial Source Screen," of the *CEQR Technical Manual* for the applicable averaging time periods. This approach, which can be used to estimate maximum short-term and annual average concentration values at various distances (from 30 to 400 feet) from an emission source, was used to assess the potential impacts of the emissions from the existing permitted and non-permitted facilities.

The minimum distance from the lot line of Bert's Auto Body Shop (Facility No.1) and the lot line of the closest projected site (Site 1 on Block 3327, Lot 23) is approximately 174 feet. For conservative purposes, a distance of 165 feet was used. At this distance, based on a 1 gram per second emission rate (using Table

17-3), the maximum 1-hour and annual concentrations were estimated to be 4,702 ug/m^3 and 236 ug/m^3, respectively.

The minimum distance from the lot line of the Wilco Finishing Corp. (Facilities No. 2 and 3) to the lot line of the closest projected site (Site 1) is approximately 313 feet. For the conservative purposes, a distance of 300 feet was used. At this distance, based on a 1 gram per second emission rate (using Table 17-3), the maximum 1-hour and annual concentrations were estimated to be 1,891 ug/m^3 and 84 ug/m^3, respectively.

The minimum distance from the lot line of the Wyckoff Medical Center to the lot line of the closest projected site (Site 1) is approximately 339 feet. For conservative purposes, a distance of 330 feet was used. At this distance, based on a 1 gram per second emission rate (using Table 17-3), the maximum 1-hour and annual concentrations were estimated to be 1,703 ug/m^3 and 73 ug/m^3, respectively.

The minimum distance from the lot line of the Cholos Auto Repair Body Shop to the lot line of the projected site is approximately 316 feet. For conservative purposes, a distance of 300 feet was used. At this distance, based on a 1 gram per second emission rate (using Table 17-3), the maximum 1-hour and annual concentrations were estimated to be 1,891 ug/m^3 and 84 ug/m^3, respectively.

All values obtained from Table 17-3 of the *CEQR Technical Manual* for an emission rate of 1 gram per second were then multiplied by the actual emission rates of each compound under each permit to estimate actual pollutant concentrations. These values were then compared to the DAR-1 short-term (SGC) and annual (AGC) guideline concentrations or the NAAQS where applicable. Because some of the pollutants (e.g., isobutyl acetate, dibutyl phthalate, titanium dioxide, and carbon black) have no SGC values, these pollutants are not presented in their respective tables.

Estimated hourly and annual emission rates for all pollutants are provided in Tables H-14 through H-18. The estimated concentrations of solvents in comparison with the applicable DAR-1 SGC and AGC values are provided in **Tables H-19** and **H-20.** Estimated concentrations for NO_2 and CO, in comparison with the NAAQS, are provided in **Tables H-21** and **H-22**.

Table H-14: Estimated Pollutant Emission Rates Under PA035210M

Pollutant Emission Rates						Conc. for 1g/sec		Actual Conc.	
Pollutant	CAS No.	Hourly lb/hr	Annual lb/year	Hourly g/s	Annual g/s	Hourly ug/m3	Annual ug/m3	Hourly ug/m3	Annual ug/m3
Particulates	NY075-02-5	0.013	23.4	0.0005	0.0001	**4,702**	**236**		
Acetone	67-64-1	0.024	42.4	0.0030	0.0006			13.96	0.1440
Methanol	67-56-1	0.004	6.7	0.0005	0.0001			2.20	0.0227
Isopropyl Alcohol	67-63-0	0.006	11.2	0.0008	0.0002			3.67	0.0379
MIK	108-10-1	0.010	17.9	0.0012	0.0003			5.88	0.0606
Toluene	108-88-3	0.063	113.8	0.0080	0.0016			37.47	0.3864
Isobutyl Acetate	110-19-0	0.022	40.2	0.0028	0.0006			13.22	0.1364
MPA	108-65-6	0.002	4.5	0.0003	0.0001			1.47	0.0152
Dibutyl Phthalate	84-74-2	0.001	2.2	0.0002	0.0000			0.73	0.0076
Titanium Dioxide	13463-67-7	0.009	15.6	0.0011	0.0002			5.14	0.0530
Carbon Black	1333-86-4	0.002	4.5	0.0003	0.0001			1.47	0.0152

MIK=Methyl Isobutyl Ketone

MPA=Methoxypropylacetate

Table H-15: Estimated Pollutant Emission Rates Under PA055695X

Pollutant Emission Rates						Conc. for 1g/sec		Actual Conc.	
Pollutant	**CAS No.**	**Hourly**	**Annual**	**Hourly**	**Annual**	**Hourly**	**Annual**	**Hourly**	**Annual**
		lb/hr	**lb/year**	**g/s**	**g/s**	**ug/m³**	**ug/m³**	**ug/m³**	**ug/m³**
Particulates	NY075-00-0	0.001	0.480	0.00013	0.00001	1,891	84	0.2383	0.0006

Table H-16: Estimated Pollutant Emission Rates Under PA055795X

Pollutant Emission Rates						Conc. for 1g/sec		Actual Conc.	
Pollutant	**CAS No.**	**Hourly**	**Annual**	**Hourly**	**Annual**	**Hourly**	**Annual**	**Hourly**	**Annual**
		lb/hr	**lb/year**	**g/s**	**g/s**	**ug/m³**	**ug/m³**	**ug/m³**	**ug/m³**
Particulates	NY075-00-0	0.001	0.480	0.00013	0.00001	1,891	84	0.2383	0.0006

Table H-17. Estimated Pollutant Emission Rates Under PB023914H

Pollutant Emission Rates						Conc. for 1g/sec		Actual Conc.	
Pollutant	**CAS No.**	**Hourly**	**Annual**	**Hourly**	**Annual**	**Hourly**	**Annual**	**Hourly**	**Annual**
		lb/hr	**lb/year**	**g/s**	**g/s**	**ug/m³**	**ug/m³**	**ug/m³**	**ug/m³**
Nitrogen Oxides (NO2)	10102-44-0	7.10E-01	3,578	0.0894	0.0515	1,703	73	152.3	3.757
Carbon Monoxide (CO)	630-08-0	1.42E+00	7,156	0.1789	0.1029			304.6	7.513

Table H-18: Estimated Pollutant Emission Rates Under PB026909

Pollutant Emission Rates						Conc. for 1g/sec		Actual Conc.	
Pollutant	CAS No.	Hourly	Annual	Hourly	Annual	Hourly	Annual	Hourly	Annual
		lb/hr	lb/year	g/s	g/s	ug/m3	ug/m3	ug/m3	ug/m3
Particulates	NY075-02-5	0.013	23.4	0.0005	0.00011	1,891	84		
Acetone	67-64-1	0.024	47.1	0.0030	0.0007			5.61	0.0569
Methanol	67-56-1	0.004	7.4	0.0005	0.0001			0.89	0.0090
Isopropyl Alcohol	67-63-0	0.006	12.4	0.0008	0.0002			1.48	0.0150
MIK	108-10-1	0.010	19.8	0.0012	0.0003			2.36	0.0240
Toluene	108-88-3	0.063	126.5	0.0080	0.0018			15.07	0.1528
Isobutyl Acetate	110-19-0	0.022	44.6	0.0028	0.0006			5.32	0.0539
MPA	108-65-6	0.002	5.0	0.0003	0.0001			0.59	0.0060
Dibutyl Phthalate	84-74-2	0.001	2.5	0.0002	0.0000			0.30	0.0030
Titanium Dioxide	13463-67-7	0.009	17.4	0.0011	0.0002			2.07	0.0210
Carbon Black	1333-86-4	0.002	5.0	0.0003	0.0001			0.59	0.0060

MIK=Methyl Isobutyl Ketone

MPA=Methoxypropylacetate

Table H-19: Estimated 1-hour Concentrations for All Facilities

Chemical Name	CAS No.	Max Estimated 1-hour Concentration	DAR-1 SGC	Exceed Yes/No
		µg/m³	µg/m³	
PA035210M				
Acetone	67-64-1	13.96	180,000	No
Methanol	67-56-1	2.20	33,000	No
Isopropyl Alcohol	67-63-0	3.67	98,000	No
MIK	108-10-1	5.88	31,000	No
Toluene	108-88-3	37.47	37,000	No
MPA	108-65-6	1.47	55,000	No
PA055695X				
Particulates	NY075-00-0	0.2383	380	No
PA055795X				
Particulates	NY075-00-0	0.2383	380	No
PB026909				
Acetone	67-64-1	5.61	180,000	No
Methanol	67-56-1	0.89	33,000	No
Isopropyl Alcohol	67-63-0	1.48	98,000	No

MIK	108-10-1	2.36	31,000	No
Toluene	108-88-3	15.07	37,000	No
MPA	108-65-6	0.59	55,000	No

Notes:
The maximum 1-hour concentrations were estimated based on actual emission rates and pre-tabulated concentration for 1 gram per second, obtained from CEQR Table 17-3 as follows:

PA035210M	4,702 ug/m3
PA055695X	1,891 ug/m3
PB055795X	1,891 ug/m3
PB023914H	1,703 ug/m3
PB026909	1,891 ug/m3

Isobutyl Acetate, Dibutyl Phthalate, Titanium Dioxide, and Carbon Black have no SGC values and chromic acid has no AGC value in the DAR-1 database. Therefore, these pollutants were not included in their respective tables

Table H-20: Estimated Short-term Concentrations for NO_2 and CO

Chemical Name	CAS No.	Max Estimated Concentrations	NAAQS	Exceed Yes/No
		µg/m³	µg/m³	
PA023914H				
Nitrogen Oxides (NO2)	10102-44-0	152.3	188	No
Carbon Monoxide (CO)	630-08-0	304.6	10,000	No

Table H-21: Estimated Annual Concentrations for All Facilities

Chemical Name	CAS No.	Max Estimated Annual Concentration	AGC	Exceed Yes/No
		µg/m³	µg/m³	
PA035210M				
Acetone	67-64-1	0.1440	30,000	No
Methanol	67-56-1	0.0227	4,000	No
Isopropyl Alcohol	67-63-0	0.0379	7,000	No
MIK	108-10-1	0.0606	3,000	No
Toluene	108-88-3	0.3864	5,000	No
Isobutyl Acetate	110-19-0	0.1364	565	No
MPA	108-65-6	0.0152	2,000	No
Dibutyl Phthalate	84-74-2	0.0076	12	No
Titanium Dioxide	13463-67-7	0.0530	24	No
Carbon Black	1333-86-4	0.0152	7	No
PA055695X				
Particulates	NY075-00-0	0.0006	45	No
PA055795X				
Particulates	NY075-00-0	0.0006	45	No
PB026909				
Acetone	67-64-1	0.0569	30,000	No
Methanol	67-56-1	0.0090	4,000	No
Isopropyl Alcohol	67-63-0	0.0150	7,000	No
MIK	108-10-1	0.0240	3,000	No

Toluene	108-88-3	0.1528	5,000	No
Isobutyl Acetate	110-19-0	0.0539	565	No
MPA	108-65-6	0.0060	2,000	No
Dibutyl Phthalate	84-74-2	0.0030	12	No
Titanium Dioxide	13463-67-7	0.0210	24	No
Carbon Black	1333-86-4	0.0060	7	No

The maximum annual concentrations were estimated based on actual emission rates and pre-tabulated concentration of 1 gram per second obtained from CEQR Table 17-3 as following:

PA035210M	236 ug/m3
PA055695X	84 ug/m3
PA055795X	84 ug/m3
PA023914H	73 ug/m3
PB026909	84 ug/m3

Table H-22: Estimated Annual Concentration for NO_2

Chemical Name	CAS No.	Max Estimated Annual Concentration	NAAQS	Exceed Yes/No
		µg/m³	µg/m³	
PA023914H				
Nitrogen Oxides (NO_2)	10102-44-0	3.76	100	No

Results of the CEQR Screening Analysis

Results of the screening analysis is that the estimated short-term and annual concentrations of all solvents that comprise the VOCs group and total particulates under CAS # NY075-00-0 are less than their respective SGC or AGC guideline values, and 1-hour and annual NO_2 and 8-hour CO concentrations are less than the their respective NAAQS, indicating that all these pollutants passed the screening analysis and no further analysis for these pollutants are required.

Dispersion Analysis with AERMOD

A dispersion analysis was conducted to estimate the cumulative $PM_{2.5}/PM_{10}$ impacts on the proposed developments from the emissions of Bert's Auto Body Shop (Facility No.1) and Cholos Auto Repair Body Shop together using AERMOD model with the same options and meteorological data set as those used for the HVAC and major emission source analyses.

Particulate Emission Rates

DCP and DEP currently require that particulate matter released from spray booth operations be analyzed as $PM_{2.5}/PM_{10}$ emissions based on the $PM_{2.5}/PM_{10}$ fractions content in the total mass of particulate matter. The USEPA data on cumulative particle size distributions for surface coating operations via spray booths shows that 28.6% of the total mass of particulate matter are $PM_{2.5}$ particles and 46.7 % of the total mass of particulate matter are PM_{10} particles (EPA-42, Appendix B1, Page B.1-12, Particle Size Distribution Data and Sized Emission Factors for selected Sources, Table 4.2.2.8 Automobile and Light-Duty Track Surface

Coating Operations, Automobile Spray Booths). Therefore, the factors of 0.286 and 0.467 are applied to the solid content listed in the permits PB035210M and PB026909 for spray booth operations to estimate $PM_{2.5}$ and PM_{10} emission rates (**Table H-23**).

Table H-23: Estimated $PM_{10}/PM_{2.5}$ Emission Rates

Permit No.	$PM_{10}/PM_{2.5}$	Permitted Emission Rates		Fraction of PM10/PM2.5 in total Solids	Hourly	Annual
		lb/hr	lb/year	%	g/sec	g/sec
Spray Booth Facilities						
PA035210M	PM_{10}	1.30E-02		46.7%	0.0008	
	$PM_{2.5}$	1.30E-02	23.4	28.6%	0.0005	0.00010
PA026909	PM_{10}	1.30E-02		46.7%	0.0008	
	$PM_{2.5}$	1.30E-02	26.0	28.6%	0.0005	0.00011

Stack Locations

Stacks for Bert's Auto Body Shop and Cholos Auto Repair Body Shop were located at the minimum distance from the lot line facing the proposed development. Some stack parameters (flow rate and temperature) were obtained from the permit or permit application while stack height and diameter were conservatively assumed.

Receptor Locations

Receptors were located around all faces of each of development sites on each of floor starting from the ground level (6 feet) and extending up to the upper window level which is assumed to be 5 feet below building roof height, in 10-foot increments. Overall, more than 1,500 receptors were considered to assure that maximum impacts are estimated.

Results

The 3-year average of the 24-hour $PM_{2.5}$ background concentration (20.5 ug/m^3) was added to the maximum estimated 24-hour impact of 0.25 ug/m^3, and the impact and total estimated concentration were compared to the *CEQR* significant impact criteria of 7.25 ug/m^3 and 24-hour $PM_{2.5}$ NAAQS of 35 ug/m^3. The 3-year average of annual $PM_{2.5}$ background concentration of 8.6 ug/m^3 was added to the estimated annual impact (0.008 ug/m3) and total estimated concentrations were compared to the *CEQR* Significant impact criteria of 0.3 ug/m3 and annual $PM_{2.5}$ NAAQS of 12 ug/m^3.

The 24-hour PM_{10} background concentration (44 ug/m^3) was added to the maximum estimated 24-hour PM_{10} impact of 0.39 ug/m^3, and the total estimated concentration was compared to the 24-hour PM_{10} NAAQS of 150 ug/m^3.

Table H-22: Estimated 24-hour $PM_{2.5}$ and PM_{10} Impacts and Total Concentrations

Pollutant	Max 24-hr Impact	Background Conc. (1)	Total Conc.	CEQR Significant Impact Criteria	NAAQS
	ug/m³	ug/m³	ug/m³	ug/m³	ug/m³
$PM_{2.5}$	0.25	20.5	20.8	7.25	35
PM_{10}	0.39	44	44.4		150

Table H-23: Estimated Annual $PM_{2.5}$ Impact and Total Concentration

Pollutant	Max Annual Impact	Background	Total Conc.	CEQR Significant Impact Criteria	NAAQS
	ug/m³	ug/m³	ug/m³	ug/m³	ug/m³
$PM_{2.5}$	0.008	8.6	8.6	0.3	12

Notes:

(1) PM2.5 background concentration was obtained from NYS Monitoring Report for Brooklyn JHS as 20.5 ug/m^3, which is the average of the 98th percentiles for the last 3 years; the annual $PM_{2.5}$ concentration is 8.6 ug/m^3, which is also the 3-year (2014-2016) average value.

Estimated 24-hour/annual $PM_{2.5}$ and PM_{10} impacts, total concentrations and comparison to the *CEQR* significant impact criteria and NAAQS are provided in **Tables H-22** and **H-23**. The result of the analysis is that no exceedances of either the 24-hour/annual NAAQS for $PM_{2.5}$ or 24-hour PM_{10} NAAQS are predicted from the emissions of nearby industrial sources operating near the proposed development.

Result of the Industrial Source Analysis

The result of this analysis of toxic air emissions that could be released from existing permitted industrial sources currently operating within 400 feet from the proposed development is that no exceedances of the applicable NYSDEC DAR-1 guideline values, CEQR significant impact criteria, and respective NAAQS are predicted. As such, the emissions released from the nearby existing industrial sources are not predicted to significantly impact the proposed developments.

CONCLUSION

The result of the HVAC analysis, the major source analysis, and the air toxics analysis is that no significant air quality impacts are associated with the Proposed Actions.

I. INTRODUCTION

This chapter assesses the potential for the Proposed Actions to result in significant adverse noise impacts. 1601 DeKalb Owner LLC (the "Applicant") is seeking two discretionary actions in order to facilitate the redevelopment of 1601 DeKalb Avenue (Block 3237, Lots 23, 47, and 48) in the northwest Bushwick neighborhood of Brooklyn Community District 4 (the "proposed development site"). The discretionary actions include: (i) a zoning map amendment to rezone the northern portion of Brooklyn Block 3237 (the "proposed rezoning area") from R6 and M1-1 districts to R6B, R7A, and R7A/C2-4 districts; and, (ii) a zoning text amendment to ZR Appendix F to designate the R7A and R7A/C2-4 portions of the proposed rezoning area as a Mandatory Inclusionary Housing (MIH) Area. Collectively, the zoning map amendment and the zoning text amendment are the "Proposed Actions" for the purposes of the environmental analysis.

The proposed rezoning area consists of the northern portion of Brooklyn Block 3237, including Lots 23, 47, and 48, as well as Lots 21, 22, 27, 31, 33, 38, and 41. In total, the proposed rezoning area comprises approximately 62,767 square feet (sf) of lot area bounded by Wyckoff Avenue to the north, DeKalb Avenue to the east, Hart Street to the west, and, to the south, a line 350 feet north of, and parallel to, Irving Avenue. The Applicant-owned proposed development site on Lots 23, 47, and 48 is an approximately 25,000 sf through lot on the mid-block between DeKalb Avenue and Hart Street. The site is currently occupied by a 100-space public parking lot for monthly parkers, and was part of the former right-of-way for the Evergreen Branch of the Long Island Railroad (LIRR), which was terminated more than 44 years ago[1].

In the future with the Proposed Actions, the Applicant proposes to construct two new nine-story residential buildings on the proposed development site (Site 1), with a total of approximately 125,252 gross square feet (gsf) (103,000 zoning square feet [zsf]), with a floor area ratio (FAR) of 4.12. It is anticipated that the two proposed buildings would contain a total of 118,378 gsf (103,000 zsf) of residential space with 122 dwelling units (DUs), as well as approximately 46 accessory parking spaces. Twenty-five percent of the residential floor area on Lot 23 (equivalent to 31 DUs) would be affordable units pursuant to the MIH Program.

As discussed in Attachment A, "Project Description," two other projected development sites have been identified in the proposed rezoning area: Block 3237, Lot 31 and Block 3237, Lot 41. These properties are not owned or controlled by the Applicant. Lot 31 currently has a two-story commercial building with a built FAR of 1.39. As such, this lot would accommodate a building with less than 50 percent of the maximum allowable FAR of 4.6 in the future with the Proposed Actions, making it a possible site for redevelopment. Therefore, Lot 31 has been included as a projected development site in the RWCDS (Site 2). Lot 41 is occupied by a three-story residential building that has been illegally converted to residential use, with 21 residential units. Lot 41 has a built FAR of 2.36. As the uses on Block 3237, Lot 41 are not yet

[1] LIRR's interest in the ROW was officially terminated on 10/25/1972; however the site has not been used for railroad or railroad accessory use since before 9/27/1962 and the enactment of the Zoning Resolution.

legalized, this site is considered to be a projected development site. Therefore, Block 3237, Lot 41 has been included as a projected development site in the RWCDS (Site 3).

The Proposed Actions would change traffic patterns and volumes in the general vicinity of the rezoning area. As local vehicular traffic is a major source of ambient noise in the area, this could lead to changes in the ambient noise levels. According to the 2014 *CEQR Technical Manual*, if existing noise passenger car equivalent (PCE) values are increased by 100 percent or more due to a proposed action (which is equivalent to an increase of 3.0 dBA or more) a detailed analysis is generally warranted. Conversely, if existing noise PCE values are not increased by 100 percent or more it is likely that the Proposed Actions would not cause a significant adverse vehicular noise impact, and therefore no further vehicular noise analysis is needed.

The noise analysis for the Proposed Actions was carried out in compliance with *CEQR Technical Manual* guidelines and consists of two parts:

- (1) A screening analysis to determine whether traffic generated by the Proposed Actions would have the potential to result in significant adverse noise impacts on existing sensitive receptors;

- (2) An analysis to determine the level of building attenuation necessary to ensure that interior noise levels for the proposed and projected developments satisfy applicable interior noise criteria. This attachment does not include an analysis of mechanical equipment because such mechanical equipment would be designed to meet all applicable noise regulations and, therefore, would not result in adverse noise impacts.

II. PRINCIPAL CONCLUSIONS

Noise from the increased traffic volumes generated by the Proposed Actions would not cause significant adverse noise impacts as the relative increases in noise levels would fall below the applicable *2014 CEQR Technical Manual* significant adverse impact threshold (3.0 dBA).

Based on the calculated With-Action L_{10} noise levels, the following composite window/wall attenuations were determined for future residential/community facility uses as well as commercial uses within the rezoning area:

- A minimum of 28 dBA composite window/wall attenuation is required for residential/community facility uses on the eastern and westrn frontages of Projected Development Site 1.

- A minimum of 28 dBA composite window/wall attenuation is required for residential/community facility uses on the northern frontage of Projected Development Site 2. The required composite window/wall attenuation for commercial uses would be 5 dBA less.

- A minimum of 28 dBA composite window/wall attenuation is required for residential/community facility uses on the eastern frontage of Projected Development Site 3.

The composite window/wall noise attenuations described above would be required through the assignment of an (E) designation on Block 3237, Lots 23, 31, and 41 in conjunction with the proposed rezoning. With implementation of the attenuation levels outlined above and described in **Table I-8**, the Proposed Actions and subsequent RWCDS projected developments would provide sufficient attenuation to achieve the *CEQR Technical Manual* interior noise level guidelines. Therefore, the Proposed Actions would not result in any significant adverse impacts related to noise attenuation.

III. NOISE FUNDAMENTALS

Quantitative information on the effects of airborne noise on people is well documented. If sufficiently loud, noise may adversely affect people in several ways. For example, noise may interfere with human activities such as sleep, speech communication, and tasks requiring concentration or coordination. It may also cause annoyance, hearing damage, and other physiological problems. Although it is possible to study these effects on people on an average or statistical basis, it must be remembered that all the stated effects of noise on people vary greatly with the individual. Several noise scales and rating methods are used to quantify the effects of noise on people. These scales and methods consider factors such as loudness, duration, time of occurrence, and changes in noise level with time.

"A"-Weighted Sound Level (dBA)

Noise is typically measured in units called decibels (dB), which are ten times the logarithm of the ratio of the sound pressure squared to a standard reference pressure squared. Because loudness is important in the assessment of the effects of noise on people, the dependence of loudness on frequency must be taken into account in the noise scale used in environmental assessments. Frequency is the rate at which sound pressures fluctuate in a cycle over a given quantity of time, and is measured in Hertz (Hz), where 1 Hz equals 1 cycle per second. Frequency defines sound in terms of pitch components. In the measurement system, one of the simplified scales that accounts for the dependence of perceived loudness on frequency is the use of a weighting network - known as A-weighting - that simulates the response of the human ear. For most noise assessments, the A-weighted sound pressure level in units of "dBA" is used due to its widespread recognition and its close correlation to perception. As shown in **Table I-1**, the threshold of human hearing is defined as 0 dBA; very quiet conditions (as in a rural area at night, for example) are approximately 30-40 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 120 dBA. In this analysis, all measured noise levels are reported in dBA or A-weighted decibels.

TABLE I-1: Common Noise Levels

Sound Source	(dBA)
Air Raid Siren at 50 feet	120
Maximum Levels at Rock Concerts (Rear Seats)	110
On Platform by Passing Subway Train	100
On Sidewalk by Passing Heavy Truck or Bus	90
On Sidewalk by Typical Highway	80
On Sidewalk by Passing Automobiles with Mufflers	70
Typical Urban Area	60-70
Typical Suburban Area	50-60
Quiet Suburban Area at Night	40-50
Typical Rural Area at Night	30-40
Soft Whisper at 5 meters	30
Isolated Broadcast Studio	20
Audiometric (Hearing Testing) Booth	10
Threshold of Hearing	0

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

Community Response to Changes in Noise Levels

Table I-2 shows the average ability of an individual to perceive changes in noise. 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 noise on a platform with a passing subway train, at 100 dBA, is perceived as twice as loud as passing heavy trucks at 90 dBA. For most people to perceive an increase in noise, it must be at least 3 dBA. At 5 dBA, the change will be readily noticeable. These guidelines permit direct estimation of an individual's probable perception of changes in noise levels.

TABLE I-2: Average Ability to Perceive Changes in Noise Levels

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

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

Noise Descriptors Used In Impact Assessment

Because the sound pressure level unit, 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., 1 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. Statistical sound level descriptors such as L_1, L_{10}, L_{50}, L_{90}, and L_x, are sometimes used to indicate noise levels that are exceeded 1, 10, 50, and 90 percent of the time, respectively. Discrete event peak levels are given as L_1 levels. L_{eq} is used in the prediction of future noise levels, by adding the contributions from new sources of noise (i.e., increases in traffic volumes) to the existing levels and in relating annoyance to increases in noise levels.

The relationship between L_{eq} and levels of exceedance is worth noting. Because L_{eq} is defined in energy rather than straight numerical terms, it is 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 relationship between L_{eq} and exceedance levels has been used in this analysis to characterize the noise sources and to determine the nature and extent of their impact at both monitoring locations.

For the purposes of this analysis, the maximum 1-hour equivalent sound level (L_{eq}) has been selected as the noise descriptor to be used in the noise impact evaluation. L_{eq} is the noise descriptor used in the 2014 *New York City Environmental Quality Review (CEQR) Technical Manual for* noise impact evaluation, and is used to provide an indication of highest expected sound levels. L_{10} is the noise descriptor used in the 2014 *CEQR Technical Manual* for building attenuation. Hourly statistical noise levels (particularly L_{10} and L_{eq} levels) were used to characterize the relevant noise sources and their relative importance at each receptor location.

Applicable Noise Codes and Impact Criteria

New York 2014 CEQR Technical Manual Noise Standards

The New York City Department of Environmental Protection (DEP) has set external noise exposure standards. These standards are shown on the following page in **Table I-3**. Noise Exposure is classified into four categories: acceptable, marginally acceptable, marginally unacceptable, and clearly unacceptable. The standards are based on maintaining an interior noise level for the worst-case hour L_{10} of less than or equal to 45 dBA.

Table I-3: Noise Exposure Guidelines for Use in City Environmental Impact Review

Receptor Type	Time Period	Acceptable General External Exposure	Airport[3] Exposure	Marginally Acceptable General External Exposure	Airport[3] Exposure	Marginally Unacceptable General External Exposure	Airport[3] Exposure	Clearly Unacceptable General External Exposure	Airport[3] Exposure
1. Outdoor area requiring serenity and quiet[2]		$L_{10} \leq 55$ dBA	---------- Ldn ≤ 60 dBA ----------		---------- 60 < Ldn ≤ 65 dBA ----------		(1) 65 < Ldn ≤ 70 dBA, (II) 70 ≤ Ldn		---------- Ldn ≤ 75 dBA ----------
2. Hospital, Nursing Home		$L_{10} \leq 55$ dBA		55 < $L_{10} \leq 65$ dBA		65 < $L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
3. Residence, residential hotel or motel	7 AM to 10 PM	$L_{10} \leq 65$ dBA		65 < $L_{10} \leq 70$ dBA		70 < $L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
	10 PM to 7 AM	$L_{10} \leq 55$ dBA		55 < $L_{10} \leq 70$ dBA		70 < $L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
4. School, museum, library, court, house of worship, transient hotel or motel, public meeting room, auditorium, out-patient public health facility		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)	

5. Commercial or office		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)	
6. Industrial, public areas only[4]	Note 4	Note 4		Note 4		Note 4		Note 4	

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

Notes:

(i) In addition, any new activity would not increase the ambient noise level by 3 dBA or more;

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

2 Tracts of land where serenity and quiet are extraordinarily important and serve an important public need and where the preservation of these qualities is essential for the area to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks or open spaces dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet. Examples are grounds for ambulatory hospital patients and patients and residents of sanitariums and old-age homes.

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

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

The *CEQR Technical Manual* defines attenuation requirements for buildings based on exterior noise level. Recommended noise attenuation values for building façades are designed to maintain interior noise levels of 45 dBA or lower for residential uses and 50 dBA or lower for commercial uses, and are determined based on exterior L_{10} noise levels. The standards shown are based on maintaining an interior noise level for the worst-case hour L_{10} of 45 dBA or lower. Attenuation requirements are shown in **Table I-4**.

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

	Marginally Unacceptable				Clearly Unacceptable
Noise level with proposed development	$70<L_{10}\leq 73$	$73<L_{10}\leq 76$	$76<L_{10}\leq 78$	$78<L_{10}\leq 80$	$80<L_{10}$
Attenuation	(I) 28 dB(A)	(II) 31 dB(A)	(III) 33 dB(A)	(IV) 35 dB(A)	$36 + (L_{10} - 80)^B$ dB(A)

Note: [A] The above composite window-wall attenuation values are for residential dwellings. Commercial office spaces and meeting rooms would be 5 dB(A) less in each category. All the above categories require a closed window situation and hence an alternate means of ventilation.

[B] Required attenuation values increase by 1 dB(A) increments for L_{10} values greater than 80 dBA.

Source: New York City Department of Environmental Protection / 2014 *CEQR Technical Manual*

IV. NOISE PREDICTION METHODOLOGY

Proportional Modeling

Proportional modeling was used to determine No-Action and With-Action noise levels at the receptor locations, which are discussed in more detail below. Proportional modeling is one of the techniques recommended in the *2014 CEQR Technical Manual* for mobile source analysis. Using this technique, the prediction of future noise levels, where traffic is the dominant noise source, is based on a calculation using

measured Existing noise levels and predicted changes in traffic volumes to determine No-Action and With-Action noise levels. Vehicular traffic volumes, which are counted during the noise recording, are converted into Passenger Car Equivalent (PCE) values, for which one medium-duty truck (having a gross weight between 9,900 and 26,400 pounds) is assumed to generate the noise equivalent of 13 cars, and one heavy-duty truck (having a gross weight of more than 26,400 pounds) is assumed to generate the noise equivalent of 47 cars, and one bus (vehicles designed to carry more than nine passengers) is assumed to generate the noise equivalent of 18 cars. Future noise levels are calculated using the following equation:

FNA NL =10 log (NA PCE/E PCE) + E NL

where:

FNA NL = Future No-Action Noise Level
NA PCE = No-Action PCEs
E PCE = Existing PCEs
E NL = Existing Noise Level

Sound levels are measured in decibels and therefore increase logarithmically with sound source strength. In this case, the sound source is traffic volumes measured in PCEs. For example, assume that traffic is the dominant noise source at a particular location. If the existing traffic volume on a street is 100 PCE and if the future traffic volume were increased by 50 PCE to a total of 150 PCE, the noise level would increase by 1.8 dBA. Similarly, if the future traffic were to increase by 100 PCE, or doubled to a total of 200 PCE, the noise level would increase by 3.0 dBA.

Analyses for the Proposed Actions were conducted for three typical time periods: the weekday AM peak hour (8 AM to 9 AM), the midday peak hour (12 PM to 1 PM), and the weekday PM peak hour (5 PM to 6 PM). However, due to the close proximity of P.S. 123 and I.S. 162 to the proposed rezoning area, an additional noise measurement was performed during the school dismissal/bus departure (School PM) peak period (2:30PM to 3:30PM) in order to determine whether ambient noise levels were higher during this period than during the other standard weekday peak periods.These time periods are the hours when the maximum traffic generation is expected and, therefore, the hours when future conditions with the Proposed Actions are most likely to result in maximum noise impacts for the receptor locations.

For the purpose of this analysis, during the noise recording, vehicles were counted and classified. To calculate the 2022 No-Action PCE values at the rezoning area, an annual background growth rate of 0.50 percent for years 1 through 5 was applied to the counted PCE values.[2] To calculate the 2022 With-Action PCE values, a trip generation was prepared based on the proposed incremental development generated, utilizing existing modal split data for the census tract within which the rezoning area is located.[3] The total incremental vehicles generated per hour were estimated at 14 for the AM peak hour, 4 for the midday peak hour, and 6 for the PM peak hour. For the purposes of trip assignment it was conservatively assumed that all project-generated trips would be analyzed along all three adjacent thoroughfares: DeKalb Avenue, Wyckoff Avenue, and Hart Street.

[2] Calculation according to Table 16-4 in the *CEQR Technical Manual.*

[3] Based on T128. Means of Transportation to Work, Brooklyn Census Tract 427, 429, 431, 443, and 447, and Queens Census Tracts 539 and 545, 2011-15 Five Year ACS.

V. EXISTING CONDITIONS

According to the RWCDS, the Applicant-owned site (Block 3237, Lots 23, 47, and 48), plus the two additional projected development sites (Block 3237, Lots 31 and 41) are expected to be redeveloped under the With-Action conditions; all other sites located within the rezoning area are not expected to be redeveloped. The Applicant-owned proposed development site at 1601 DeKalb Avenue is a midblock through-lot with approximately 150 feet of frontage along DeKalb Avenue to the east and approximately 100 feet of frontage along Hart Street to the west (refer to **Figure I-1**). Whereas Lots 47 and 48 are located within an existing R6 zoning district, Lot 23, which comprises eighty percent of the proposed development site, is currently located in an M1-1 district. The approximately 25,000 sf proposed development site is currently occupied by a public parking lot with a licensed capacity of 100 spaces.

The approximately 62,767 sf proposed rezoning area comprises the northern portion of Brooklyn Block 3237, fronting DeKalb Avenue to the east, Wyckoff Avenue to the north, and Hart Street to the west. In addition to the Applicant-owned proposed development site on Lots 23, 47, and 48 detailed above, the proposed rezoning area encompasses all of Lots 21, 22, 27, 31, 33, 38, and 41 on Block 3237 (refer to **Figure I-1**).

Lot 21 is an approximately 2,500 sf midblock lot located along Hart Avenue. Lot 21 is occupied by a two-story residential building that contains 4 DUs. The existing building comprises approximately 3,000 sf (1.2 FAR).

Lot 22 is an approximately 2,500 sf midblock lot located along Hart Avenue. Lot 22 is occupied by a two-story 2-family residential building. The existing building comprises 1,938 sf (0.78 FAR).

Lots 27 and 41 are midblock lots located immediately to the north of the proposed development site, with Lot 27 fronting on Hart Street (7,500 sf lot area) and Lot 41 fronting on DeKalb Avenue (8,000 sf lot area). Both Lots 27 and 41 are occupied by 3-story residential buildings that have been converted to residential use through the Loft Law, with each building containing 21 residential units.

Lot 31 is an approximately 5,183 sf corner lot located at the southeast corner of Hart Street and Wyckoff Avenue and is occupied by a two-story commercial building, with a laundry/dry cleaning business (Heaven Scent Laundry) on the first floor and a community center (Brotherhood Boxing Club) on the second floor.

Lot 33 is an irregularly-shaped approximately 10,908 sf lot, with frontage on both Wyckoff and DeKalb Avenues. This lot is occupied by the United States Postal Service's (USPS) Wyckoff Station post office, which is a two-story building.

Lot 38 is an approximately 1,176 sf corner lot located at the southwest corner of DeKalb and Wyckoff Avenues and is occupied by a one-story building that houses a restaurant/diner (Sazón Nunez).

Selection of Noise Receptor Locations

As discussed above, traffic along DeKalb Avenue, Wyckoff Avenue, and Hart Street is the dominant source of noise in the vicinity of the rezoning area. Therefore, the noise receptor locations were selected based

upon the assumption that the future developments within the rezoning area would be built to their respective lot lines. The receptor locations are shown in **Figure I-1** and described below:

- Receptor Location 1 – Future western frontages of Applicant-owned site and Projected Development Site 2 (Hart Street); approximate midpoint of frontage (approximately 140 feet south of Wyckoff Avenue).

- Receptor Location 2 – Future northern frontages of Projected Development Site 2 (Wyckoff Avenue); approximate midpoint of frontage (approximately 100 feet west of DeKalb Avenue).

- Receptor Location 3 – Future western frontage of Applicant-owned site, Projected Development Site 3 (DeKalb Avenue); approximate midpoint of frontage (approximately 140 feet south of Wyckoff Avenue).

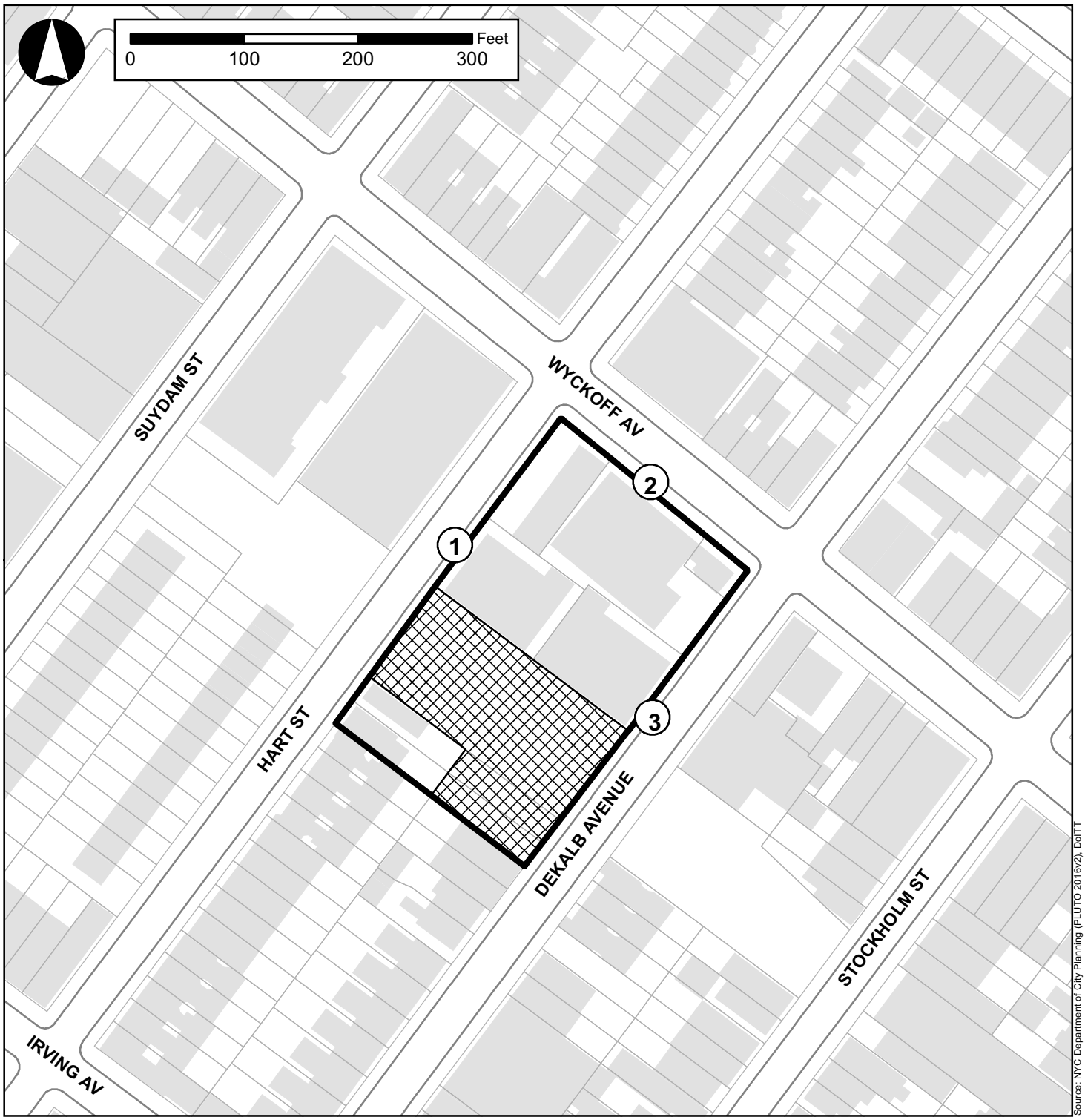
Noise Monitoring

At all three receptor locations, 20-minute spot measurements of existing noise levels were performed for each of three noise analysis time periods - weekday AM peak hour (8:00 AM to 9:00 AM), weekday midday peak hour (12:00 PM to 1:00 PM), and weekday PM peak hour (5:00 PM to 6:00 PM). As mentioned above, due to the close proximity of P.S. 123 and I.S. 162 to the proposed rezoning area, an additional noise measurement was performed during the school dismissal/bus departure (School PM) peak period (2:30PM to 3:30PM) in order to determine whether ambient noise levels were higher during this period than during the other standard weekday peak periods.Noise monitoring was performed on Wednesday, June 7, 2017. The weather was overcast and in the low-60s °F with an average windspeed of 9 mph.

Equipment Used During Noise Monitoring

The instrumentation used for the measurements was a Brüel & Kjær Type 4189 ½-inch microphone connected to a Brüel & Kjær Model 2250 Type 1 (as defined by the American National Standards Institute) sound level meter. This assembly was mounted at a height of 5 feet above the ground surface on a tripod and at least 6 feet away from any sound-reflecting surfaces to avoid major interference with source sound level that is being measured. The meter was calibrated before and after readings with a Brüel & Kjær Type 4231 sound-level calibrator using the appropriate adaptor. Measurements at each location were made on the A-scale (dBA). The data were digitally recorded by the sound level meter and displayed at the end of the measurement period in units of dBA. Measured quantities included L_{eq}, L_1, L_{10}, L_{50}, and L_{90}. A windscreen was used during all sound measurements except for calibration. Only traffic-related noise was measured; noise from other sources (e.g., emergency sirens, aircraft flyovers, etc.) was excluded from the measured noise levels. Weather conditions were noted to ensure a true reading as follows: wind speed under 12 mph; relative humidity under 90 percent; and temperature above 14°F and below 122°F (pursuant to ANSI Standard S1.13-2005).

Figure I-1
Noise Monitor Locations



Legend

- Proposed Rezoning Area
- Proposed Development Site
- Existing Buildings
- (1) Noise Monitor Location

Existing Noise Levels at Noise Receptor Locations

Measured Noise Levels

Table I-5: Existing Noise Levels (in dBA) at Receptor Locations

#[1]	Noise Receptor Location	Time[2]	L_{max}	L_{min}	L_{eq}	L_1	L_{10}[3]	L_{50}	L_{90}	CEQR Noise Exposure Category[4]
1	Hart Street	AM	81.4	49.7	60.4	69.2	**63.8**	56.7	52.5	Acceptable
		MD	77.4	49.5	60.0	68.1	62.7	58.2	53.1	
		SC[5]	85.0	49.2	63.4	77.2	63.7	56.4	52.5	
		PM	81.0	48.5	58.2	68.3	61.3	54.1	51.0	
2	Wyckoff Avenue	AM	87.8	56.9	66.1	75.5	69.8	61.2	58.6	Marginally Unacceptable (I)
		MD	91.6	52.9	67.0	76.5	68.6	59.6	56.4	
		PM	89.5	52.4	68.2	79.8	**71.0**	61.5	56.8	
3	DeKalb Avenue	AM	89.5	54.9	67.9	75.8	71.4	64.5	57.8	Marginally Unacceptable (I)
		MD	91.4	54.6	68.0	78.4	70.2	62.1	57.1	
		SC[6]	93.6	54.8	70.0	80.4	**71.7**	66.1	57.9	
		PM	92.6	55.2	68.3	76.9	70.5	63.3	58.1	

Notes: Field measurements were performed by Philip Habib & Associates on Wednesday, June 7, 2017.

[1] Refer to **Figure J-1** for noise monitoring receptor locations.

[2] AM = AM weekday peak period; MD = midday weekday peak period; SC = school PM weekday peak period; PM = PM weekday peak period

[3] Highest L_{10} value at each receptor location indicated in **bold**.

[4] For consistency purposes, the CEQR noise exposure categories for existing, No-Action, and With-Action conditions are based on the residential noise exposure guidelines; reflects the worst-case peak hour noise levels.

[5] The monitored L_{eq} at Receptor Location 1 during the School PM peak hour was measured to be 63.4 dBA, which is greater than the L_{eq} measured during the AM, midday, and PM peak hours (60.4 dBA, 60.0 dBA, and 58.2 dBA, respectively). For conservative purposes, the noise levels monitored during the School PM peak hour were used for futher noise analyses associated with Receptor Location 1.

[6] The monitored L_{eq} at Receptor Location 3 during the School PM peak hour was measured to be 70.0 dBA, which is greater than the L_{eq} measured during the AM, midday, and PM peak hours (67.9 dBA, 68.0 dBA, and 68.3 dBA, respectively). For conservative purposes, the noise levels monitored during the School PM peak hour were used for futher noise analyses associated with Receptor Location 3.

Noise monitoring results for receptor locations 1, 2, and 3 are shown in **Table I-3**. Traffic was the dominant noise source and the values shown reflect the level of vehicular activity on the respective thoroughfares adjacent to the rezoning area. Vehicular traffic volumes were counted during the noise recording for each peak period and converted into hourly PCE values. Existing noise levels at Receptor Locations 2 and 3 were within the Marginally Unacceptable (I) CEQR Noise Exposure category; existing noise levels at Receptor Location 1 were within the Acceptable CEQR Noise Exposure category. The highest noise levels were observed during the School PM peak period at Receptor Location 3 (DeKalb Avenue), exhibiting an L_{10} of 71.7 dBA.

VI. THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO-ACTION CONDITION)

In the 2022 future without the Proposed Actions (the No-Action condition), no zoning changes are anticipated in the proposed rezoning area. As such, the northern portion of Brooklyn Block 3237 would retain its existing M1-1 zoning designation and the maximum allowable FAR would remain at 1.0 (or up to 2.4 for allowed community facility uses). Residential uses are not permitted in M1-1 districts. Under the No-Action scenario, none of the lots within the proposed rezoning area are anticipated to be

redeveloped. Lot 23, which is owned by the Applicant, would not be redeveloped, as residential uses would not be allowed by existing zoning, and given the low FAR and limited uses permitted in the current M1-1 district. Lots 33 and 38 are currently developed at 89 percent and 100 percent, respectively, of the allowable 1.0 FAR under No-Action condition and are therefore unlikely to be redeveloped. Lots 27 and 31, currently exceed the allowable FAR, and are therefore unlikely to be redeveloped in the No-Action as the surplus floor area would be lost. As Lot 41 is currently occupied by illegal residential uses, it is assumed that this site would be converted to a legal use. It is assumed that 8,000 sf of office space could be developed at this site. Therefore, under RWCDS No-Action conditions, the proposed rezoning area would continue to be occupied by parking, retail, a post office, and one converted residential buildings and would also include the development of 8,000 sf of office uses.

Using the noise prediction methodology previously described in Section III above, future noise levels in the No-Action condition were calculated for the three analysis peak hours (plus the School PM peak hour for Receptor Locations 1 and 3) for the 2022 Build Year. **Table I-6** shows the measured Existing noise levels and calculated future No-Action condition noise levels at the receptor locations.

Table I-6: Future No-Action Noise Levels (in dBA)

Noise Receptor Location	Time	Existing PCEs	No-Action PCEs	Existing L_{eq}	2022 No-Action L_{eq}	Change	2022 No-Action L_{10}[1]	CEQR Noise Exposure Category
1	AM	93.0	95.3	60.4	60.5	0.1	**63.9**	Marginally Acceptable
	MD	84.0	86.1	60.0	60.1	0.1	62.8	
	SC	123.0	126.1	63.4	63.5	0.1	63.8	
	PM	108.0	110.7	58.2	58.3	0.1	61.4	
2	AM	252.0	258.4	66.1	66.2	0.1	69.9	Marginally Unacceptable (I)
	MD	369.0	378.3	67.0	67.1	0.1	68.7	
	PM	393.0	402.9	68.2	68.3	0.1	**71.1**	
3	AM	813.0	833.5	67.9	68.0	0.1	71.5	Marginally Unacceptable (I)
	MD	1014.0	1039.6	68.0	68.1	0.1	70.3	
	SC	984.0	1008.8	70.0	70.1	0.1	**71.8**	
	PM	924.0	947.3	68.3	68.4	0.1	70.6	

Notes: [1] Highest L_{10} value at each receptor location indicated in **bold**.

Comparing future No-Action noise levels with Existing noise levels, the increases in L_{eq} noise levels would would be 0.01 dBA for all analysis periods. According to 2014 *CEQR Technical Manual* guidelines, increases of less than 3.0 dBA would be barely perceptible. The projected L_{10} noise levels at Receptor Location 1 would range from 61.4 to 63.9 dBA, projected L_{10} noise levels at Receptor Location 2 would range from 69.9 to 71.1 dBA, and projected L_{10} noise levels at Receptor Location 3 would range from 70.3 to 71.8 dBA.

VII. THE FUTURE WITH THE PROPOSED ACTIONS (WITH-ACTION CONDITION)

Using the noise prediction methodology previously described in Section III, the noise levels in the future with the Proposed Actions were calculated for the three peak analysis periods in the 2022 Build Year. **Table I-7** presents noise levels in the future with the Proposed Actions at Receptor Locations 1, 2, and 3 in 2022.

Table I-7: Future With-Action Noise Levels (in dBA)

Noise Receptor Location	Time	With-Action PCES	No-Action L_{eq}	2022 With-Action L_{eq}	Change	2022 With-Action L_{10}[1]	CEQR Noise Exposure Category
1	AM	135.3	60.5	62.0	1.52	**65.4**	Marginally Acceptable
	MD	90.1	60.1	60.3	0.20	63.0	
	SC	132.1	63.5	63.7	0.20	64.0	
	PM	116.7	58.3	58.5	0.23	61.7	
2	AM	298.4	66.2	66.8	0.63	70.5	Marginally Unacceptable (I)
	MD	382.3	67.1	67.1	0.05	68.8	
	PM	408.9	68.3	68.4	0.06	**71.1**	
3	AM	873.5	68.0	68.2	0.20	71.7	Marginally Unacceptable (I)
	MD	1043.6	68.1	68.1	0.02	70.4	
	SC	1014.8	70.1	70.1	0.03	**71.8**	
	PM	953.3	68.4	68.5	0.03	70.7	

Notes: [1] Highest L_{10} value at each receptor location indicated in **bold**.

Comparing the future With-Action noise levels with No-Action noise levels, increases in L_{eq} noise level would range from 0.02 dBA to 1.52 dBA for all peak hours. Increases of this magnitude during the AM, midday and PM peak hours would not be perceptible as they are less than 3.0 dBA. Based upon *CEQR* impact criteria, as the With-Action noise levels would experience changes of less than 3.0 dBA during all peak hours, the Proposed Actions would not result in a significant adverse noise impact.

As shown in **Table I-7**, the maximum projected With-Action L_{10} noise level at Receptor 1 would be 65.4 dBA and would remain in the Marginally Acceptable CEQR Noise Exposure category, as under No-Action condition. The maximum projected With-Action L_{10} noise level at Recepter 2 would be 71.1 dBA and would remain in the Marginally Unacceptable (I) CEQR Noise Exposure category, as under No-Action conditions. The maximum projected With-Action L_{10} noise level along at Receptor 3 would be 71.8 dBA and would remain in the Marginally Unacceptable (I) CEQR Noise Exposure category, as under No-Action conditions.

VIII. ATTENUATION REQUIREMENTS

As shown in **Table I-4**, the 2014 *CEQR Technical Manual* has set noise attenuation requirements for buildings based on exterior noise levels. Recommended noise attenuation values for buildings are designed to maintain a maximum interior noise level of 45 dBA or lower for residential and community facility uses and 50 dBA or lower for retail and office uses, and are determined based on exterior L_{10} noise levels. Results of the building attenuation analysis are summarized in **Table I-8**.

The attenuation of a composite structure is a function of the attenuation provided by each of its component parts and how much of the area is made up of each part. Typically, a building façade is composed of the wall, windows, and any vents or louvers for HVAC systems in various ratios of area. Since the proposed buildings would most likely be of masonry construction, which typically provides a high level of sound attenuation, the attenuation requirements for HUD or *CEQR* purposes apply primarily to the windows, but may also represent a composite window/wall attenuation value. Window/Wall attenuation can be described in terms of sound transmission class (STC), transmission loss (TL), and outdoor-indoor transmission class (OITC). Although these terms are sometimes used interchangeably, they are unique from each other. Transmission loss refers to how many decibels of sound a façade (wall) or façade

accessory (window or door) can stop at a given frequency. The TL for a given construction material varies with the individual frequencies of the noise.

Table I-8: Required Attenuation Values for the Projected Developments Within Rezoning Area

Site	Frontage	Associated Receptor Location	Maximum With-Action L_{10}	CEQR Noise Exposure Category	Required Attenuation (OITC)[1]
Applicant-Owned Site (Block 3237, Lots 23, 47, 48)	Northern	N/A	N/A	N/A	N/A[2]
	Southern	N/A	N/A	N/A	
	Eastern (DeKalb Avenue)	3	71.8	Marignally Unacceptable (I)	28 dBA
	Western (Hart Street)	1	65.4	Marginally Acceptable	N/A
Projected Dev. Site #2 (Block 3237, Lot 31)	Northern (Wyckoff Avenue)	2	71.1	Marginally Uncceptable (I)	28 dBA
	Southern	N/A	N/A	N/A	N/A
	Eastern	N/A	N/A		
	Western	1	65.4	Marginally Acceptable	
Projected Dev. Site #3 (Block 3237, Lot 41)	Northern	N/A	N/A	N/A	N/A
	Southern	N/A	N/A		
	Eastern (DeKalb Avenue)	3	71.1	Marginally Unacceptable (I)	28 dBA
	Western	N/A	N/A	N/A	N/A

Notes: [1]The above attenuation values are for residential dwellings; commercial uses would be 5 dBA less.
[2] N/A = Not Applicable; no additional noise attenuation measures are required beyond standard construction practices. All the above categories require a closed window situation and hence an alternate means of ventilation.

To simplify the noise attenuation properties of a wall, the STC rating was developed. It is a single number that describes the sound isolation performance of a given material for the range of test frequencies between 125 and 4,000 Hz. These frequencies sufficiently cover the range of human speech. Higher STC values reflect greater efficiencies to block airborne sound. HUD uses the STC when identifying the required sound attenuation for a façade.

The OITC is similar to the STC, except that it is weighted more towards the lower frequencies associated with aircraft, rail, and truck traffic. The OITC classification is defined by the American Society of Testing and Materials (ASTM E1332-90 (Reapproved 2003)) 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. NYCDEP uses the OITC when identifying the required sound attenuation for a façade.

Projected Development Site 1 - Applicant-Owned Site (Lots 23, 47, & 48)

As maximum With-Action L_{10} noise levels at Receptor Location 3 would be 71.8 dBA, a minimum 28 dBA of composite window/wall attenaution would be required for residential/community facility uses on the eastern frontage (DeKalb Avenue) and the western frontage (Hart Street) of Projected Development Site 1, in order to achieve the required residential interior noise level of 45 dBA or lower.

Projected Development Site 2 (Lot 31)

As maximum With-Action L_{10} noise levels at Receptor Location 2 would be 71.1 dBA, a minimum 28 dBA of composite window/wall attenaution would be required for residential/community facility uses on the northern frontage of Projected Development Site 2, along Wycoff Avenue, in order to achieve the required residential interior noise level of 45 dBA or lower. Future commercial uses on the northern frontage of Projected Development Site 2 would be required to provide an attenuation rating of 5 dBA less than the residential requirement.

Projected Development Site 3 (Lot 41)

As maximum With-Action L_{10} noise levels at Receptor Location 2 would be 71.1 dBA, a minimum 28 dBA of composite window/wall attenaution would be required for residential/community facility uses on the eastern frontage of Projected Development Site 3, along DeKalb Avenue in order to achieve the required residential interior noise level of 45 dBA or lower.

(E) Designation

The composite window/wall noise attenuations described above would be required through the assignment of an (E) designation for noise to Block 3237, Lots 23, 31, 41, 47, & 48 in conjunction with the proposed rezoning. With the implementation of this composite window/wall noise attenuation, no significant adverse noise impacts would occur as a result of the Proposed Actions.

For building facades requiring 28 dBA of attenuation, the text of the (E) designation (E-465) is as follows:

Projected Development Site 1: Block 3237 Lots 23, 47, and 48

To ensure an acceptable interior noise environment, future residential uses must provide a closed-window condition with a minimum of 28 dBA window/wall attenuation on facades facing east (DeKalb Avenue) to maintain an interior noise level of 45 dBA. To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.

Projected Development Site 2: Block 3237, Lot 31

To ensure an acceptable interior noise environment, future residential uses must provide a closed-window condition with a minimum of 28 dBA window/wall attenuation on facade facing north (Wyckoff Avenue) to maintain an interior noise level of 45 dBA. To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.

Projected Development Site 3: Block 3237, Lot 41

To ensure an acceptable interior noise environment, future residential uses must provide a closed-window condition with a minimum of 28 dBA window/wall attenuation on facades facing east (DeKalb Avenue) to maintain an interior noise level of 45 dBA. To maintain a closed-window condition, an

alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.

VIII. Other Noise Concerns

Mechanical Equipment

The Proposed Actions would not include any unenclosed mechanical equipment for building ventilation purposes, and would not include any active outdoor recreational space that could result in stationary source noise impacts to the surrounding area. All mechanical equipment would be located either inside the building or would be enclosed on the roof of the structures, and should be designed to meet all applicable noise reglations and requirements. Therefore, the Proposed Actions would not result in any significant increase in ambient noise levels in the vicinity of the applicant-owned devopment site, the two additional projected development sites, the rezoning area, or the surrounding study area.

Train Noise

An initial train noise impact screening analysis would be warranted if a new receptor would be located within 1,500 feet of existing rail activity and have a direct line of sight to that activity. As the rezoning area is not within 1,500 of an existing rail line nor does the site have a direct line of sight to a rail activity, no initial train noise impact screening analysis is warranted.

Aircraft Noise

An initial aircraft noise impact screening analysis would be warranted if the new receptor would be located within one mile of an existing flight path, or cause aircraft to fly through existing or new flight paths over or within one mile of a receptor. Since the rezoning area is not within one mile of an existing flight path, no initial aircraft noise impact screening analysis is warranted.

APPENDIX A

NEW YORK CITY LANDMARKS PRESERVATION COMMISSION

ENVIRONMENTAL REVIEW LETTER

Landmarks Preservation Commission

1 Centre Street
9th Floor North
New York, NY 10007

Voice (212)-669-7700
Fax (212)-669-7960
http://nyc.gov/landmarks

ENVIRONMENTAL REVIEW

Project number: DEPARTMENT OF CITY PLANNING / LA-CEQR-K
Project: 1601 DEKALB AVE. REZONING
Date received: 8/18/2017

Properties with no Architectural or Archaeological significance:

1) ADDRESS: 946 HART STREET, BBL: 3032370023
2) ADDRESS: DE KALB AVENUE, BBL: 3032370047
3) ADDRESS: DE KALB AVENUE, BBL: 3032370048

Gina Santucci 8/29/2017

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 32711_FSO_JSM_08222017.doc