equity environmental engineering

Ebenezer Plaza
Rezoning & Text Amendments

Revised Environmental Assessment Statement

CEQR # 17DCP088K

July 7, 2017[1]

Ebenezer Plaza
Block: 3861, Lots: 1, and 6; Block: 3862, Lots: 1, 23, 24, 25, and 26
Brooklyn, NY

Other Sites Affected by Requested Action:
Block: 3860, Lots 1, 3, 4, 5 and 6
Brooklyn, NY

Prepared for:
Brownsville Linden Plaza LLC
4546 East 173RD St.
Bronx, NY 10457

Prepared by:
Equity Environmental Engineering
500 International Drive, Suite 150
Mount Olive, NJ 07828

[1] This Revised EAS supersedes the EAS issued on March 17, 2017. The Revised EAS has incorporated a shadows assessment of Green Valley Garden (Block 3857, Lots 1, 24, 25, 26 and 27 which is included in Appendix #5 to this EAS.

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* Ebenezer Plaza

3. *Reference Numbers*

CEQR REFERENCE NUMBER (to be assigned by lead agency)	BSA REFERENCE NUMBER (if applicable)
17DCP088K	
ULURP REFERENCE NUMBER (if applicable)	OTHER REFERENCE NUMBER(S) (if applicable) (*e.g.*, legislative intro, CAPA)
170189ZMK, 170190ZRK	

4a. *Lead Agency Information*			**4b. *Applicant Information***		
NAME OF LEAD AGENCY Department of City Planning			NAME OF APPLICANT Brownsville Linden Plaza, LLC		
NAME OF LEAD AGENCY CONTACT PERSON Robert Dobruskin			NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON Equity Environmental Engineering, LLC Kevin A. Williams		
ADDRESS 120 Broadway, 31st Floor			ADDRESS 500 International Drive		
CITY New York	STATE NY	ZIP 100271	CITY Mount Olive	STATE NJ	ZIP 07828
TELEPHONE 212-720-3423	EMAIL rdobrus@planning.nyc.gov		TELEPHONE 973-527-7451 (301)	EMAIL kevin.williams@equityenvironmental.com	

5. *Project Description*

The applicant, Brownsville Linden Plaza LLC, seeks a Zoning Map Amendment affecting Block 3860, Lots 1, 3, 4, 5, and 6 / Block 3861, Lots 1 and 6 / Block 3862, Lots 1, 23, 24, 25 and 26 and a Zoning Text Amendment to Zoning Resolution ("ZR") Appendix F: Inclusionary Housing Designated Areas for Community District 16, Brooklyn to establish a Mandatory Inclusionary Housing ("MIH") Area. The applicant proposes to build two buildings located on Block 3862 (Projected Development Site 1) and Block 3861 (Projected Development Site 2). Block 3860 is an non-applicant owned site within the proposed rezoning area that is projected to develop with a single mixed-use building.

Project Location

BOROUGH Brooklyn	COMMUNITY DISTRICT(S) Brownsville (Brooklyn - 16)	STREET ADDRESS Multiple
TAX BLOCK(S) AND LOT(S) Block: 3860, Lots: 1, 3, 4, 5, 6 Block: 3861, Lots: 1, and 6; Block: 3862, Lots: 1, 23, 24, 25, 26		ZIP CODE 11212

DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS The Ebenezer Plaza site consists of Block 3862, all lots (Projected Development Site 1), and Block 3861, all lots (Projected Development Site 2). The Block 3862 portion (identified as Development Site 1) is a trapezoid with approximately 211 feet of frontage on New Lots Avenue, 240 feet of frontage on Skillman Street, 340 feet of frontage on Powell Street, and 200 feet of frontage on Hegeman Avenue. Site 1's area is 55,068 square feet (1.26 acres). Site 1 contains automotive uses including an auto repair business on lot 1 and auto sales businesses on lots 24, 25, and 26. Lot 23 is an unimproved Lot used for auto sales.

The Block 3861 portion (Development Site 2) is a trapezoid with approximately 211.94 feet of frontage on New Lots Avenue, 149.4 feet of frontage on Christopher Avenue, 219.21 feet of frontage on Sackman Street, and 200 feet of frontage on Hegeman Avenue. Site 2's area is 36,824 square feet (0.85 acres). Development Site 2 contains two auto repair businesses on its two zoning lots (lot 1 and lot 6).

A Non-Applicant owned site within the rezoning area is located on Block 3860, all lots (Projected Development SIte 3). Block 3860 a triangular shapped Block, inlcudes Lots 1, 3, 4, 5, and 6 - is boud by 119.52 feet of Mother Gaston

Boulevard to the west, 213.59 feet of New Lots Avenue to the north, 130.66 feet of Christopher Street to the east, and 202.29 feet of Hegeman Avenue to the south. Lot 1 contains a fastfood restaurant on ground floor and residential on second floor, Lot 4 Contains a barber shop on the first floor and residential on the second, Lot 5 contains an awnings retail storefront, Lot 6 continains the manufacturing floor for awnings retailer. Site 3's total size is 18,541 SF

EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY M1-1 | ZONING SECTIONAL MAP NUMBER 17-D

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

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

- ☐ CITY MAP AMENDMENT
- ☒ ZONING MAP AMENDMENT
- ☒ ZONING TEXT AMENDMENT
- ☐ SITE SELECTION—PUBLIC FACILITY
- ☐ HOUSING PLAN & PROJECT
- ☐ SPECIAL PERMIT (if appropriate, specify type: ☐ modification; ☐ renewal; ☐ other); EXPIRATION DATE:
- ☐ ZONING CERTIFICATION
- ☐ ZONING AUTHORIZATION
- ☐ ACQUISITION—REAL PROPERTY
- ☐ DISPOSITION—REAL PROPERTY
- ☐ OTHER, explain:
- ☐ CONCESSION
- ☐ UDAAP
- ☐ REVOCABLE CONSENT
- ☐ FRANCHISE

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

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

Physical Setting (both developed and undeveloped areas)

Total directly affected area (sq. ft.): 109,905
Roads, buildings, and other paved surfaces (sq. ft.): 165,462
Waterbody area (sq. ft) and type:
Other, describe (sq. ft.):

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

SIZE OF PROJECT TO BE DEVELOPED (gross square feet): 618,554
NUMBER OF BUILDINGS: 3
GROSS FLOOR AREA OF EACH BUILDING (sq. ft.): Site A: 320,540; Site B: 212,726; Site C: 85,288
HEIGHT OF EACH BUILDING (ft.): Site A - 111'0", Site B - 111'-0" Site C - 95'-0"
NUMBER OF STORIES OF EACH BUILDING: Site A - 11, Site B -11, Site C - 10

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: 91,364
The total square feet not owned or controlled by the applicant: 18,541

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: 91,364 sq. ft. (width x length) VOLUME OF DISTURBANCE: 1,272,280 cubic ft. (width x length x depth)

AREA OF PERMANENT DISTURBANCE: 97,364 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.)	539,676	44,414	34,465	
Type (*e.g.,* retail, office, school)	600 units	local	church	

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

If "yes," please specify: NUMBER OF ADDITIONAL RESIDENTS: 1,612 NUMBER OF ADDITIONAL WORKERS: 46(net)

Provide a brief explanation of how these numbers were determined:

Projected Development sites 1-3 44,000 SF of commercial development @ 1 employee per 500 SF = 88 employees, 5 community facility (church employees, and 7 supporting residential development - total of approximately 100 . Existing Employees on non-applicant owned sites = 19 Existing Employees on Applicant owned sites Block 3861 and 3862 = 35 Total existing jobs on sites =54 Net Jobs 100-54 = 46

Residents - Net 597 residents x 2.701 residents per household per 2009-2013 ACS Census Factfinder for Brownsville, CD 16

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: based on the M1-1 its is unlikely that any new development would occur without the rezoning as proposed

9. *Analysis Year* CEQR Technical Manual Chapter 2

ANTICIPATED BUILD YEAR (date the project would be completed and operational): 2027

ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS: 18-24

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

BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE:

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

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

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.		
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: • Active/Open NYSDEC spill case no. 09-06674 for the 650 Powell Street Property address is identified as a REC. According to a Phase II Environmental Site Assessment of the Property (The Chazen Companies, February 8, 2010) soil and groundwater exhibited elevated concentrations of VOCs. • Historical use of the Property including gas station, dry cleaner, auto repair/auto body shops, and auto dismantling facility is identified as a REC. • The current use of the Property including auto repair/auto body shops is identified as a REC. • The potential to encounter three abandoned gasoline USTs shown on Sanborn maps beneath	☒	☐

	YES	NO
the buildings at 70-76 New Lots Avenue and 78-92 New Lots Avenue, and identified on Building Department records in Block 3861, is identified as a REC. • The potential for unregistered USTs and oil water separators associated with former heating systems and auto repair activitities to be encountered during site redevelopment is identified as a REC. • Drums and ASTs including waste oil that may be left by tenants upon vacating the Property are identified as a REC. • According to a prior Phase I ESA report (The Chazen Companies, November 3, 2015), evidence of a hydraulic elevator was observed in the basement of the 654 Powell Street building. No information regarding the closure of the hydraulic elevator was provided and therefore, it is identified as a REC. This area was inaccessible at the time of Hillmann's site assessment • According to a Phase II Environmental Site Assessment of the Property (The Chazen Companies, February 8, 2010) surface soils in a former auto salvage yard area exhibited elevated concentrations of metals (barium and lead) and SVOCs (benzo(a)anthracene and chrysene) exceeding Unrestricted Use Soil Cleanup Objectives and therefore it is identified as a REC. This area was inaccessible at the time of Hillmann's site assessment Historical Recognized Environmental Conditions (HRECs): • Two T-shaped vent pipes indicative of motor vehicle fuel underground storage tanks (USTs) were identified on the roof above 799 Sackman Street. Historical Sanborn maps depicted a gasoline UST at this building. Tank removal information discussed in Section 3.1 suggests that these two USTs were removed by Don Carlo in 2004. The vent pipes were likely not removed to maintain the structural integrity of the building. Considering the status, the USTs are identified as a HREC. • Three fill ports filled with concrete indicative of USTs were identified on the curb in the Powell Street sidewalk buffer area in front of 666 Powell Street. Tank removal information discussed in Sections 3.1 and 4.1.1 and noted on PBS 2-609740 indicates that six 550-gallon gasoline USTs were removed at 666 Powell Street with no date provided. Considering the status, the USTs are identified as a HREC. • Tank removal information discussed in Sections 3.1 and 4.1.1 and noted on PBS 2-609739 indicates that two 3,000 or 4,000 gallon heating oil USTs were removed at 114 New Lots Avenue with no date provided. Considering the status, the USTs are identified as a HREC.		
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 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	☐	☒

	YES	NO
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): 30,971		
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):		
(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 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		

	YES	NO
preliminary analysis, if necessary.		
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.		
19. *CONSTRUCTION*: CEQR Technical Manual Chapter 22		
(a) Would the project's construction activities involve:		
o Construction activities lasting longer than two years?	☐	☒
o Construction activities within a Central Business District or along an arterial highway or major thoroughfare?	☐	☒
o Closing, narrowing, or otherwise impeding traffic, transit, or pedestrian elements (roadways, parking spaces, bicycle routes, sidewalks, crosswalks, corners, *etc.*)?	☐	☒
o Construction of multiple buildings where there is a potential for on-site receptors on buildings completed before the final build-out?	☐	☒
o The operation of several pieces of diesel equipment in a single location at peak construction?	☐	☒
o Closure of a community facility or disruption in its services?	☐	☒
o Activities within 400 feet of a historic or cultural resource?	☐	☒
o Disturbance of a site containing or adjacent to a site containing natural resources?	☐	☒
o 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.		

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
Kevin A. Williams	6-29-17

SIGNATURE

Kevin Williams

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, EARD	NYC Department of City Planning
NAME	DATE
Robert Dobruskin, AICP	July 7, 2017

SIGNATURE

Robert Dobruskin

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1.0 PROPOSED ACTION

1.1 Introduction

The applicant, Brownsville Linden Plaza LLC is seeking a Zoning Map Amendment and a Zoning Text Amendment to Zoning Resolution ("ZR") Appendix F: Inclusionary Housing Designated Areas for Community District 16, Brooklyn to establish a Mandatory Inclusionary Housing ("MIH") Area allow new residential, community facility, and commercial development on Block 3861, Lots 1 and 6 and Block 3862, Lots 1, 23, 24, 25, and 26 within the Brownsville neighborhood of Brooklyn Community District 16. The project site consists of two blocks, bounded by Hegeman Avenue to the south, New Lots Avenue to the north, Powell Street to the east, and Christopher Avenue to the west. The affected area additionally includes the Block 3860 – containing Lots 1,3,4,5,6 – a Block bounded by Hegeman Avenue to the south, New Lots Avenue to the north, Christopher Avenue to the east, and Mother Gaston Boulevard to the west.

The Applicant proposes to rezone all 12 Tax Lots within Blocks 3860, 3861, and 3862 – see **Figure 1-1 Site Location Map and 1-2 Tax Map.** The proposed Zoning Map Amendment would change the zoning of the southern portion of Block 3862 located within 150 feet of Hegeman Avenue from M1-1 to R7D, and the northern portion of Block 3862 located beyond 150 feet of Hegeman Avenue from M1-1 to R7A. The proposed Zoning Map Amendment would change the zoning of the southern portion of Block 3861 located within 100 feet of Hegeman Avenue from M1-1 to R7D, and the northern portion of Block 3861 located beyond 100 feet of Hegeman Avenue from M1-1 to R7A. The proposed Zoning Map Amendment would change the zoning of Block 3860 from M1-1 to R7A. A C2-4 commercial overlay district would be established over the entire area proposed for rezoning (the "Affected Area.") **Figure 1-3 Zoning Change Map** shows existing and proposed zoning for the affected area.

A proposed text of Zoning Resolution ("ZR") Appendix F: Inclusionary Housing Designated Areas and Mandatory Inclusionary Housing Areas for Community District 16, Brooklyn seeks to establish the Project Area as a Mandatory Inclusionary Housing ("MIH") Area mapped with Options 1 and 2.

Under the proposed rezoning and text amendment, allowable FAR on the portion of the Affected Area proposed for R7D would be 5.6 for a building providing affordable housing pursuant to the MIH program, with a maximum base height of 95 feet and a maximum overall building height of 110 feet, or 115 feet with a qualifying ground floor. Allowable FAR on the portion proposed for R7A would be 4.6 for a building providing affordable housing pursuant to the MIH program, maximum base height would be 75 feet, with a maximum overall building height of 90 feet, or 95 feet with a qualifying ground floor.

The Applicant is seeking a combination of Housing, Preservation, and Development (HPD) programs to finance the construction of the proposed development. The Applicant has selected MIH Option 1 for the proposed development. In addition, the Applicant would develop all 531 dwelling units as affordable at or below 80 percent of the area median income ("AMI"). The Applicant intends to develop Development Site 1 pursuant to HPD's Extremely Low and Low-Income Affordability ("ELLA") Program with 315 units at affordability levels below 60 percent AMI. Subject to ongoing discussion with HPD, the Applicant intends to develop Development Site 2 pursuant to HPD's Mixed Income Program ("Mix & Match") with 216 units at affordability levels at or below 80 percent AMI. Given the above public financing arrangement for the Proposed Development, he City Planning Commission (CPC) acting as lead agency, will conduct a coordinated environmental review, with HPD acting as an involved agency.

The proposed rezoning would facilitate the development of Block 3862 Lots 1, 23, 24, 25, and 26 ("Projected Development Site 1") with a new seven- and eleven-story residential, community facility, and commercial building with 315 dwelling units, and Block 3861, Lots 1 and 6 ("Projected Development Site 2") (collectively the "Development Sites") with a new eight- and eleven-story residential and commercial building with 216 dwelling units. The proposed overall unit distribution is approximately 47 studios (9 percent), 318 one-bedroom units (60 percent), 80 two-bedroom units (15 percent), and 85 three-bedroom units (16 percent). The Applicant has selected MIH Option 1 for the proposed development. The average unit size of all 531 units would be 768 square feet.

1.2 Background

There have been two HPD-initiated land use approvals in the surrounding area since 2002. The most recent project, Van Sinderen Plaza (160002 ZMK, effective January 19, 2016), changed an M1-1 district to R7A/C2-3 and received UDAAP approval to facilitate the development of two buildings containing a total of 130 affordable rental units and commercial and community facility space. In 2008, the Watkins St Coops (080141 ZMK, effective April 30, 2008), rezoned an M-1 to R6 and received UDAAP approval to facilitate the development of 13 four-story buildings with 104 units of affordable cooperative housing.

1.3 Description of the Surrounding Area

The proposed Project Area is in the southeastern section of the Brownsville neighborhood within Brooklyn Community District 16. The roughly triangle-shaped Project Area is bounded by New Lots Avenue to the north, Hegeman Avenue to the south, Mother Gaston Boulevard to the west, and Powell Street to the east. New Lots Avenue runs diagonally and the western terminus of the street is at its intersection with Hegeman Avenue, which runs east-west.

The proposed Affected Area is within an existing M1-1 zoning district, and current uses include one light manufacturing business, a mix of auto repair and sales lots, limited local retail, as well as three existing legal non-complying second floor residential dwellings. Directly to the north of the proposed Project Area is a R6 zoning district with a C2-3 overlay on the northern side of New Lots Avenue. The area within the R6 district is characterized by two-story attached single-family homes developed under the Nehemiah Program in the 1980s, with some irregular shaped parcels created by the diagonal orientation of New Lots Avenue that have been used for community gardens and open auto storage. Additionally, to the northwest of the proposed Project Area are the Plaza Residences with 385 units of affordable housing in three six-story buildings built in the 1960s and renovated in the 2000s.

There are three parks owned and operated by the New York City Department of Parks and Recreation ("Parks") in the surrounding area. To the south of the Project Area is the 3.02-acre Brownsville Recreation Center. Veteran's Triangle is a 0.03-acre triangular park located between Hegeman Avenue and New Lots Avenue, to the west of the Project Area. Osborne Playground is a 1.9-acre park further to the west of the Project Area on Hegeman Avenue and Osborne Street.

Linden Boulevard, a major thoroughfare in Central and Eastern Brooklyn is located to the south of the Project Area. The Bay Ridge freight line of the Long Island Rail Road is located to the south of Linden Boulevard and extends north to the east of the Project Area.

The existing zoning districts in the surrounding area include:

M1-1

The Project Area is within an M1-1 zoning district established in 1961, which extends beyond the Project Area to the east and north. The existing M1-1 zoning district permits light industrial uses, such as woodworking shops, repair shops, wholesale service, storage facilities, limited community facility uses, and commercial uses. The maximum FAR for permitted manufacturing and commercial uses within the M1-1 district is 1.0 and 2.4 for permitted community facility uses.

R6

Most the surrounding area is within a large R6 zoning district that is bounded generally by Linden Boulevard to the south, Junius Street to the east, Utica Avenue to the west, and extending beyond Eastern Parkway to the north. There is also an R6 zoning district to the southeast of the proposed Project Area. R6 districts allow all housing types at a maximum FAR of up to 2.43 and a maximum FAR of up to 4.8 for buildings containing certain community facility uses. R6 is a height factor district where residential and community facility uses are permitted with no fixed height limits and building envelopes are regulated by a sky exposure plane and open space ratio after a maximum base height of 60 feet. Residential development under the optional Quality Housing Program has a maximum FAR of 2.2 on narrow streets with a 55-foot building height limit and a maximum of 3.0 FAR on wide streets with a height limit of 70 feet. Off-street parking is required for 70 percent of the dwelling units. This requirement is lowered to 50 percent of the units if the lot area is less than 10,000 square feet or if Quality Housing provisions are used. In R6 districts, if fewer than five spaces are required, the off-street parking requirement is waived.

C1-3 and C2-3 Commercial Overlays

Mapped within the R6 zoning district, there are C2-3 commercial overlays mapped along New Lots Avenue directly to the north and C1-3 commercial overlays mapped along Hegeman Avenue to the west of the Project Area. C1-3 overlays mapped within the R6 zoning district permit the development of Use Group 6 commercial uses with a maximum commercial FAR of 2.0. C2-3 overlays permit an expanded range of service uses including Use Groups 7, 8, 9, and 14. Commercial uses must be located below residential uses in mixed buildings. The parking requirement for general retail and service uses is one accessory off-street parking space per 1,000 sq. ft. of commercial floor area. A parking waiver is available if the required parking is less than 40 spaces.

There are multiple public transit options in the Project Area including MTA subway and bus service. The New Lots Avenue station with L subway line service is located approximately one-quarter mile to the east of the Project Area at Van Sinderen Avenue. The B35 and B15 bus lines run along Hegeman Avenue, the B60 line runs along Rockaway Avenue, and the B8 line runs along Linden Boulevard. The Project Area is within a Transit Zone as defined in the Zoning Resolution, Appendix 1.

The Project Area is within a FRESH Program area that provides zoning and discretionary tax incentives. The Project Area is also located within the former Brownsville I Urban Renewal Area that was adopted in 1967 and expired in 2007.

A key to the photographs of the Projected Development Sites and Study Areas are shown in **Figure 1-4**, with photographs of the site and surrounding study area displayed following this key map.

1.4 Description of the Proposed Project Area

The proposed Project Area is in the Brownsville neighborhood, within Brooklyn Community District 16. The proposed Project Area consists of three blocks and 12 tax lots with a total area of approximately 110,445 sq. ft. It includes Block 3860, Lots 1, 3, 4, 5, and 6; Block 3861, Lots 1 and 6; Block 3862, Lots 1, 23, 24, 25, and 26. The proposed Project Area is used as follows:

Projected Development Site 1: Block 3862

Block 3862, Lot 1 (94 New Lots Avenue) is an approximately 37,580 sq. ft. lot improved with six one-story buildings used for auto-repair.

Block 3862, Lot 23 (656 Powell Street) is an approximately 2,500 sq. ft. unimproved lot formerly used for auto sales

Block 3862, Lot 24 (660 Powell Street) is an approximately 2,500 sq. ft. unimproved lot formerly used for auto sales.

Block 3862, Lot 25 (662 Powell Street) is an approximately 2,500 sq. ft. unimproved lot formerly used for auto sales.

Block 3862, Lot 26 (666 Powell Street) is an approximately 10,000 sq. ft. lot improved with a one-story building used for auto sales.

Projected Development Site 2: Block 3861

Block 3861, Lot 1 (257 Hegeman Avenue) is an approximately 20,000 sq. ft. lot improved with a one-story building used for auto-repair.

Block 3861, Lot 6 (66-78 New Lots Avenue) is an approximately 16,284 sq. ft. lot improved with a one-story building used for auto-repair.

Projected Development Site 3: Block 3860 (not controlled by the Applicant)

Block 3860, Lot 1 (44 New Lots Avenue) is an approximately 2,593 sq. ft. lot improved with a two-story building mixed commercial building used as a bodega and fast food restaurant on the bottom floor and office space on the second floor.

Block 3860, Lot 3 (48 New Lots Avenue) is an approximately 1,507 sq. ft. lot improved with a two-story mixed residential and commercial building with two dwelling units.

Block 3860, Lot 4 (50 New Lots Avenue) is an approximately 1,648 sq. ft. lot improved with a two-story mixed residential and commercial building with one dwelling unit.

Block 3860, Lot 5 (52 New Lots Avenue) is an approximately 1,788 sq. ft. lot improved with a one-story building used for an iron fabricator.

Block 3860, Lot 6 (54 New Lots Avenue) is an approximately 11,005 sq. ft. lot improved with a one-story building used for a metal supplier.

The area surrounding the Affected Area consists generally of medium density-zoned residential communities to the north, east and west, and light industrial warehouse and distribution uses to the south. Immediately to the south is the Brownsville Recreation Center, a New York City Parks Department facility. Beyond the recreation center is Linden Boulevard, a wide arterial route. The area south of Linden Boulevard contains light industrial warehouse and distribution uses, adjacent to the tracks of the BMT L subway line and the Bay Ridge freight line of the Long Island Rail Road. These rail lines also extend to the east of the Affected Area. Immediately to the east is a block containing a mix of residential, commercial and light manufacturing uses. Beyond this block are the subway and freight rail lines.

The Affected Area is within an M1-1 light industrial district that also includes the rail tracks to the east and south. In addition to the rail facilities, this area is developed with warehouse and shipping related uses, as well as contractor's facilities. This M1-1 district also includes one block immediately to the east of the Affected Area, between the Affected Area and the rail tracks, that contains a mix of retail uses (Linden Plaza shopping center).

The area to the north and west of the Affected Area is within a medium-density R6 residence district. Development consists primarily of attached one- and two-family residences immediately north of the affected area, many of which were developed under the Nehemiah Homeownership Program. A low-rise multiple family residential development is located to the northwest across Mother Gaston Boulevard and New Lots Avenue from the Affected Area. Elsewhere within the R6 district, development consists of a mix of attached and semi-detached houses and medium density apartment buildings, along with scattered community facilities.

1.5 Description of the Proposed Development Site

In conjunction with the Applicant, the proposed development project is a joint effort of the Procida Companies ("Procida"), the Church of God of East Flatbush ("the Church"), and Brisa Builders Corp. ("Brisa"). The Church of God of East New York owns the proposed Development Sites, consisting of Development Site 1 (Block 3862 Lots 1, 23, 24, 25, and 26) and Development Site 2 (Block 3861, Lots 1 and 6). The combined lot area of these two Projected Development Sites is approximately 91,891 sq. ft.

Projected Development Site 1:

Projected Development Site 1 – Block 3862 is approximately 55,067 sq. ft. It is a is a trapezoid with approximately 211 feet of frontage on New Lots Avenue, 240 feet of frontage on Skillman Street, 340 feet of frontage on Powell Street, and 200 feet of frontage on Hegeman Avenue. The existing built FAR on Projected Development Site 1 is 0.67, with approximately 36,806 sq. ft. of auto-related uses in eight one- to three-story buildings.

Projected Development Site 2:

Development Site 2 – Block 3861 is approximately 36,824 sq. ft. It is a trapezoid with approximately 211.94 feet of frontage on New Lots Avenue, 149.4 feet of frontage on Christopher Avenue, 219.21 feet of frontage on Sackman Street, and 200 feet of frontage on Hegeman Avenue. The existing built FAR on Projected Development Site 2 is 0.87, with approximately 31,630 sq. ft. of auto repair uses in two one-story buildings.

1.6 Description of the Proposed Development

Pursuant to the proposed Zoning Map and Text Amendments, the applicant proposes to build two new buildings under the Quality Housing Program, one on Projected Development Site 1 and one on Projected Development Site 2

Projected Development Site 1:

The proposed nine- and eleven-story mixed residential and community facility building on Development Site 1 would contain approximately 320,540 gross sq. ft. of floor area (GSF) with an FAR of 5.14. The proposed building would contain 240,408 zoning sq. ft. (ZSF) (278,035 gross sq. ft. GSF) of residential floor area with 315 dwelling units. Residential entrances would be located on New Lots Avenue and Powell Street. The ground floor of the building would contain 8,040 SF of commercial floor area fronting the northern portion of the zoning lot and 34,465 SF of community facility floor area. The community facility floor area would be occupied by the Church of God of East New York. The nine-story portion within the proposed R7A/C2-4 district to the north has a height of 95'-0" and is set back 26'-6" with a dormer above a base height of 74'-8". The eleven-story portion within the proposed R7D/C2-4 district to the south has a height of 113'-8" and is set back 26'-6" with dormers above a base height of 93'-4".

The proposed building would contain 315 dwelling units that would be developed as affordable at or below 60 percent AMI. The proposed unit distribution is 31 studios (9.8 percent), 184 one-bedroom units (58.4 percent), 48 two-bedroom units (15.2 percent), and 52 three-bedroom units (16.5 percent).

The Applicant intends to develop Development Site 1 pursuant to HPD's Extremely Low and Low-Income Affordability ("ELLA") Program with 315 units at affordability levels below 60 percent AMI. Per **Table 1-2**, the application of this Program to Development Site 1 is projected to offer the following units to the following income ranges[1]

Table 1-2: Preliminary Affordable Housing Program for Projected Development Site 1

	Homeless	37% AMI	47% AMI	57% AMI	Totals
Studio	6	2	2	21	31
One Bedroom	37	9	9	129	184
Two Bedroom	10	2	2	34	48
Three Bedroom	10	3	3	36	52
# units by affordability	**63**	**16**	**16**	**220**	**315**

No residential accessory parking would be required or provided because the proposed units are affordable and within the Transit Zone. No community facility accessory parking is required or provided for the house of worship. The commercial parking requirement for 8 accessory spaces would be waived pursuant to ZR § 36-232 because the requirement is for fewer than 40 spaces. Pursuant to ZR § 26-41, 39 street trees would be required.

Projected Development Site 2:

The proposed seven- and eleven-story mixed residential and commercial building on Projected Development Site 2 would contain approximately 212,726 GSF of floor area with an FAR of 5.02. The proposed building would 166,510 contain ZSF of residential floor area (193,038 GSF) with

[1] This distribution of units by income is preliminary and is subject to change.

216 dwelling units. Residential entrances would be located on New Lots Avenue and Christopher Avenue. The ground floor would contain 19,687 SF of commercial floor area. The seven-story portion within the proposed R7A/C2-4 district has a height of 74'-8". The eleven-story portion within the proposed R7D/C2-4 district would have a height of 113'-8" and is set back 26'-6" feet with a dormer above a base height of 93'-4".

The proposed building would contain 216 dwelling units – a program that is subject to ongoing discussion with HPD. The Applicant intends to develop Site 2 pursuant to HPD's Mixed Income Program ("Mix & Match") with 216 units at affordability levels at or below 80 percent AMI. Currently proposed unit distribution is under this Program is planned for 16 studios (7.4 percent), 134 one-bedroom units (62 percent), 32 two-bedroom units (15.2 percent), and 33 three-bedroom units (15.2 percent). Per **Table 1-3**, the application of this Program to Development Site 2 is projected to offer the following units to the following income ranges[2]

Table 1-3: Preliminary Affordable Housing Program for Projected Development Site 2

	Homeless	27% AMI	37% AMI	47% AMI	80% AMI	Totals
Studio	3	0	0	5	8	16
One Bedroom	27	0	0	40	67	134
Two Bedroom	6	0	0	10	16	32
Three Bedroom	7	0	0	10	16	33
# units by affordability	**43**	**0**	**0**	**65**	**107**	**216**

No residential accessory parking would be required or provided because the proposed units are affordable and within the Transit Zone. No community facility accessory parking is required or provided for the house of worship. The commercial parking requirement for 21 accessory spaces would be waived pursuant to ZR § 36-232 because the requirement is for fewer than 40 spaces. Pursuant to ZR § 26-41, 31 street trees would be required.

The proposed text amendment would permit the Applicant to develop the Ebenezer Plaza in accordance with the MIH program. Pursuant to the MIH program, a percentage of the new dwelling units in the proposed development must be affordable units, resulting in an affordable housing set-aside for either 25 percent of the residential floor area at an average of 60 percent of the Average Median Income ("AMI") ("Option 1") or 30 percent of the residential floor area at an average of 80 percent AMI) ("Option 2"). The Applicant proposes mapping both MIH Option 1 and Option 2 within the Project Area to provide maximum flexibility for non-Applicant controlled sites. For the purposes of the EAS, the Applicant seeks to have this Proposed Action evaluated under Option 1 – as all units proposed will be under the 30% threshold required under Option 1 of MIH. At a minimum 30% of the planned 531 units would require a minimum of 159 units of those units to be affordable at 30% of AMI. As noted above, the Applicant is seeking a combination of Housing, Preservation, and Development (HPD) programs to finance the construction of the proposed development. The Applicant would develop all 531 dwelling units as affordable at or below 80 percent of the area median income ("AMI"). The Applicant intends to develop Development Site 1 pursuant to HPD's Extremely Low and Low-Income Affordability ("ELLA") Program with 315 units at affordability levels below 60 percent AMI. Subject to ongoing discussion with HPD, the Applicant intends to develop Development Site 2 pursuant to HPD's Mixed Income Program ("Mix & Match") with 216 units at affordability levels at or below 80 percent AMI.

[2] This distribution of units by income is preliminary and is subject to change.

1.7 Action(s) Necessary to Facilitate the Project

The actions necessary to facilitate the proposal are: 1) a zoning map amendment to map R7A/C2-4 and R7D/C2-4 zoning districts in the Project Area currently zoned as M1-1; and 2) a zoning text amendment to ZR Appendix F: Inclusionary Housing Designated Areas and Mandatory Inclusionary Housing Areas for Community District 16, Brooklyn to establish the Project Area as an MIH Area mapped with Options 1 and 2.

Proposed R7D
The R7D zoning district proposed for the Project Area allows medium-density apartment buildings at a maximum FAR of 5.6 for developments that provide affordable housing pursuant to the IH program requirements. The maximum building height for eligible IH program buildings with qualifying ground floors is 115-feet after a setback from the base height of up to 95 feet. Buildings must set back above the maximum base height to a depth of 10 feet on a wide street and 15 feet on a narrow street before rising to a maximum of 11 floors. In addition, where commercial overlays are mapped, active ground floor uses are required. Off-street parking is required for 50 percent of the residential dwelling units, but is not required for affordable housing units within specified Transit Zones. Mapping an R7D in this area provides opportunities for medium-density housing development under the MIH program.

Proposed R7A
Similarly, the R7A zoning district proposed for the Project Area allows medium-density apartment buildings at a maximum FAR of 4.6 for developments that provide affordable housing pursuant to the IH program requirements. The maximum building height for eligible IH program buildings with qualifying ground floors is 95 feet after a setback from the base height of up to 75 feet. Buildings must set back above the maximum base height to a depth of 10 feet on a wide street and 15 feet on a narrow street before rising to a maximum of 9 floors. Off-street parking is required for 50 percent of the residential dwelling units, but is not required for affordable housing units within specified Transit Zones. Mapping an R7A in this area provides opportunities for medium-density housing development under the MIH program.

Proposed C2-4
The Applicant proposes to map a C2-4 commercial district over the entire proposed Project Area. The proposed C2-4 district permits Use Groups 5 through 9 and 14 to allow commercial development with up to 2.0 FAR. Although Use Group 5 would not be permitted at this site because of its distance from a limited access highway. The proposed C2-4 district requires one accessory parking space per 1,000 sq. ft. of commercial floor area for all types of commercial uses. The proposed overlays support the development of mixed residential and commercial uses and would strengthen the character of Hegeman Avenue and New Lots Avenue as mixed corridors.

The proposed project fully complies and conforms with the proposed zoning districts. On the Development Sites, the proposed buildings comply with the bulk regulations of the proposed R7A/C2-4 and R7D/C2-4 zoning districts. Per these regulations, as shown in **Table 1-4,** the maximum allowable FAR under MIH on Projected Development Site 1 is a measure of the blended FAR of the zoning districts present on the Site – or 5.14 and 5.15 for Projected Development Site 2. Similarly, the proposed residential, commercial, and community facility uses conform with the use provisions of the proposed zoning districts. As noted above, the Applicant is seeking a combination of Housing, Preservation, and Development (HPD) programs to finance the construction of the proposed development. The Applicant would develop all 530 dwelling units as affordable at or below 80 percent of the area median income (“AMI”). The Applicant intends to develop Development Site 1 pursuant to HPD’s Extremely Low and Low-Income Affordability

("ELLA") Program with 315 units at affordability levels below 60 percent AMI. Subject to ongoing discussion with HPD, the Applicant intends to develop Development Site 2 pursuant to HPD's Mixed Income Program ("Mix & Match") with 215 units at affordability levels at or below 80 percent AMI.

Table 1-4: Blended FAR by Projected Development Site

	Site SF	MIH FAR	Max ZSF
Projected Development Site 1			
R7A/C24	25,068	4.6	115,312.80
R7D/C24	30,000	5.6	168,000.00
Blended FAR	55,068	5.14	283,312.80
Projected Development Site 2			
R7A/C24	16,284	4.6	74,906.40
R7D/C24	20,000	5.6	112,000.00
Blended FAR	36,284	5.15	186,906.40
Projected Development Site 3			
R7D/C24	18,541	4.6	85,288.60

Rationale for the Proposed Zoning Map Amendment

The proposed zoning map amendment is consistent with the City's policy goals as articulated by the City Planning Commission in the recent East New York Rezoning (C 160035ZMK). The Commission report indicates that the rezoning would "promote mixed-use medium density development with affordable housing along key corridors and adjacent to transit where new residential development is not permitted or restricted to low densities today, thus expanding the capacity for new housing development." The report continues, "[m]edium-density residential districts would be mapped along key corridors with commercial overlays to allow mixed-use development with affordable housing as well as local retail and community facility uses."

The actions proposed in this application similarly serve these Commission goals in Brownsville. The proposed zoning map amendment would promote the development of new medium-density residential development, including mandatory affordable housing to address the City's growing need for additional housing. The existing M1-1 zoning district is surrounded by residential development in an area well-served by transit. The proposed R7A zoning district provides an appropriate transition between the existing R6 zoning to the north and the proposed R7D zoning district along Hegeman Avenue. The proposed R7D district faces open space to the south. The proposed zoning map amendment facilitates the development at this suitable location with medium-density mixed buildings containing 531 units of affordable housing under HPD ELLA and Mix and Match Programs. Additionally, it would create new opportunities for development of new residential, commercial, and community facility uses in the Project Area.

As discussed above, the Applicant proposes a zoning map amendment to map R7A/C2-4 and R7D/C2-4 zoning districts in the Project Area currently zoned as M1-1 and a zoning text amendment to establish the Project Area as an MIH Area. The proposed actions would facilitate the development of new 100 percent affordable mixed buildings in Brownsville within Brooklyn

Community District 16. The proposed development would create approximately 531 new high-quality affordable dwelling units, with 315 at or below 60 percent AMI on Projected Development Site 1 pursuant to HPD's Extremely Low and Low-Income Affordability ("ELLA") Program and 215 units at affordability levels at or below 80 percent AMI pursuant to HPD's Mixed Income Program ("Mix & Match"). In addition, the project would create new community serving commercial space, and new community facility space for the Church of God of East New York. The proposed rezoning would provide increased opportunities for affordable housing development on underutilized sites per the MIH program, including mandatory affordable housing – which would require a minimum of 30% affordable units on the Applicant controlled sites or 159 units to be affordable and require either 25% of units on Non-Applicant controlled site to be provided at 60% of AMI or 30% of units at 80% of AMI. The MIH program ensures that new development within the Project Area addresses the need for housing that serves a broad range of the City's diverse incomes.

1.8 Analysis Framework

This EAS studies the potential for individual and cumulative environmental impacts related to the proposed action occurring in a study area of approximately 400-feet around the rezoning area or (affected area). As shown in **Figure 1-1: Site Location Map**, this triangular shaped rezoning area is composed of three Blocks, generally bound by New Lots Avenue to the north, Hegeman Avenue to the south, and Powell Street to the east.

This environmental assessment considers the potential effects of the proposed action compared to future conditions without the approvals sought by the project sponsor. This analysis framework is described below:

Existing Conditions

The Affected Area includes the Development Site consisting of Block 3862, lots 1, 23, 24, 25, and 26 (referred to as Projected Development Site 1), and Block 3861, Lots 1 and 6 (referred to as Projected Development Site 2), as well as Block 3860, Lots 1, 3, 4, 5, and 6 (referred to as Projected Development Site 3). Land uses in the Affected Area are primarily automotive repair and auto sales, along with attached residences and vacant property.

The affected lots are identified on the attached **Figure 1-2: Tax Map**. Use of these lots is presented in the following, **Table 1-5: Affected Lots-Existing Conditions**.

Description of the Development Sites:
The Ebenezer Plaza site consists of Block 3862, all lots (Projected Development Site 1) and Block 3861, all lots (Projected Development Site 2). The Block 3862 portion (identified as Development Site 1) is a trapezoid with approximately 211 feet of frontage on New Lots Avenue, 240-feet of frontage on Skillman Street, 340 feet of frontage on Powell Street, and 200 feet of frontage on Hegeman Avenue. Projected Development Site 2 area is 55,068 square feet (1.26 acres). Site 2 contains automotive uses including an auto repair business on lot 1 and auto sales businesses on lots 24, 25, and 26. Lot 23 is an unimproved lot utilized for auto sales.

The Block 3861 portion (Projected Development Site 2) is a trapezoid with approximately 211.94 feet of frontage on New Lots Avenue, 149.4 feet of frontage on Christopher Avenue, 219.21 feet of frontage on Sackman Street, and 200 feet of frontage on Hegeman Avenue. Projected Development Site 1's area is 36,824 square feet (0.85 acres). Projected Development Site 2 contains two auto repair businesses on its two zoning lots (lot 1 and lot 6).

Projected Development Site 3: Description of the Non-Applicant Site

In addition to the Proposed Development Site, consisting of Projected Development Site 1 and Projected Development Site 2, the Affected Area contains property not under the applicant's control, identified as Projected Development Site 3. This site consists of Block 3860, Lots 1, 3, 4, 5, and 6. The eastern end of this block, consisting of lots 5 and 6, is occupied by light industrial uses – an iron fabricator and a metal supply distribution and warehouse facility. Both uses occupy one-story buildings. The western end of the block contains two-story buildings containing ground floor retail uses and upper residences on lots 3 and 4, and office space on the upper floor of lot 1.

Table 1-5: Affected Lots within the Proposed Rezoning Area

Block/ Lot	Address	Owner	Lot Size (ft2)	Number of buildings	Number of Floors	Use	Dwelling units	Floor Area	Existing FAR	Maximum FAR Under Proposed Action**	Existing built FAR as a Percentage of Proposed Allowable FAR	Note
3862/ 1	94 New Lots Av	Church of God of East NY	37,580	6	1	auto repair	0	32,250	0.86	5.0	17%	1
3862/ 23	656 Powell St	Church of God of East NY	2,500	0	0	vacant	0	3,500	1.40	4.6	30%	
3862/ 24	660 Powell St	Church of God of East NY	2,500	0	0	auto sales	0	0	0.00	5.6	0%	
3862/ 25	662 Powell St	Church og God of East NY	2,500	0	0	auto sales	0	0	0.00	5.6	0%	
3862/ 26	666 Powell St	Church of God of East NY	10,000	1	1	auto sales	0	1,056	0.11	5.6	2%	
SITE 1 total			**55,080**	**7**	**1-3**	**auto uses and vacant**	**0**	**36,806**	**0.67**	**5.1**	**13%**	
3861/ 1	257 Hegeman	Church of God of East NY	20,000	1	1	auto repair	0	15,500	0.78	5.6	14%	
3861/ 6	66-78 New Lots Av	Church of God of East NY	16,284	1	1	auto repair	0	16,130	0.99	4.6	22%	
SITE 2 total			**36,284**	**2**	**1**	**auto repair**	**0**	**31,630**	**0.87**	**5.2**	**17%**	
THE FOLLOWING LOTS ARE NOT UNDER THE APPLICANT'S CONTROL												
3860/ 1	44 New Lots Av	44 New Lots Realty Co	2,593	1	2	Office/ local retail/restaurant	0	5,180	2.00	4.6	43%	
3860/ 3	48 New Lots Av	Gladys Rodriquez	1,507	1	2	residential/ retail	2	3,570	2.37	4.6	51%	
3860/ 4	50 New Lots Av	Albert Mathiem	1,648	1	2	residential/ retail	1	2,010	1.22	4.6	27%	
3860/ 5	52 New Lots Av	54 New Lots Corp	1,788	1	1	iron fabricator	0	1,788	1.00	4.6	22%	
3860/ 6	54 New Lots Av	54 New Lots Corp	11,005	1	1	NY metal supply	0	11000	1.00	4.6	22%	
Non-Applicant Site 3			18,541	5	1-2	residential, retail, manufacturing	3	23,548	1.27	4.6	28%	
1	Block 3862 Lot 1 is 40% within the proposed R7D and 60% within the proposed R7A											
Data Source: oasisnyc.net												

Purpose and Need

The proposed action would allow the extension of the existing medium density zoning located north and west of the Affected Area and, pursuant to MIH, would provide a mechanism to produce new affordable housing units. Per the applicant, the proposed zoning districts would allow development at a density well-suited to a location with good access to mass transit and near a very wide street, Linden Boulevard. The C2-4 overlay would allow commercial development that is well suited to a walkable medium density area where car ownership is low and mass transit access is good. The Affected Area is within two to four blocks of the New Lots Avenue station of the BMT L subway line, and the B15 and B35 bus lines operate on new Lots Avenue along the northern edge of the Affected Area. The permitted uses would be consistent with existing development to the north and west of the Affected Area. The applicant believes that the proposed R7D/C2-4 and R7A/C2-4 zoning would allow for development of housing as well as retail and community facility uses that would serve residents and enliven the ground level space of new development and would produce affordable housing units consistent with City housing policy. The

applicant intends to construct new affordable housing in an area, which is not permitted by the existing zoning. The proposed action would allow redevelopment of property owned by the Church of God of East New York for affordable housing, consistent with the Brooklyn Borough President's faith-based property development initiative.

Reasonable Worst-Case Devlopment Scenario

Future Conditions

Soft Site Criteria
The proposed zoning map amendment would affect properties within the Affected Area not under the applicant's control, as described above. Owners of sites that are currently underdeveloped with respect to the proposed zoning may take advantage of the expanded floor area allowed under the proposed R7A/C2-4 zoning. Pursuant to 2014 *CEQR Technical Manual* methodology, sites may be considered 'soft' if they are built to substantially less than the maximum allowable floor area ratio and are of a sufficient size, or could be assembled into a parcel of sufficient size, to support a feasible development. The minimum size for an economically viable development site is typically considered to be approximately 5,000 square feet pursuant to CEQR Technical Manual methodology. Sites that have recently been developed or redeveloped are considered less likely to be soft, due to the significant recent investment in the current use. Using these criteria, all sites within the rezoning area have been identified as Projected Development Sites.

Projected Development Sites
The proposed zoning map amendment would affect properties on Block 3860 not under the applicant's control, as described above ("Projected Development Site 3"). Owners of sites that are currently underdeveloped with respect to the proposed zoning may take advantage of the expanded floor area allowed under the proposed R7A/C2-4 zoning.

Based on the soft site criteria of the 2014 CEQR Technical Manual described previously, redevelopment of an assemblage consisting of Block 3860, Lots 1, 3, 4, 5, and 6 is considered likely under the proposed action and is referred to as Projected Development Site 3.

Lots 1, 3, and 4, located at the western end of the block, are developed with two-story mixed residential, community facility – church, and commercial buildings on small lots. Lots 5 and 6 are developed with one-story manufacturing uses – an iron fabricator and a metal supply warehouse. The lots on Block 3860 have a combined lot area of 18,541 square feet and currently range in FAR from 1.0 to 2.37, with a combined FAR of 1.27.

No-Action Scenario
Under the Affected Area's existing M1-1 zoning, development for manufacturing and commercial use at up to 1.0 FAR and community facilities at up to 2.4 FAR would be permitted.

Based on the soft site criteria of the 2014 CEQR Technical Manual, as described above, the development potential of sites within the Affected Area under existing zoning was assessed. Based on this assessment, it is expected that existing uses within the affected area would remain in the future without the proposed action.
Applicant's Development Sites

Projected Development Site 1, consisting of Block 3862, Lots 1, 23, 24, 25, and 26, is currently developed with auto repair uses. It is currently built to a combined floor area ratio of 0.67, or 67% of the 1.0 FAR allowed for commercial or manufacturing development within the M1-1 district. Therefore, the existing use on the site utilizes two thirds of the available development potential

under its current zoning. Given that the site is built to well over half its development potential, contains several active businesses, and has not experienced any recent new development under its existing zoning, it is considered unlikely to be redeveloped in the no-action condition. Existing conditions are expected to continue in the future without the proposed action.

Projected Development Site 2, consisting of Block 3861, Lots 1 and 6, is currently developed with auto repair uses. It is currently built to a combined floor area ratio of 0.88, or 88% of the 1.0 FAR allowed for commercial or manufacturing development within the M1-1 district. Therefore, the existing use on the site utilizes most of the available development potential under its current zoning, and would not qualify as soft for redevelopment based on the soft site criterion that a site be built to substantially less than the maximum allowable FAR for commercial or manufacturing development. Existing conditions are expected to continue in the future without the proposed action.

Other Affected Sites
In addition to Development Sites 1 and 2, the Proposed Action would map an R7A/C2-4 zoning district over Block 3860, Lots 1, 3, 4, 5, and 6 (collectively Projected Development Site 3). Lots 1, 3, and 4 contain ground floor retail use and legal non-conforming second floor residences. Lots 5 and 6 contain manufacturing uses. These lots are built at FAR ranging from 1.0 to 2.37, with a combined FAR of 1.27. Therefore, the existing uses on the site utilize all the available development potential under its current zoning, which allows 1.0 FAR for commercial and manufacturing development, and would not qualify as soft for redevelopment. Existing conditions are expected to continue in the future without the proposed action.

With-Action Scenario
The Applicant's proposed building does not maximize allowable height on the New Lots Avenue frontage of Development Site 1, but it does nearly max out all available square footage available under the proposed rezoning in terms of FAR. For the purposes of ensuring a conservative environmental analysis, this environmental analysis utilizes the development proposal as a reasonable worst case scenario – since it effectively maxes out the available FAR and presents a reasonable maximum building envelope under the proposed MIH and ZQA. This scenario is described in the With Action Scenario.

Projected Development Site 1
Under the proposed rezoning, Projected Development Site 1 would see all existing buildings on site demolished and the existing individual zoning lots present on Block 3862 would be merged and could be developed at a combined FAR of 5.14, allowing a total of 283,313 zoning square feet of floor area. As proposed by the applicant, total development of this site would consist of 282,913 zoning square feet, or 99.85% of available floor area, and therefore the proposed development will stand as the Reasonable Worst Case Development Scenario. *As noted above for* Projected Development Site 1*, the failure to maximize the FAR allowed under a reasonable worst case scenario is directly related to cost containment and bulk regulations. To utilize the total available floor area (an additional 400 square feet), an additional story would have to be added – which from a cost standpoint would not be reasonable for any developer given.* Projected Development Site 1 – a development of 320,540 GSF would contain 240,408 zoning square feet (278,035 gross square feet) of residential floor are providing 315 affordable dwelling units at an average size of 763 square feet, 8,040 zoning/gross square feet of ground floor retail space, and 34,465 zoning/gross square feet of community facility space to be occupied by a church. No accessory parking would be provided for the developer's 100% affordable proposal. Development of market rate housing would provide parking at a rate of one space for every two dwelling units. The worst-case development for Projected Development Site 1 would have a maximum building

height of 95 feet within the proposed R7A/C2-4 district fronting on New Lots Avenue, and a maximum building height of 115 feet within the proposed R7D/C2-4 district fronting on Hegeman Avenue.

While the applicant's intention is to develop a 100% affordable project on sites under applicant's control, with accessory residential parking requirement waived per MIH, all new residential development would be subject to the provisions of MIH as described previously. Per MIH, 30% of all units would be required to be permanently affordable – or 95 of the 315 units under the RWCDS would be required to be permanently affordable.

Projected Development Site 2

Under the proposed rezoning, Projected Development Site 2 would see all existing buildings on site demolished and the existing individual zoning lots present on Block 3861 would be merged and could be developed at a combined FAR of 5.15, allowing a total of 186,906 zoning square feet of floor area. As proposed by the applicant, total development of this site would consist of 186,197 zoning square feet, or 99.6 % of available floor area, and therefore is considered to constitute a worst case with regard to maximizing floor area. *The failure to maximize the FAR allowed under a reasonable worst case scenario is directly related to cost containment and bulk regulations. To utilize the total available floor area an additional story would have to be added – which from a cost standpoint would not be reasonable for any developer given that perhaps 1 unit or 709 SF could be added to the building.* Projected Development Site 2 would be a development of 212,726 GSF and would contain 166,510 ZSF (193,039 GSF) of residential floor are providing 216 affordable dwelling units at an average size of 770 SF, and 19,687 ZSF/GSF of ground floor retail space. No accessory parking would be provided for the developer's 100% affordable proposal. Development of market rate housing would provide parking at a rate of one space for every two dwelling units. The worst-case development for Projected Development Site 2 would have a maximum building height of 95 feet within the proposed R7A/C2-4 district fronting on New Lots Avenue, and a maximum building height of 115 feet within the proposed R7D/C2-4 district fronting on Hegeman Avenue.

While the applicant's intention is to develop a 100% affordable project on sites under applicant's control, with accessory residential parking requirement waived per MIH, all new residential development would be subject to the provisions of MIH as described previously. Per MIH, 30% of all units would be required to be permanently affordable – or 65 of the 216 units under the RWCDS would be required to be permanently affordable.

Projected Development Site 3

The proposed zoning map amendment would affect properties on Block 3860 not under the applicant's control, as described above (the "Non-Applicant Site" or "Projected Development Site 3"). Owners of sites that are currently underdeveloped with respect to the proposed zoning may take advantage of the expanded floor area allowed under the proposed R7A/C2-4 zoning.

Based on the soft site criteria of the 2014 CEQR Technical Manual described previously, redevelopment of an assemblage consisting of Block 3860, Lots 1, 3, 4, 5, and 6 is considered likely under the proposed action. Lots 1, 3, and 4, located at the western end of the block, are developed with two-story mixed residential, community facility and commercial buildings on small lots. Lots 5 and 6 are developed with one-story manufacturing uses – an iron fabricator and a metal supply warehouse. The lots on Block 3860 have a combined lot area of 18,541 square feet and currently range in FAR from 1.0 to 2.37, with a combined FAR of 1.27.

The lots within Block 3860 are currently all under separate ownership. However, given recent development trends in the area as well as the applicant's interest in assembling multiple sites to

develop as a single site, an assemblage of these sites is considered. Maximum allowable FAR for the entire assemblage would be 4.6 FAR which would produce a maximum of 85,288 square feet of use based on the 18,541-square foot accumulated lot area. Therefore, an assemblage of these sites would be substantially underbuilt relative to the proposed zoning. A development that takes advantage of the proposed FAR could have approximately .9 FAR of ground floor retail (to allow space for ground floor residential lobby), and 3.7 FAR of residential development. This would produce a development containing approximately 16,687 square feet of local retail, and 68,602 square feet of residential floor area for a total of 85,288 square feet – *a reasonable worst case scenario that maxes out the available FAR.* At an average unit size of approximately 1,000 square feet, which is considered a typical average unit size for a multi-unit residential development in Brooklyn[3], this would produce approximately 69 dwelling units, of which up to 30% or 21 would be affordable to households with an average of 80% of AMI. Pursuant to ZQA a building of up to 95 feet in height and nine stories could be constructed with a required setback at 75 feet. Under the development scenario for the Non-Applicant Site, the 48 units (70%) that are market rate would require provision of 24 accessory parking spaces. There would be no required parking for the affordable units.

There are no other sites within the affected area. Therefore, the with-action condition assumes redevelopment of all property within the Affected Area.

Total Induced and Net Development within Proposed Rezoning Area

Total induced development would therefore consist of 600 dwelling units, of which 552[4] would be affordable – (given the intent of The Applicant to supply all 531 units on Projected Development Site's 1 & 2 as affordable, while Projected Development Site 3 would be required to provide 30% of its 69 units as affordable under the newly mapped MIH Area for the Affected Area or 21 would be affordable to households at an average of 80% of AMI), 34,481 gross/zoning square feet of community facility space, and 45,338 gross/zoning square feet of local retail space. As noted, the applicant's intention is to build 100% affordable housing on the applicant-controlled Projected Development Sites 1 and 2. When comparing the development under the proposed action to the no-action, the following net development scenario is anticipated – 540,710 square feet of residential containing approximately 597 net units - subtracting 3 existing units under the no-action scenario (552 affordable), a reduction of 27,612 square feet of commercial space and a loss of 12,788 square feet of manufacturing floor area, and a net gain of 31,635 square feet of community facility space.

The existing, no-action, and with-action conditions on the lots within the subject site are presented in **Table 1-6: Existing, No-Action and With Action Programs for Lots in the Proposed Rezoning Area.** The comparative evaluation of zoning and incremental development comparison between the existing, No-Action and With Action Programs is contained in **Table 1-7.**

Build Year

Factoring the ULURP process, closing for financing sources, an 18-24-month construction schedule for the Applicant Proposed Development to be completed in 2019, and assumed long range development of Projected Development Site 3 - the projected build year will be 2027.

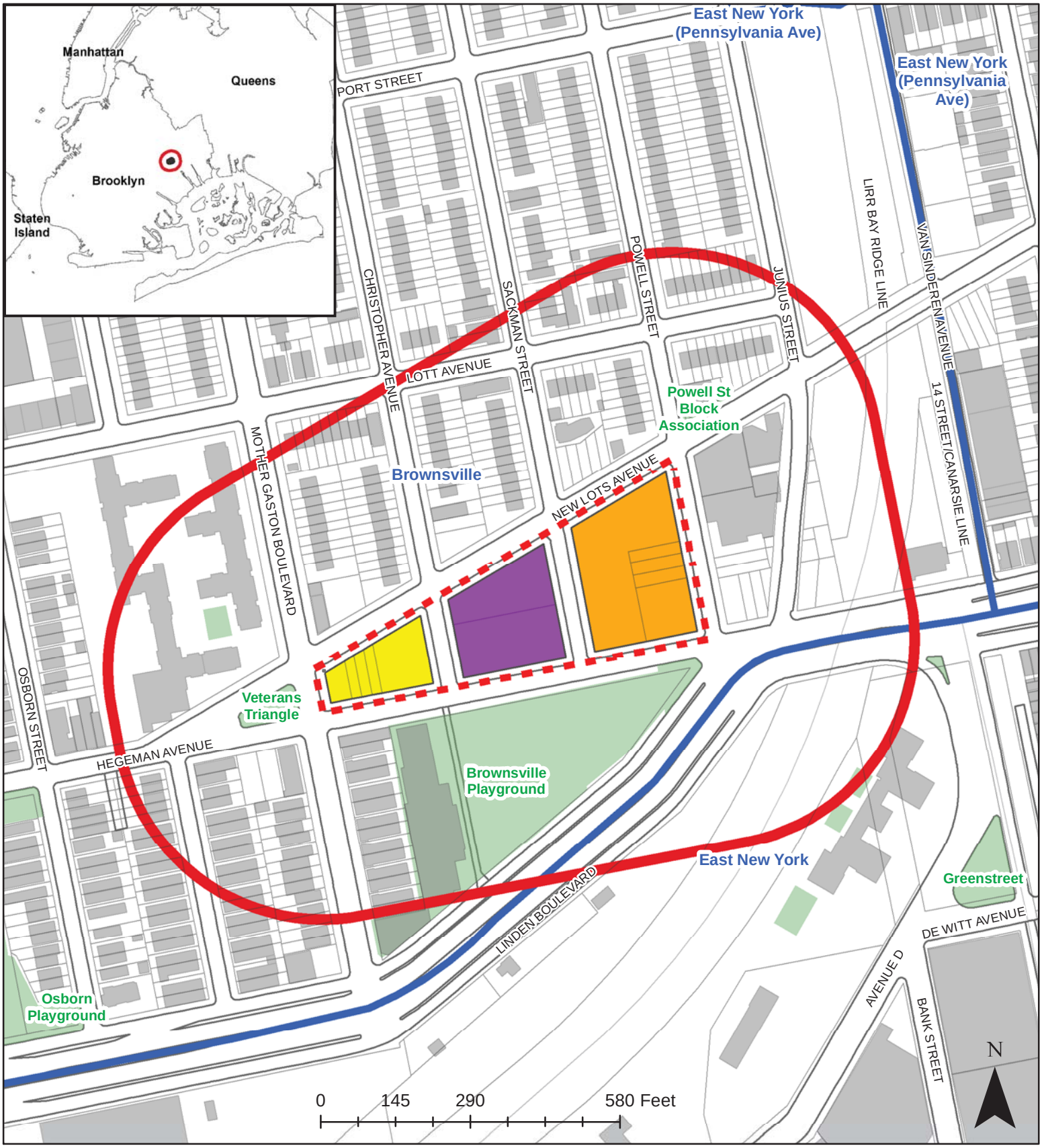
[3] The non-applicant owned Projected Development Site 3 unit count was derived by dividing the identified maximum allowable residential square footage and dividing it by a gross unit size of 1000 sf, this takes into account loss, common areas, parking, and other non-calculated areas in the generalized development scenario and represents a likely larger sized allowance for 80% market rate units in the Brownsville neighborhood of Brooklyn.

[4] For the purposes of conservative analysis, we will assume all units under the reasonable worst case scenario will be 100% affordable

EXISTING					NO-ACTION					WITH ACTION			
Residential Floor Area	Commercial Floor Area	Community Facility Floor Area	Manufacturing Floor Area	Vacant Land	Residential Floor Area	Commercial Floor Area	Community Facility Floor Area	Manufacturing Floor Area	Vacant Land	Residential Floor Area (ZSF)	Residential Floor Area (GSF)	Commercial Floor Area	Community Facility Floo Area
0	32,250	0	0	0	0	32,250	0	0	0				
0	3,500	0	0	0	0	3,500	0	0	0				
0	0	0	0	0	0	0	0	0	0	240,408	278,035	8,040	34,465
0	0	0	0	0	0	0	0	0	0				
0	1,056	0	0	0	0	1,056	0	0	0				
0	15,500	0	0	0	0	15,500	0	0	0	166,510	193,039	19,687	0
0	16,130	0	0	0	0	16,130	0	0	0				
0	2,334	2,846	0	0	0	2,334	2,846	0	0				
2,214	1,356	0	0	0	2,214	1,356	0	0	0				
1,186	824	0	0	0	1,186	824	0	0	0	68,602	68,602	16,687	0
0	0	0	1,788	0	0	0	0	1,788	0				
0	0	0	11,000	0	0	0	0	11,000	0				
3,400	**72,950**	**2,846**	**12,788**	**0**	**3,400**	**72,950**	**2,846**	**12,788**	**0**	**475,520**	**539,676**	**44,414**	**34,4**

Table 1-7: Existing, No-Action and With Action and Incremental Development Evaluation for the Affected Area

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
LAND USE				
Residential	X YES NO	X YES NO	x YES ☐ NO	
If "yes," specify the following:				
Describe type of residential structures				
No. of dwelling units	3	3	600	+597
No. of low- to moderate-income units	0	0	552	552
Gross floor area (sq. ft.)	3,400	3,400	539,676	536,276
Commercial	X YES NO	x YES NO	X YES ☐ NO	
If "yes," specify the following:				
Describe type (retail, office, other)	Retail; auto service	Retail; auto service	Retail	
Gross floor area (sq. ft.)	72,950	72,950	44,414	-28,536
Manufacturing/Industrial	X YES ☐ NO	X YES ☐ NO	YES X NO	
If "yes," specify the following:				
Type of use	Iron fabricator; warehouse	Iron fabricator; warehouse		
Gross floor area (sq. ft.)	12,788	12,788	0	-12,788
Open storage area (sq. ft.)				
If any unenclosed activities, specify:				
Community Facility	X YES ☐ NO	X YES ☐ NO O	X YES ☐ NO	
If "yes," specify the following:				
Type	Church/office	Church/office	Church/office	
Gross floor area (sq. ft.)	2,846	2,846	34,465	31,619
Vacant Land	☐ YES X NO	☐ YES X NO	☐ YES X NO	
If "yes," describe:				
Other Land Uses	☐ YES X NO	☐ YES X NO	☐ YES X NO	
If "yes," describe:				
PARKING				
Garages	☐ YES X NO	☐ YES X NO	X YES ☐ NO	
If "yes," specify the following:				
No. of public spaces				
No. of accessory spaces			24	24
Lots	YES X NO	YES X NO	YES X NO	
If "yes," specify the following:				
No. of public spaces				
No. of accessory spaces				
ZONING				
Zoning classification	M1-1	M1-1	R7A/C2-4; R7D/C2-4	
Maximum amount of floor area that can be developed	1.0 FAR commercial or manufacturing; 24 FAR community facility	1.0 FAR commercial or manufacturing; 2.4 FAR community facility	4.6 FAR residential or community facility, 2.0 FAR commercial; 5.6 FAR residential or community facility, 2.0 FAR commercial	
Predominant land use and zoning classifications within land use study area(s) or a 400 ft. radius of proposed project	M1-1; R6, R6/C2-3; M3-1; R5; mix of residential, commercial, industrial; railway	M1-1; R6, R6/C2-3; M3-1; R5; mix of residential, commercial, industrial; railway	M1-1; R6, R6/C2-3; M3-1; R5; mix of residential, commercial, industrial; railway	



Legend

- Affected Area
- 400 Foot Project Buffer
- Neighborhood Boundary

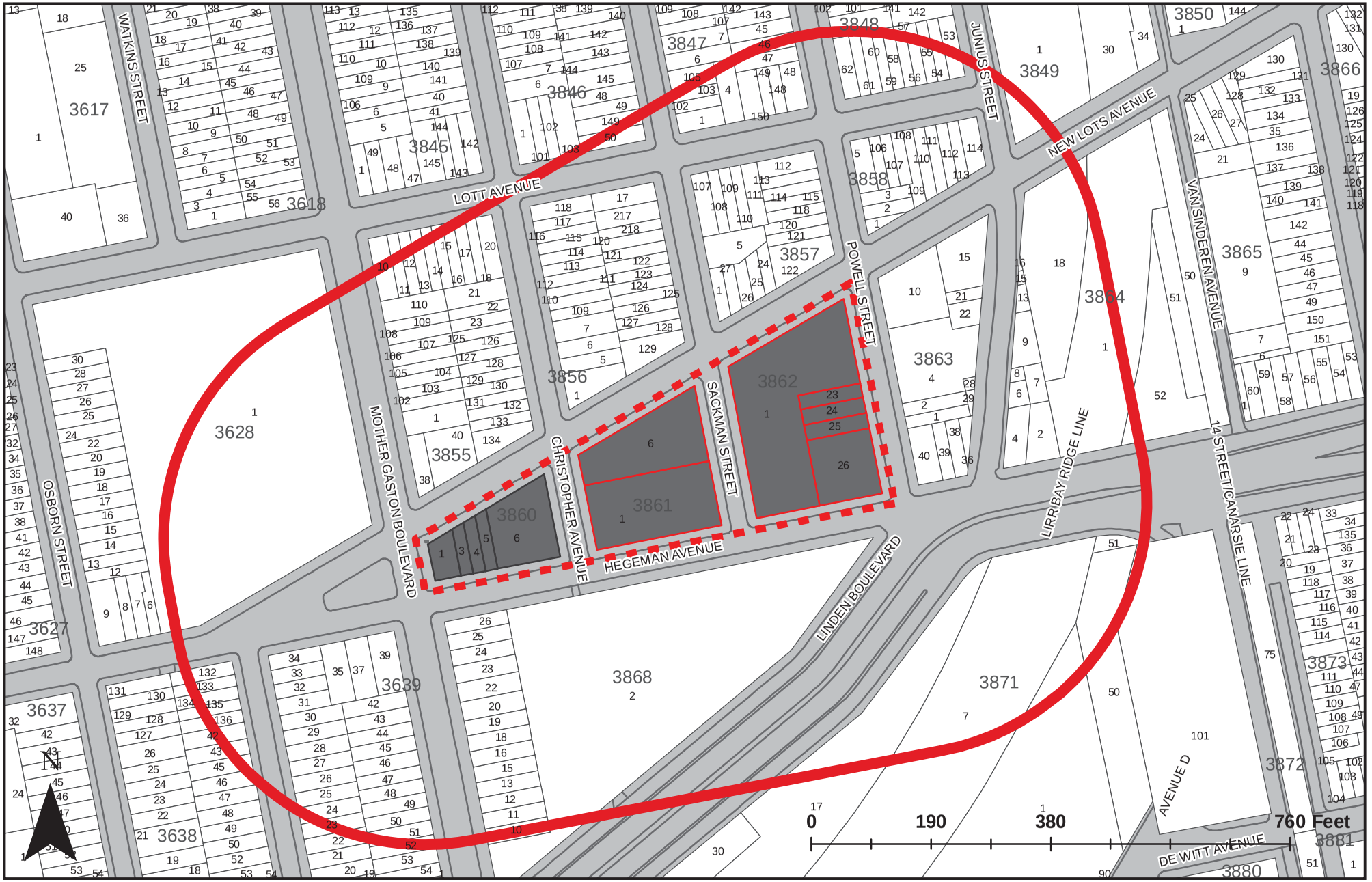
Projected Development Sites

- Site 1 - Block 3862
- Site 2 - Block 3861
- Site 3 - Block 3860
- Parks

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Ebenezer Plaza Environmental Assessment

Figure 1-1: Project Location Map



Legend

- Affected Area
- 400 Foot Project Buffer

Projected Development Sites

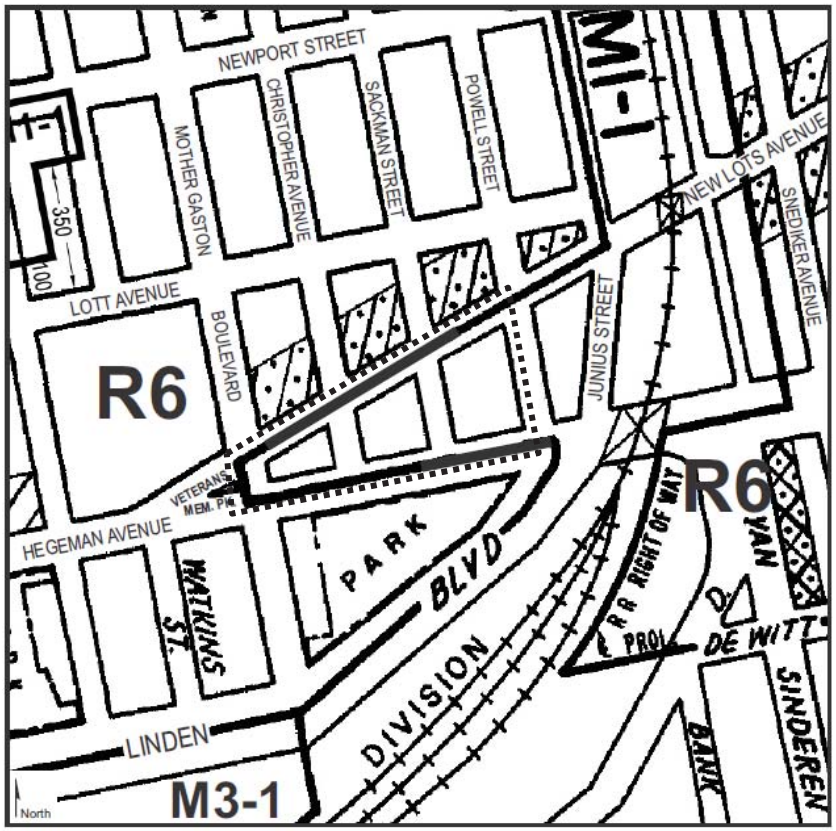
- Site 1: Block 3862
- Site 2: Block 3861
- Site 3: Block 3860

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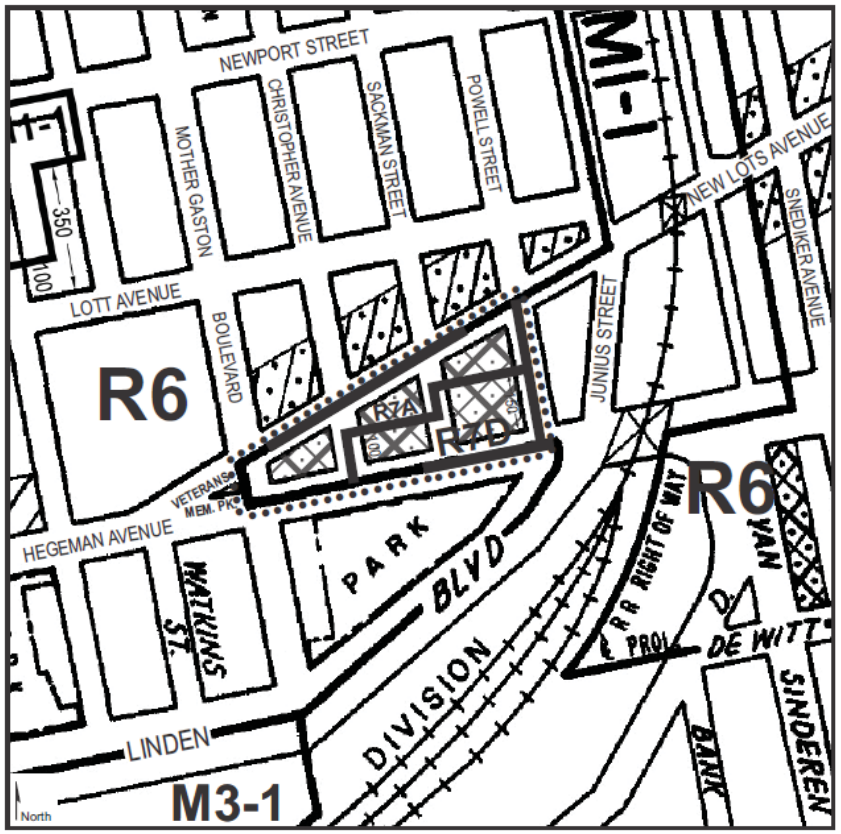
Ebenezer Plaza Environmental Assessment

Figure 1-2: Tax Map

Figure 1-3 Zoning Change Map[5]



Current Zoning Map (17d)



Proposed Zoning Map (17d) - Project Area is outlined with dotted lines

Rezoning from M1-1 to R7A with C2-4 overlay
Rezoning from M1-1 to R7D with C2-4 overlay

[5] Dotted line denotes Proposed Rezoning Area



Legend

- Affected Area
- 400 Foot Project Buffer
- Site A - Block 3862
- Site B - Block 3861
- Site C - Block 3860
- # Photo View Point

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Ebenezer Plaza Environmental Assessment

Figure 1-4: Photo Key Map

Photograph 1: Intersection of Watkins Street and Hegeman Avenue Looking East



Photograph 2: Intersection of Mother Gaston Blvd And Hegeman Avenue Looking East



Photograph 3: Intersection of Mother Gaston Blvd and Hegeman Avenue Looking Northeast



Photograph 4: Intersection of Christopher Avenue & Hegeman Avenue Looking Southwest



Photograph 5: Intersection of Christopher Avenue and Hegeman Avenue Looking Northeast



Photograph 6: Intersection of Christopher Avenue and Hegeman Avenue Looking South



Photograph 7: Views from Sackman Street and Hegeman Avenue Look West, Northwest, North and Northeast









Photograph 8: Intersection of Powell Avenue and Hegeman Avenue Looking Northwest



Photograph 9: Intersection of Junius Street and Hegeman Avenue Looking South



Photograph 10: Junius Street Looking Toward New Lots Avenue



Photograph 11: Intersection of Junius Street and New Lots Avenue Looking Southwest



Photograph 12: View from Powell Street and New Lots Intersection East



Photograph 13: View from Powell Street to New Lots Avenue



Photograph 14: Intersection of Sackman Street and New Lots Avenue Looking Southwest



Photograph 15: Intersection of Christopher Street and New Lots Avenue Looking East



Photograph 16: Intersection of Lott Avenue and Powell Street Looking North



Photograph 17: Intersection of Sackman Street and Lott Avenue Looking East



Photograph 18: Intersection of Mother Gaston Avenue and Lott Avenue Looking South



2.0 ENVIRONMENTAL REVIEW

The following technical sections are provided as supplemental assessments to the Environmental Assessment Statement ("EAS") Short Form. Part II: Technical Analyses of the EAS forms a series of technical thresholds for each analysis area in the respective chapter of the *CEQR Technical Manual*. If the proposed project was demonstrated not to meet or exceed the threshold, the 'NO' box in that section was checked; additional analyses were not needed. If the proposed project was expected to meet or exceed the threshold, or if this was not able to be determined, the 'YES' box was checked on the EAS Short Form, resulting in a preliminary analysis to determine whether further analyses were needed. For those technical sections, the relevant chapter of the *CEQR Technical Manual* was consulted for guidance on providing additional analyses (and supporting information, if needed) to determine whether detailed analysis was needed.

A 'YES' answer was provided in the following technical analyses areas on the EAS Short Form:

- Land Use, Zoning and Public Policy
- Socioeconomic Conditions
- Community Facilities and Services
- Open Space
- Shadows
- Urban Design and Visual Resources
- Natural Resources
- Hazardous Materials
- Transportation
- Air Quality
- Noise
- Public Health
- Neighborhood Character
- Construction

In the following technical sections, where a preliminary or more detailed assessment was necessary, the discussion is divided into Existing Conditions, the Future No-Action Conditions (the Future Without the Proposed Action), and the Future With-Action Conditions (the Future With the Proposed Action).

2.1 LAND USE, ZONING AND PUBLIC POLICY

The *CEQR Technical Manual* recommends procedures for analysis of land use, zoning and public policy to ascertain the impacts of a project on the surrounding area. Land use, zoning and public policy are described in detail below. Existing land uses determined by reference the New York City Zoning and Land Use (Zola) database and PLUTOTM 16v1 shapefiles. These uses were then confirmed through site visits. Identifying existing Zoning districts related to the 400-foot study area were performed with reference to New York City Zoning Maps and the Zoning Resolution of the City of New York and served as the basis for the zoning evaluation of the Future No Action and Future With-Action Conditions. Public Policy research was performed through an evaluation of New York City Department of City Planning (NYCDCP) and other city agencies programs and documentation.

2.1.1 Land Use

Existing Conditions

Existing land use patterns of city blocks within approximately 400 feet of the rezoning area are presented in **Figure 2.1-1**. The *CEQR Technical Manual* suggests that a land use, zoning and public policy study area should extend 400 feet from the site of the proposed action.

Affected Area

The Affected Area is in the southeastern section of the Brownsville neighborhood within Brooklyn Community District 16. The roughly triangle-shaped Affected Area is bounded by New Lots Avenue to the north, Hegeman Avenue to the south, Mother Gaston Boulevard to the west, and Powell Street to the east. New Lots Avenue runs diagonally and the western terminus of the street is at its intersection with Hegeman Avenue, which runs east-west.

The Ebenezer Plaza site consists of Block 3862, all lots (Projected Development Site 1) and Block 3861, all lots (Projected Development Site 2). The Block 3862 portion (identified as Projected Development Site 1) is a trapezoid with approximately 211 feet of frontage on New Lots Avenue, 240 feet of frontage on Skillman Street, 340 feet of frontage on Powell Street, and 200 feet of frontage on Hegeman Avenue. Site 1's area is 55,068 square feet (1.26 acres). Site 1 contains automotive uses including an auto repair business on lot 1 and auto sales businesses on lots 24, 25, and 26. There is also one unimproved not vacant – formerly used for auto sales on lot 23.

The Block 3861 portion (Projected Development Site 2) is a trapezoid with approximately 211.94 feet of frontage on New Lots Avenue, 149.4 feet of frontage on Christopher Avenue, 219.21 feet of frontage on Sackman Street, and 200 feet of frontage on Hegeman Avenue. Site 2's area is 36,824 square feet (0.85 acres). Projected Development Site 2 contains two auto repair businesses on its two zoning lots (lot 1 and lot 6).

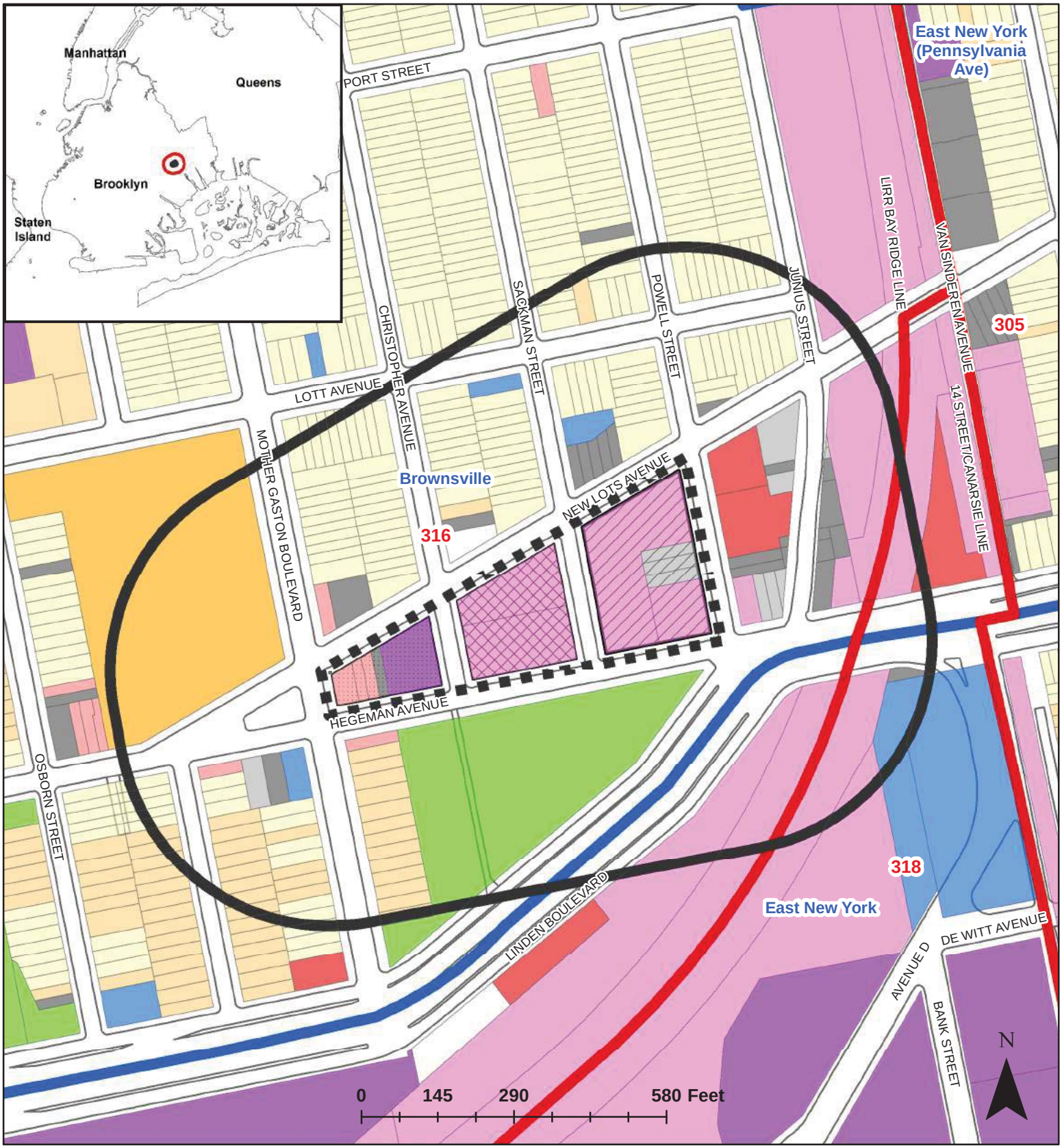
Description of the Non-Applicant/ Projected Development Site (Projected Development Site 3)

In addition to the Proposed Development Site, consisting of Projected Development Site 1 and Projected Development Site 2, the Affected Area contains property not under the applicant's control, identified as Projected Development Site 3. This site consists of Block 3860, Lots 1, 3, 4, 5, and 6. The eastern end of this block, consisting of lots 5 and 6, is occupied by light industrial uses – an iron fabricator and a metal supply distribution and warehouse facility. Both uses occupy one-story buildings. The western end of the block contains two-story buildings containing ground

floor retail uses and legal-non-conforming second floor residences on lots 3 and 4, and aoffices for community church on lot 1. Site 3 has a total land area of 18,541 SF.

Surrounding Area

The project study area surrounding the Affected Area lies within the Brownsville and East New York neighborhoods of Brooklyn. The 400-foot study area while primarily within Community District 16, also overlaps portions of Community District 5 and 18. The Affected Area is most tied to the neighborhood area west of embankment for the Bay Ridge freight line of the Long Island Rail Road and elevated L 14th Street Canarsie Local and North of Linden Boulevard – which at this location is one of the widest boulevards in the City - a multi-median divided, 10-lane wide boulevard. These transportation features intersect near the southeast corner of the Project Site and effectively serve as the southern terminus of the Brownsville neighborhood. The area directly to the south of the section of Linden Boulevard that is within the project study area and is almost exclusively transportation or industrial/manufacturing uses. Within this area is the Bay Ridge freight line of the Long Island Rail Road is located to the south of Linden Boulevard and extends north to the east of the Project Area. Overall, the project area rests within a residential dominant land use area. The area north of the affected area is a predominately a two-story attached single-family residential neighborhood – homes which were developed under the Nehemiah Program in the 1980s, with some irregular shaped parcels created by the diagonal orientation of New Lots Avenue that have been used for community gardens and open auto storage. Additionally, to the northwest of the proposed Project Area are the Plaza Residences with 385 units of affordable housing in three six-story buildings built in the 1960s and renovated in the 2000s. The section of Mother Gaston Boulevard to the south of its intersection with Hegemnan Avenue also features primarily two story one & two family residences. There are three parks owned and operated by the New York City Department of Parks and Recreation ("Parks") in the surrounding area. Directly south of the Project Area is the 3.02-acre Brownsville Recreation Center. Veteran's Triangle is a 0.03-acre triangular park located between Hegeman Avenue and New Lots Avenue, to the west of the Project Area. Osborne Playground is a 1.9-acre park further to the west of the Project Area on Hegeman Avenue and Osborne Street. Due east of the Affected Area on Junius Street is a newly redeveloped assemblage of retail and general commercial land uses.



Legend

- Affected Area
- Site A - Applicant Site
- Site B - Applicant Site
- Site C - Projected Site
- 400 Foot Project Buffer
- Community District Boundary
- Neighborhood Boundary

Land Use

- Residential - One and Two Family
- Residential - Multi-Famly (Walk-up)
- Resdiential - Multi-Family (Elevator)
- Mixed Residential and Commercial
- Commercial Use
- Industrial/ Manufacturing
- Transportation/Utility
- Public Facilities & Institutions
- Open Space & Recreation
- Parking
- Vacant Land

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Ebenezer Plaza Environmental Assessment

Figure 2-1: Existing Land Use Map

As is shown in **Figure 2.1-1**, the general mix of land uses observed in the project study area is more diverse and quite different from the larger context – and this is primarily due to the uses present in the M1-1 zoning area that covers the Affected Area – while the surrounding neighborhood are primarily one- & two-family residential uses. As **Table 2.1.1** reflects, Community District 16 is more uniformly residential than the project study area – which contains a diverse range of uses including transportation-oriented commercial uses, parking, vacant land, and public facilities – which evenly compose the bulk of non-residential uses that are predominate within the 400-foot study area.

Table 2.1-1 Comparison of Existing Land Use Distribution for Brooklyn Community District 16 and 400-foot Study Area

Land Uses	**Community District 16**		**400-Foot Project Area**	
	Land Area	Percentage of Total	*Land Area*	Percentage of Total
RESIDENTIAL USES				
Residential 1&2 Family	7,867,239	22.43%	796,275	13.83%
Residential Multi-Family (walk-up)	7,106,417	20.26%	904,117	15.70%
Residential Multi-Family (Elevator)	5,549,503	15.82%	108,499	1.88%
Mixed Residential and Commercial	2,027,171	5.78%	641,377	11.14%
Subtotal of Residential Uses	22,550,330	64.29%	2,450,268	42.56%
NON-RESIDENTIAL USES				
Commercial Use	1,281,142	3.65%	261,922	4.55%
Industrial/Manufacturing	1,619,836	4.62%	11,653	0.20%
Transportation/Utility	1,880,413	5.36%	643,734	11.18%
Public Facilities/Institutions	3,304,344	9.42%	735,532	12.78%
Open Space/Recreation	1,661,010	4.74%	126,843	2.20%
Parking	841,455	2.40%	773,704	13.44%
Vacant Land	1,603,415	4.57%	752,070	13.06%
No Identified Land Use	334,923	0.95%	1,675	0.03%
Subtotal of Non-Residential Uses	12,526,539	35.71%	3,307,135	57.44%
Total	**35,076,869**	**100%**	**5,757,403**	**100%**

Source: *Community District Profiles, New York City Department of City Planning.*
Note: Percentages may not add up to 100.0 percent due to rounding.

Future No-Action Conditions

Affected Area

The proposed development sites are in the Brownsville neighborhood of Brooklyn, which is densely developed. Directly east of the Affected Area, redevelopment and new commercial development has occurred on Block 3863. The Affected Area's development potential under existing zoning is limited by the significant demolition and brownfield remediation that would be required. No additional significant new construction was observed within 400 feet of the rezoning area, although several vacant lots are present.

In the future without the proposed action, it is presumed that no additional floor area or changes in use would occur at any site within the proposed rezoning boundaries. Therefore, for the purposes of this memorandum, it is assumed that conditions in the Future No-Action scenario would be consistent with conditions, as they currently exist on the parcels listed above.

Surrounding Area

Existing land use patterns near the Affected Area are expected to remain in the future without the proposed action. Some redevelopment or additional infill may occur at the area east of the project where new commercial development has been completed on Block 3863 and abutting the LIRR freight line and L train line. However, given the existing zoning of M1-1 – it is likely that any development will be like that already present and modest in scale.

Future With-Action Conditions

Affected Area

Proposed Development Sites
Under the proposed rezoning, Projected Development Site 1 on Block 3862 could be developed at a combined FAR of 5.14, allowing a total of 283,313 zoning square feet of floor area. As proposed by the applicant, total development of this site would consist of 282,913 ZSF at an FAR of 5.1375 (use of the remain square footage would require construction of an additional floor). The 320,540 GSF Development on Projected Site 1 would contain 240,408 zoning square feet (278,035 GSF) of residential floor area providing 315 dwelling units, 7,498 ZSF/GSF of ground floor retail space, and 34,465 ZSF/GSF of community facility space to be occupied by a church. No accessory parking would be provided for the developer's 100% affordable proposal. Development of market rate housing would provide parking at a rate of one space for every two dwelling units. The worst-case development for Projected Development Site 2 would have a maximum building height of 95 feet within the proposed R7A/C2-4 district fronting on New Lots Avenue, and a maximum building height of 115 feet within the proposed R7D/C2-4 district fronting on Hegeman Avenue.

Under the proposed rezoning, Projected Development Site 2 on Block 3861 could be developed at a combined FAR of 5.15, allowing a total of 186,906 ZSF of floor area. As proposed by the applicant, total development of this site would consist of 186,197 ZSF at an FAR of 5.13 (use of the remain square footage would require construction of an additional floor). The 212,726 GSF Development on Projected Site 2 would contain 166,510 ZSF (193,039 GSF) of residential floor are providing 216 dwelling units, and 19,687 ZSF/GSF zoning square feet of ground floor retail space. No accessory parking would be provided for the developer's 100% affordable proposal. Development of market rate housing would provide parking at a rate of one space for every two dwelling units. The worst-case development for Projected Development Site 1 would have a maximum building height of 95 feet within the proposed R7A/C2-4 district fronting on New Lots Avenue, and a maximum building height of 115 feet within the proposed R7D/C2-4 district fronting on Hegeman Avenue.

Projected Development Site
The proposed zoning map amendment would affect properties on Block 3860 not under the applicant's control, as described above (the "Non-Applicant Site" or "Projected Development Site 3"). Owners of sites that are currently underdeveloped with respect to the proposed zoning may take advantage of the expanded floor area allowed under the proposed R7A/C2-4 zoning.

Based on the soft site criteria of the 2014 CEQR Technical Manual described previously, redevelopment of an assemblage consisting of Block 3860, Lots 1, 3, 4, 5, and 6 is considered likely under the proposed action. Lots 1, 3, and 4, located at the western end of the block, are developed with two-story mixed residential, community facility and commercial buildings on small lots. Lots 5 and 6 are developed with one-story manufacturing uses – an iron fabricator and a metal supply warehouse. The lots on Block 3860 have a combined lot area of 18,541 square feet and currently range in FAR from 1.0 to 2.37, with a combined FAR of 1.27.

The lots within Block 3860 are currently all under separate ownership. However, given recent development trends in the area as well as the applicant's interest in assembling multiple sites to develop as a single site, an assemblage of these sites is considered. Maximum allowable FAR for the entire assemblage would be 4.6 FAR which would produce a maximum of 85,288 square feet of use based on the 18,541-square foot accumulated lot area. Therefore, an assemblage of these sites would be substantially underbuilt relative to the proposed zoning. A development that takes advantage of the proposed FAR could have approximately .9 FAR of ground floor retail (to allow space for ground floor residential lobby), and 3.7 FAR of residential development. This would produce a development containing approximately 16,687 square feet of local retail, and 68,602 square feet of residential floor area for a total of 85,288 square feet – *a reasonable worst case scenario that maxes out the available FAR.* At an average unit size of approximately 1,000 square feet, which is considered a typical average unit size for a multi-unit residential development in Brooklyn, this would produce approximately sixty-nine dwelling units, of which up to 30% would be affordable to households with an average of 80% of AMI. Pursuant to ZQA a building of up to 95 feet in height and nine stories could be constructed with a required setback at 75 feet. Under the development scenario for the Non-Applicant Site, the 48 units (70%) that are market rate would require provision of 24 accessory parking spaces. There would be no required parking for the affordable units.

There are no other sites within the affected area. Therefore, the with-action condition assumes redevelopment of all property within the Affected Area.

Total induced development would therefore consist of 600 dwelling units, of which 180 (30%) would be required to be permanently affordable to households at an average of 80% of AMI, 34,465 gross square feet of community facility space, and 44,414 gross square of local retail space. As noted, the applicant's intention is to build 100% affordable housing on the applicant-controlled sites 1 and 2.

Surrounding Area

Beyond the Affected Area, existing land use patterns and development trends are expected to continue in the future with the proposed action. As demand for housing in the area increases, developable properties where zoning permits residential development may be redeveloped in keeping with established trends.

The proposed development is a positive compliment to this primarily residential neighborhood. Replacing what are now nuisance land uses, with cars parked on sidewalks, and occupying available on-street spaces for business uses and businesses contributing to the already existing brownfield contamination at the site. The increased density and height at the site compared with the primarily two-story residential neighborhood that abuts would serve as a buffer and transition to the heavily trafficked Linden Boulevard from the adjacent community. In addition, the provision of affordable housing and local serving retail, and community service strengthens the proposed

developments relationship and contribution to the surrounding area. Finally, the provision of higher density affordable housing at or near a mass transit, further contributes to the mission and purpose of integrated housing with transportation and jobs. The proposed development would not introduce a new land use into the area, would not create conflicts with existing land uses, and would not alter the overall land use pattern in the area.

2.1.2 Zoning

The *New York City Zoning Resolution* dictates the use, density and bulk of developments within New York City. Additionally, the Zoning Resolution provides required and permitted accessory parking regulations. The City has three basic zoning district classifications – residential (R), commercial (C), and manufacturing (M). These classifications are further divided into low, medium, and high-density districts.

Existing Conditions

Zoning designations within and around the project study area are depicted in **Figure 2.1-2**, while **Table 2.1-2** summarizes use, floor area and parking requirements for the zoning districts in the study area.

Affected Area

The Project Area is within an M1-1 zoning district established in 1961, which extends beyond the Project Area to the east and north. The existing M1-1 zoning district permits light industrial uses, such as woodworking shops, repair shops, wholesale service, storage facilities, limited community facility uses, and commercial uses. The maximum FAR for permitted manufacturing and commercial uses within the M1-1 district is 1.0 and 2.4 for permitted community facility uses.

Surrounding Area

The existing zoning districts in the surrounding area include:

M1-1

The M1-1 Zone extends beyond the Project Area to the east, north, and to the south across from Linden Boulevard. The uses permitted in M1-1 are described above.

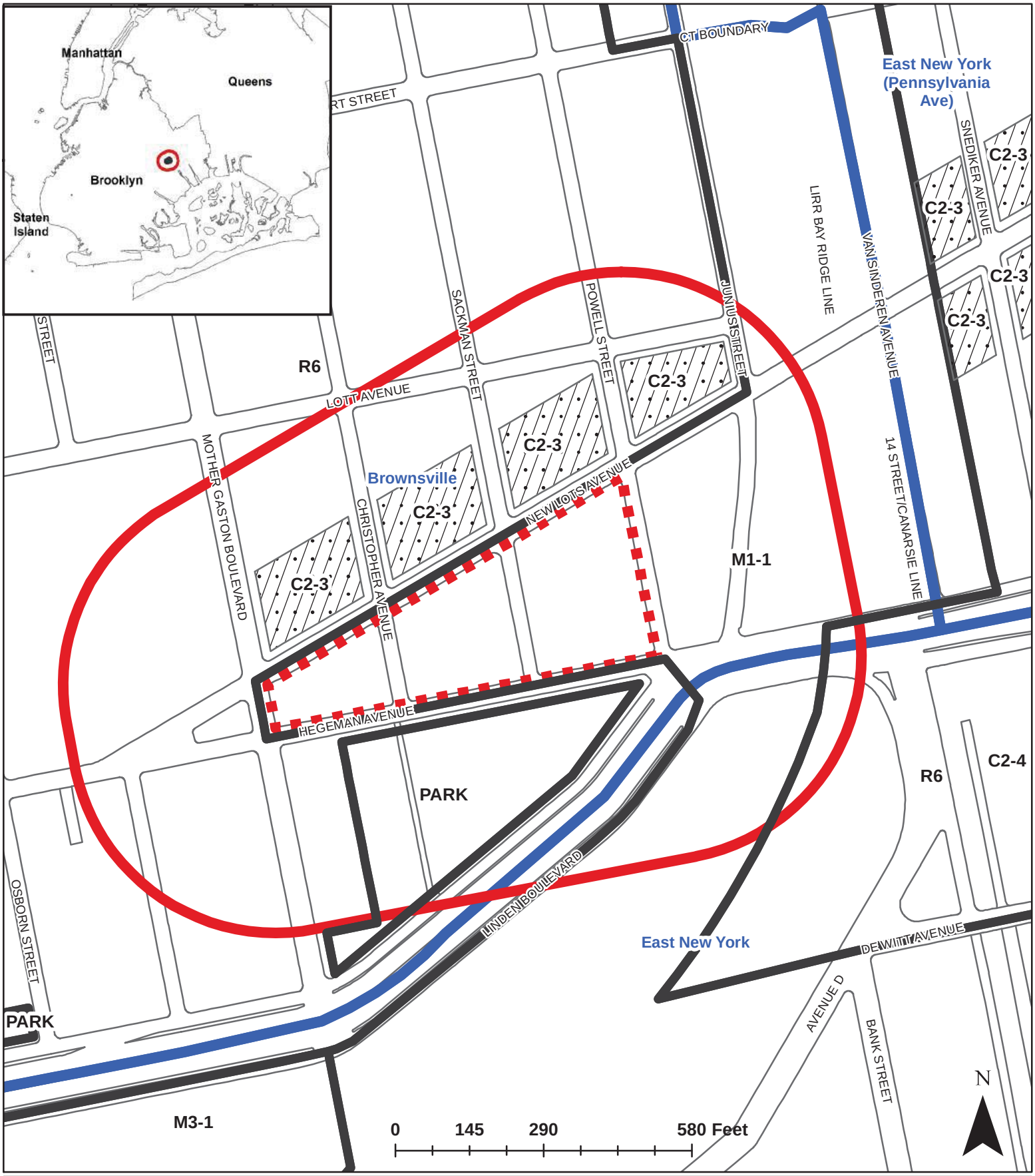
R6

Most the surrounding area is within a large R6 zoning district that is bounded generally by Linden Boulevard to the south, Junius Street to the east, Utica Avenue to the west, and extending beyond Eastern Parkway to the north. There is also an R6 zoning district to the southeast of the proposed Project Area. R6 districts allow all housing types at a maximum FAR of up to 2.43 and a maximum FAR of up to 4.8 for buildings containing certain community facility uses. R6 is a height factor district where residential and community facility uses are permitted with no fixed height limits and building envelopes are regulated by a sky exposure plane and open space ratio after a maximum base height of 60 feet. Residential development under the optional Quality Housing Program has a maximum FAR of 2.2 on narrow streets with a 55-foot building height limit and a maximum of 3.0 FAR on wide streets with a height limit of 70 feet. Off-street parking is required for 70 percent of the dwelling units. This requirement is lowered to 50 percent of the units if the lot area is less than 10,000 square feet

or if Quality Housing provisions are used. In R6 districts, if fewer than five spaces are required, the off-street parking requirement is waived.

C1-3 and C2-3 Commercial Overlays

Mapped within the R6 zoning district, there are C2-3 commercial overlays mapped along New Lots Avenue directly to the north and C1-3 commercial overlays mapped along Hegeman Avenue to the west of the Project Area. C1-3 overlays mapped within the R6 zoning district permit the development of Use Group 6 commercial uses with a maximum commercial FAR of 2.0. C2-3 overlays permit an expanded range of service uses including Use Groups 7, 8, 9, and 14. Commercial uses must be located below residential uses in mixed buildings. The parking requirement for general retail and service uses is one accessory off-street parking space per 1,000 sq. ft. of commercial floor area. A parking waiver is available if the required parking is less than 40 spaces.



Legend

- Affected Area
- 400 Foot Project Buffer
- Neighborhood Boundary
- Zoning Boundary
- C2-3 Overlay

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Figure 2.1-2: Existing Zoning Map

Table 2.1-2 Summary of Existing Zoning Regulations

Zoning District	Type and Use Group (UG)	Floor Area Ratio (FAR)	Parking (Required Spaces)
M1-1	Light Manufacturing UGs 4-14, 16, 17	1.0 FAR – Manufacturing 1.0 FAR – Commercial 2.4 FAR – Community Facility	Varies by Use
R6	Residential UGs 1-4	2.43 FAR – Residential 2.43 FAR – Community Facility	70 percent of dwelling units (waived if 5 or fewer spaces required)
C2-3	Commercial Overlay UGs 1-9 & 14	2.0 FAR – Commercial	Generally Not Required

Source: Zoning Handbook, New York City Department of City Planning, January 2006

Future No-Action Conditions

In the future without the proposed action, zoning changes are not expected to occur on the project site or within the surrounding study area. No authorizations, certifications or other approvals would be sought from the CPC relating to the project site. Because the Applicant may not construct new residential square footage on the project site without the proposed zoning map and text amendments, it is assumed that the No-Action Scenario would remain consistent with existing conditions. Therefore, if the mapping of the requested R7A and R7D with a C2-4 overlay zoning district and inclusionary housing designated area are not granted, the existing conditions would continue in the future no-action scenario.

No rezoning actions are presently being contemplated by the NYC Department of City Planning (DCP), nor have any BSA variance applications been identified for the study area by the project build year of 2027.

Future With-Action Conditions

The proposed rezoning area is bounded by New Lots Avenue to the north, Hegeman Avenue to the south, Mother Gaston Boulevard to the west, and Powell Street to the east. It consists of Block 3860, Lots 1, 3, 4, 5, and 6; Block 3861, Lots 1 and 6; Block 3862, Lots 1, 23, 24, 25, and 26 (the "Project Area" or "rezoning area"). **Table 2.1-2 Summary of Proposed Rezoning for Affected Area** shows the with action proposal to map R7A and R7D zoning districts with a C2-4 commercial overlay within the Project Area, which is currently zoned M1-1. The proposed rezoning would map an R7D district on the southern portion of Block 3861 located within 100 feet of Hegeman Avenue and on the southern portion of Block 3862 located within 150 feet of Hegeman Avenue. The proposed rezoning would map an R7A district on the northern portion of Block 3861 located beyond 100 feet of Hegeman Avenue and on the northern portion of Block 3862 located beyond 150 feet of Hegeman Avenue and all of Block 3860. The C2-4 commercial overlay would be mapped over the entire Project Area. **Figure 2.1-3 Proposed Rezoning**, below - shows a map of the proposed zoning change under the With-Action condition.

Proposed R7D

The R7D zoning district proposed for the Project Area allows medium-density apartment buildings at a maximum FAR of 5.6 for developments that provide affordable housing pursuant to the IH program requirements. The maximum building height for eligible IH program buildings with

qualifying ground floors is 115 feet after a setback from the base height of up to 95 feet. Buildings must set back above the maximum base height to a depth of 10 feet on a wide street and 15 feet on a narrow street before rising to a maximum of 11 floors. In addition, where commercial overlays are mapped, active ground floor uses are required. Off-street parking is required for 50 percent of the residential dwelling units, but is not required for affordable housing units within specified Transit Zones. Further, developments of fewer than 10 units or 12,500 square feet of residential floor area in R7D districts would have a maximum FAR of 4.2 and would not be required to provide affordable housing. Mapping an R7D in this area provides opportunities for medium-density housing development under the MIH program.

Proposed R7A

Similarly, the R7A zoning district proposed for the Project Area allows medium-density apartment buildings at a maximum FAR of 4.6 for developments that provide affordable housing pursuant to the IH program requirements. The maximum building height for eligible IH program buildings with qualifying ground floors is 95 feet after a setback from the base height of up to 75 feet. Buildings must set back above the maximum base height to a depth of 10 feet on a wide street and 15 feet on a narrow street before rising to a maximum of 9 floors. Off-street parking is required for 50 percent of the residential dwelling units, but is not required for affordable housing units within specified Transit Zones. Further, Developments of fewer than 10 units or 12,500 square feet of residential floor area in R7A districts would have a maximum FAR of 4.0 and would not be required to provide affordable housing. Mapping an R7A in this area provides opportunities for medium-density housing development under the MIH program.

Proposed C2-4

The Applicant proposes to map a C2-4 commercial district over the entire proposed Project Area. The proposed C2-4 district permits Use Groups 5 through 9 and 14 to allow commercial development with up to 2.0 FAR. Although Use Group 5 would not be permitted at this site because of its distance from a limited access highway. The proposed C2-4 district requires one accessory parking space per 1,000 sq. ft. of commercial floor area for all types of commercial uses. The proposed overlays support the development of mixed residential and commercial uses and would strengthen the character of Hegeman Avenue and New Lots Avenue as mixed corridors.

Table 2.1-2 Summary of Proposed Zoning for Affected Area

Zoning District	Type and Use Group (UG)	Floor Area Ratio (FAR)	Parking (Required Spaces)
R7A	Residential UGs 1-4	4.0 FAR – Residential (QH) 4.6 FAR – Residential (Inclusionary housing) 4.2 FAR – Community Facility FAR	50 percent of dwelling units (waived if 15 or fewer spaces required) 30 percent if zoning lot is 10,000 SF or less
R7D	Residential UGs 1-4	4.2 FAR – Residential (QH) 5.6 FAR – Residential (Inclusionary housing) 4.2 FAR – Community Facility FAR	50 percent of dwelling units (waived if 5 or fewer spaces required)
C2-4	Commercial Overlay UGs 1-9 & 14	2.0 FAR – Commercial	Generally, Not Required

Source: Zoning Handbook, New York City Department of City Planning, January 2006



Legend

- Affected Area
- 400 Foot Project Buffer

Affected Area Zoning

Zoning

- R7A Proposed
- R7D Proposed
- C2-3 Existing within 400 Feet
- C2-4 Proposed

Existing Zoning to Remain with 400 Feet

ZoneDist1

- M1-1
- PARK
- R6

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Figure 2-1-3: Future With-Action Proposed Zoning

Proposed Text Amendment

Zoning Resolution ("ZR") Appendix F: Inclusionary Housing Designated Areas and Mandatory Inclusionary Housing Areas for Community District 16, Brooklyn establishes the Project Area as a Mandatory Inclusionary Housing ("MIH") Area.

The proposed text amendment would require the Applicant to develop the Ebenezer Plaza in accordance with the MIH program. Further, all future qualifying development of all sites within the proposed rezoning area would be required to adhere to the requirements of the MIH program. Pursuant to the MIH program, a percentage of the new dwelling units in the proposed development must be affordable units, resulting in an affordable housing set-aside for either 25 percent of the residential floor area at an average of 60 percent of the Average Median Income ("AMI") ("Option 1") or 30 percent of the residential floor area at an average of 80 percent AMI) ("Option 2"). The Applicant proposes mapping both MIH Option 1 and Option 2 within the Project Area to provide maximum flexibility for non-Applicant controlled sites. The Applicant would develop all 531 dwelling units as affordable at or below 80 percent of the area median income ("AMI"). The Applicant intends to develop Development Site A pursuant to HPD's Extremely Low and Low-Income Affordability ("ELLA") Program with 315 units at affordability levels below 60 percent AMI. Subject to ongoing discussion with HPD, the Applicant intends to develop Development Site B pursuant to HPD's Mixed Income Program ("Mix & Match") with 216 units at affordability levels at or below 80 percent AMI. The proposed affordable housing set asides ensure that the development within the Project Area would address the need for housing to serve a broad range of the City's diverse incomes.

Conclusion

The proposed action would allow for the neighborhood and New Lots Avenue corridor to transition completely to a residential neighborhood served by enhanced commercial and community service facilities. The current industrial style uses present in the Affected Area do not complement the overall character of the adjacent neighborhood and effectively serve as land use block from the R6 neighborhoods to the north of New Lots Avenue to the public and park amenities present at Brownsville Recreation Center and Playground directly south of the Affected Area. The higher density development proposed under the R7A and R7D would provide an affective transition and buffer for the adjacent R6 – lower density residential uses to the heavily trafficked Linden Boulevard to the South of the Affected Area. The proposed C2-4 overlays support the development of mixed residential and commercial uses and would strengthen the character of Hegeman Avenue and New Lots Avenue as mixed corridors. The proposed action would therefore not have a significant impact on the extent of conformity with the current zoning in the surrounding area, and it would not adversely affect the viability of conforming uses on nearby properties. Therefore, significant adverse impacts to zoning are not anticipated and further zoning analysis is not warranted.

2.1.3 Public Policy

The project site is not part of, or subject to, an Urban Renewal Plan (URP), adopted community 197-a Plan, Solid Waste Management Plan, Business Improvement District (BID), Industrial Business Zone (IBZ), or the New York City Landmarks Law. The Project Area is within a FRESH Program area that provides zoning and discretionary tax incentives. The proposed project allows for enhanced commercial development through the extension of commercial overlay throughout the Affected Area – this additional opportunity for commercial and enhanced residential development would reciprocally support and be enabled by the Fresh Program Area present in

the neighborhood. The Project Area is also located within the former Brownsville I Urban Renewal Area that was adopted in 1967 and expired in 2007. The proposed action is also not a large publicly sponsored project, and as such, consistency with the City's PlanNYC 2030 for sustainability is not warranted.

Waterfront Revitalization Program

Since the rezoning area is not located in the Coastal Management Zone, a consistency review is not warranted for the proposed action.

Jamaica Bay Watershed

The project lies within the Jamaica Bay Watershed/Sewershed boundary. The Jamaica Bay Watershed Protection Plan, developed pursuant to Local Law 71 of 2005, mandates that the New York City Department of Environmental Protection (DEP) work with the Mayor's Office of Environmental Coordination (MOEC) to review and track proposed development projects in the Jamaica Bay Watershed are subject to CEQR in order to monitor growth and trends. If a project is located in the Jamaica Bay Watershed, (the applicant should complete this form and submit it to DEP and MOEC. This form must be updated with any project modifications and resubmitted to DEP and MOEC. This form has been prepared and transmitted as required and is available in the Appendix to this EAS.

2.2 SOCIOECONOMIC CONDITIONS

Pursuant to the 2014 *CEQR Technical Manual*, the purpose of a socioeconomic assessment is to disclose potentially adverse changes that would be created by an action and identify whether they rise to the level of significance. Per the CEQR Technical Manual, a socioeconomic assessment should be conducted if a project may be reasonably expected to create socioeconomic changes in the area affected by the project that would not be expected to occur in the absence of the project. The following screening assessment considers threshold circumstances identified in the CEQR Technical Manual and enumerated below that can lead to socioeconomic changes warranting further assessment.

1. Direct Residential Displacement: *Would the project directly displace residential population to the extent that the socioeconomic character of the neighborhood would be substantially altered? Displacement of fewer than 500 residents would not typically be expected to alter the socioeconomic character of a neighborhood.* As the Affected Area contains only two residential units above a local retail land use, this level of direct residential displacement is far below the threshold level of 500 residents. Therefore, an assessment of direct residential displacement is not warranted.

2. Direct Business Displacement: *Would the project directly displace more than 100 employees? If so, assessments of direct business displacement and indirect business displacement are appropriate.*

Applicant Owned Sites

The Proposed Action would result in redevelopment of three blocks of primarily auto-related sales and repair commercial uses, as well as some light manufacturing and two local retail bodegas style uses. There are currently fewer than 35 employees present within the Applicant owned sites (all remaining businesses polled for total employees directly) of the Affected Area and 19 on the Non-Applicant owned Block 3860 for a total of 54. New development is projected to include retail and community facility components, which will provide employment opportunities. and a total of approximately 100 new jobs or a net job creation of 46 (44,000 SF or local commercial at a rate of 1 job per 500 SF =800 SF, approximately 8 community facility jobs, and 7 to support new residential development are anticipated for a total of 100). **Table 2.2-1** identifies those businesses that are affected by the Proposed Action and their disposition.

Table 2.2-1 Tenants Displaced by Proposed Action and Disposition

Name	Address	Block	Lot	End	Rent	Lease Status	Negotiating
Sunshine Auto	90 B New Lots	3861	6	NA	$ 1,800	Expired / NA	settled
Devon McFarlan & Devon Farquhatson	802 Sackman	3861	6	NA	$ 1,500	Expired / NA	settled
David Earle	804 Sackman	3861	6	NA	$ 1,000	Expired / NA	settled
Emile Modest	808 Sackman	3861	1	NA	$ 950	Expired / NA	Vacant
David Taylor	812 Sackman	3861	1	NA	$ 1,100	Expired / NA	settled
Anderson Belgrave	814 Sackman	3861	1	NA	$ 1,000	Expired	settled
Davis Cleverton	261 Hegeman	3861	1	06/30/08	$ 1,050	Expired	settled
George Anderson	259 Hegeman	3861	1	2/29/14	$ 1,000	Expired	settled
Brian Gibbs	257 Hegeman	3861	1	12/31/15	$ 2,500	Expired	settled
Earl A. Charles	595 Christopher	3861	1	02/28/13	$ 1,300	Expired	settled
Lloyd Straus	593 Christopher	3861	1	03/31/13	$ 1,300	Expired	settled
Christopher Whiteman	591 Christopher	3861	1	07/31/13	$ 1,000	Expired	settled
New Movement Auto Care Inc.	585 Christopher	3861	1	02/28/10	$ 1,150	Expired	settled
Selwyn Caine	68 New Lots	3861	6	04/08/08	$ 1,800	Expired	settled
Silk Auto & Tire Repair Inc.	68 B New Lots	3861	6	02/28/17	$ 1,800	Active	Negotiating
Equal Rights Auto Repair and Towing	90 New Lots	3861	6	06/30/16	$ 2,575	Expired	settled
Greater Works Prophetic Healing & Deliverance Ministry	106 B New Lots Ave	3862	1	03/31/17	$ 2,500	Active	Vacant
Ahmed B. Al-Kobadi	106 A New Lots Ave	3862	1	06/30/14	$ 2,000	Expired	Vacant
Mohammed Lawal	650 Powell	3862	1	07/31/13	$ 2,000	Expired	Vacant
Ibrahima Ndau & Sudlow Noel	654 Powell	3862	1	03/31/15	$ 1,200	Expired	Vacant
Linden Used Cars Inc.	656 Powell	3862	23, 24, 25, 26	04/30/12	$ 8,200	Expired	Vacant
Fidel Santana	799 A Sackman	3862	1	06/30/16	$ 2,550	Expired	settled
Gabriel Cabrerizo	799 Sackman	3862	1	09/30/12	$ 2,500	Expired	Vacant
Carl's Auto	110 New Lots Ave	3862	1	11/30/14	$ 1,600	Expired	settled
Glenn R. Aird	114 New Lots Ave	3862	1	04/30/16	$ 2,350	Expired	settled

As **Table 2.2-1** indicates, only Silk Auto & Tire Repair Inc. has an active lease, no other tenants either those that have already vacated or that have negotiated settlements – had a lease that was active. Further only one tenant is left current negotiating their vacating their lease in the Affected Area. All tenants except Silk Auto & Tire Repair Inc. are significantly in arrears in rent and all of those tenants have negotiated independent satisfaction for vacating their businesses. All Lots on Site 1 and 2 - The Proposed Development are owned by the Church of God of East NY.

Non-Applicant Owned Sites

The non-applicant owned Projected Development Site 3 at Block 3860 has several businesses present that would be displaced if Block 3860 was to be induced to develop under the proposed rezoning. **Table 2.2-2** identifies the current tenants and number of jobs present. Lot 1 at 44 New Lots Avenue contains a Crown Fried Chicken – an approximately 1,000 SF restaurant that has approximately 5 full time employees based on a rate of 1 job for every 200 SF for a fast food style restaurant as well as observation in field; the site also contains a bodega style food store of approximately 1,000 SF that employees approximately 3 employees based on a rate of 1 job for every 350 SF for a grocery retail use, and the site also contains 2,800 SF office/intermittent worship space used by Temple Deliverance Church – which has 2 employees based on confirmation by tenants. Lot 3 has Rapid Taxes commercial service business occupying approximately 1,256 SF and between 2 and 5 employees based on season – which was confirmed by tenants. Lot 4 has an 854 SF Barbershop business present on the bottom floor and employees approximately 2-3 employees based on confirmation by tenant. Lots 5 and 6 are identified are identified as separate business ventures – however Triborough Awnings – a retail office at 52 New Lots Avenue is served by its on-site warehouse and fabrication location at 54 New Lots Avenue. Currently, the entire building – setting on Lots 5 and 6 is for sale from multiple listing agents and the rear of Lot 6 containing an 11,000 SF warehouse is being repaired and appears

inactive and perhaps completely vacant. The total full time jobs present for both lots 5 and 6 is 3 – confirmed by the tenant.

Table 2.2-2 Tenants Displaced by Proposed Action and Disposition

Block/lot	Address	Owner	Tenants - Uses	Fulltime Jobs	Commercial SF
3860/ 1	44 New Lots Av	44 New Lots Realty Co	Crown Fried Chicken/ Buy Food Corporation/ office space - vacant - 2nd floor Office/ local retail/restaurant	10	5,180
3860/ 3	48 New Lots Av	Gladys Rodriquez	Rapid Taxes / residential/ retail	3	1,356
3860/ 4	50 New Lots Av	Albert Mathiem	Black Success Unisex barber shop residential/ retail	3	824
3860/ 5*	52 New Lots Av	54 New Lots Corp	iron fabricator - for sale (combined with 54 new lots ave) Currently Operating as Triborough Awnings)	3*	1,788
3860/ 6*	54 New Lots Av	54 New Lots Corp	Formerly - NY Metal Supply Inactive/Vacant - for sale		11,000

*This is a combined business - fabrication done in warehouse and sales done in awning store - building currently for and warehouse being worked on. Number of employees confimed through phone call to business. Vists to site indicate little to no use other than work being done on building. Warehouse at 54 New Lots Listed as vacant and for sale on multiple websites...http://www.loopnet.com/Listing/16910287/54-New-Lots-Avenue-Brooklyn-NY/

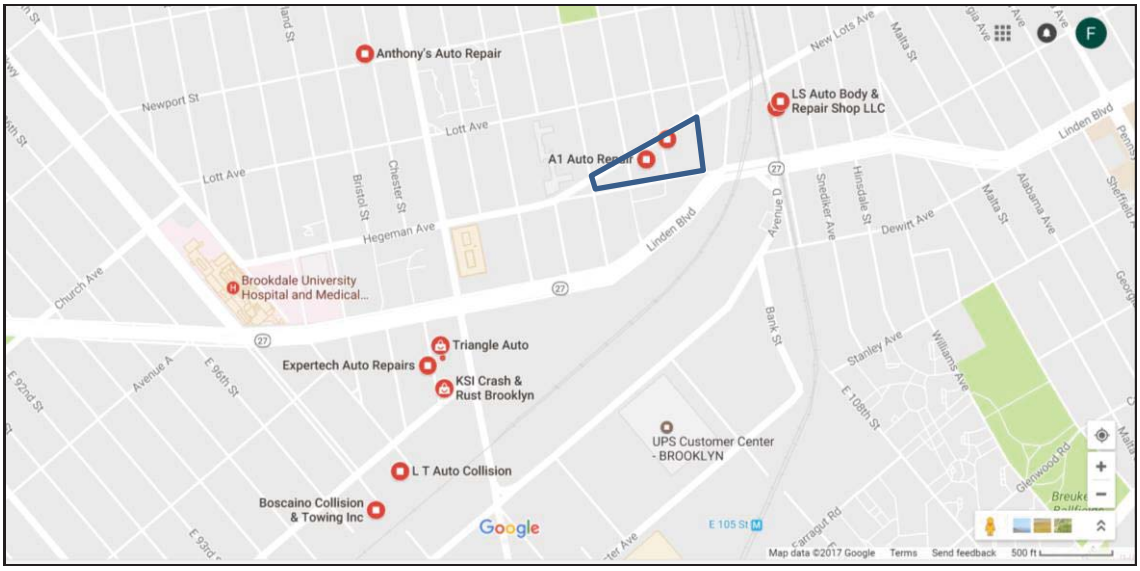
Assessment

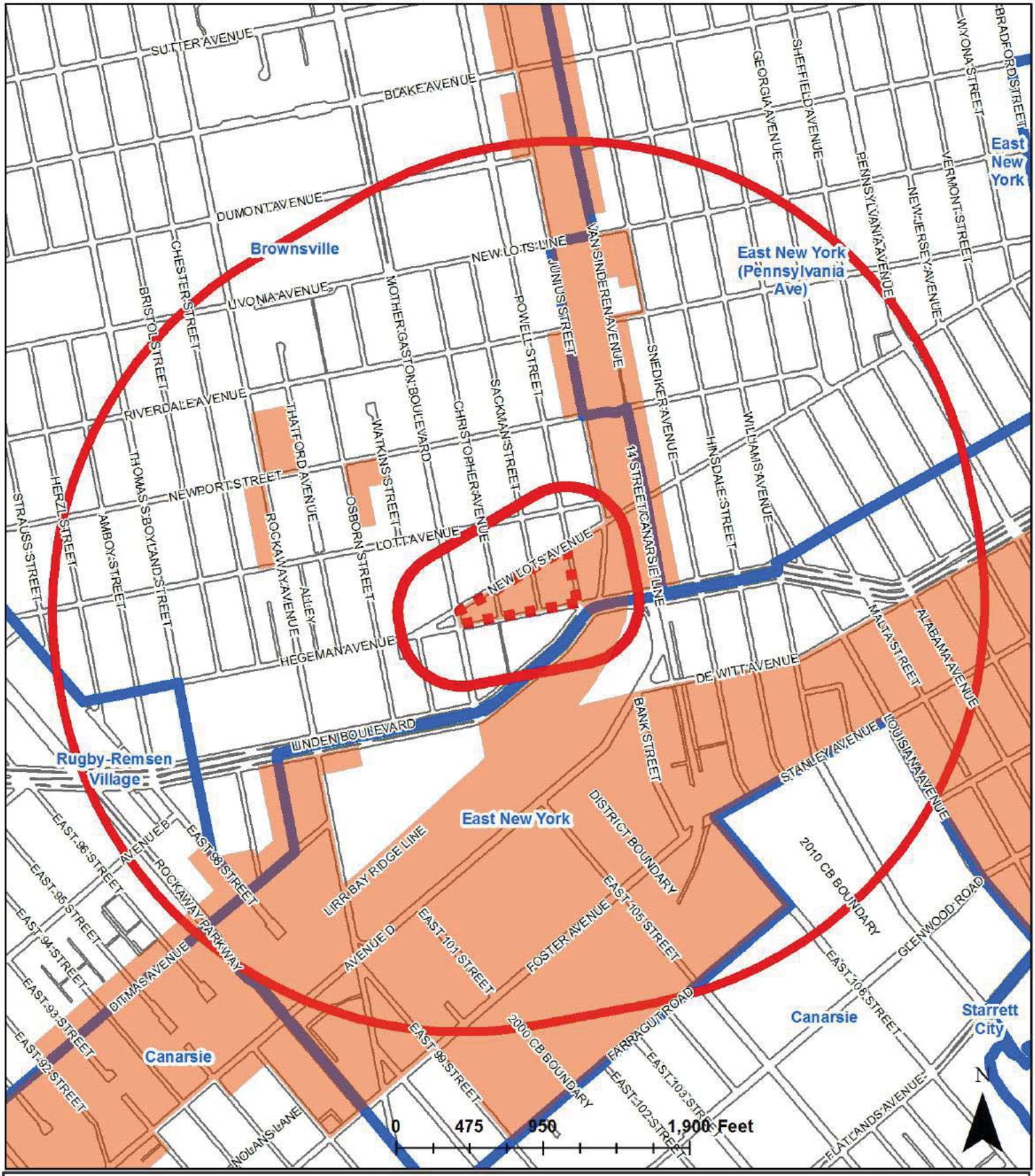
Due to the Proposed Action, it is anticipated that approximately 19 jobs would be displaced from the loss of tenants present on the above 5 Lots due to induced redevelopment at Projected Development Site 3. The uses present on Lots 1,3, and 4 are common throughout the project area – and could be relocated or become a tenant on Projected Development Site 3 – if it were to develop – as these uses would be as of right under the Proposed Rezoning and the Projected Development Site is anticipated to have 16,687 SF of induced commercial development on the bottom floor of a future development at the site. The industrial metal fabricator and awning business present on Lots 5 and 6 are also not unique to the area – and could relocate to available M1-1 zoned areas present within proximate distance to the current location. Currently this 52-54 New Lots Avenue is for sale by the owner and currently employees only 3 full time employees – as such impacts related to the proposed rezoning are not unique to the projected development of the site nor do the rise to the level of a significant impact to employment affected by the Proposed Action. Comparatively, the Projected Development on Site 3 is anticipated to create approximately 33 jobs based on the conservative rate of 1 job per 500 SF for 16,687 SF of general local retail projected to develop on the bottom floor on the Non-Applicant owned site.

3. Direct Business Displacement: *Would the project directly displace a business whose products or services are uniquely dependent on its location, are the subject of policies or plans aimed at its preservation, or serve a population uniquely dependent on its services in its present location? If so, an assessment of direct business displacement is warranted*. The auto oriented sales and repair businesses that would be displaced by redevelopment under the Proposed Action are not uniquely dependent on its current location, nor are the subject of policies or plans aimed at their preservation, and does not serve a population uniquely dependent on its services in its present location. Further, many of the remaining tenants within the Affected Area are currently not operating with require permits for their activities and do not have active leases, and almost all owe significant back rent.

The auto repair related business that are predominate among the displaced businesses are not unique to the area and are capable of being proximately relocated in the area. **Figure 2.2-1** show a number of independent auto body and car repair business that were easily identified by Google within approximately 1500 feet of Affected Area. Further, as **Figure 2.2-2** shows, M1-1 zoned areas, where such auto related uses are most commonly located, are abundant within .5 mile of the project area, as such there are not only areas available for consumers to access the services that are provided and to be displaced within the Affected Area but also those businesses that are displaced by the Proposed Action, can relocate to an area proximate to their current location.

Figure 2.2-1 Auto Repair Related Businesses within Proximity to Affected Area





Legend

- M1-1
- Affected Area
- 400 Foot Project Buffer
- Neighborhood Boundary

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Figure 2.2-2: M1-1 Zoned Areas within . 1/2 Mile of Affected Area

4. Indirect Displacement due to Increased Rents: *Would the project result in substantial new development that is markedly different from existing uses, development, and activities within the neighborhood? Residential development of 200 units or less or commercial development of 200,000 sf or less would typically not result in significant socioeconomic impacts. For projects exceeding these thresholds, assessments of indirect residential displacement and indirect business displacement is appropriate.* Compared to development that would occur under the no-action condition, the proposed action would result in the induced development of 597 dwelling units. Therefore, further analysis of the potential for indirect displacement due to increased rents is warranted.

5. Indirect Business Displacement due to Retail Market Saturation: *Would the project result in a total of 200,000 sf or more of retail on a single development site or 200,000 sf or more of region serving retail across multiple sites? This type of development may have the potential to draw a substantial amount of sales from existing businesses within the study area, resulting in indirect business displacement due to market saturation.* The Proposed Action is projected to result in development of 45,338 square feet of local retail space and 34,381 square feet of community facility space. Induced retail development would be far below relevant thresholds, and therefore further analysis of indirect business displacement is not warranted.

6. Adverse Effects on Specific Industries: *Is the project expected to affect conditions within a specific industry? This could affect socioeconomic conditions if a substantial number of workers or residents depend on the goods and services provided by the affected businesses, or if the project would result in the loss or substantial diminishment of a particularly important product or service within the City.* As noted above #3, the auto-related businesses occupying most the Affected Area on Blocks 3860, 3861, and 3862 does not constitute a special industry and its potential displacement would not result in the loss or substantial diminishment of a particularly important product or service.

Detailed Assessment of Indirect Displacement due to Increased Rents

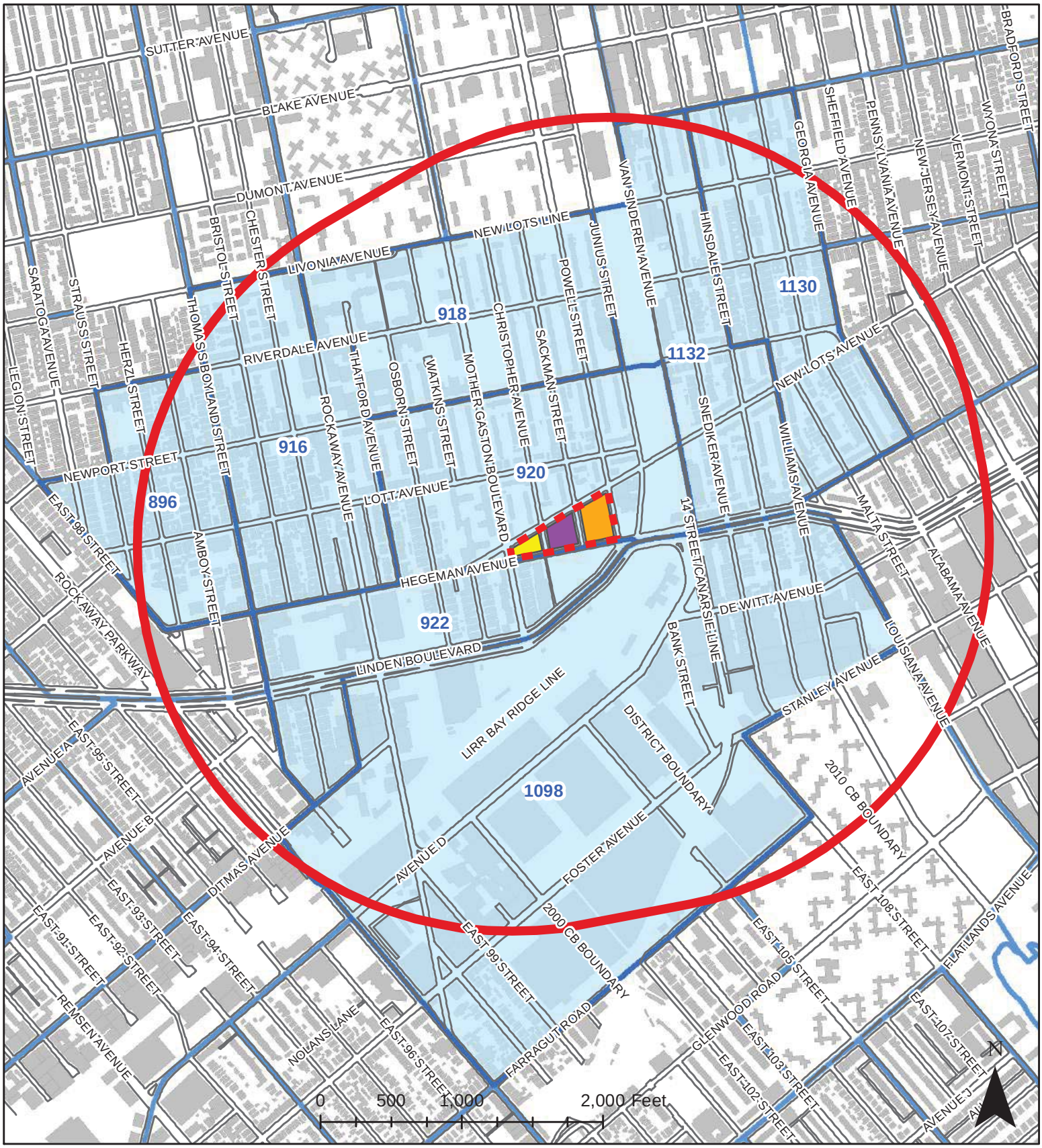
Further analysis of the potential for indirect impacts associated with increased rents was conducted, relying on the methodology of the 2014 *CEQR Technical Manual*. An initial study area of ½ mile radius is identified as appropriate in Chapter 5, Section 310 of the *CEQR Technical Manual*. To estimate existing population within the study area, reference was made to the 2010 United States Census. The Study Area was defined to include those census tracts that are more than 50% within a ½ -mile radius of the Affected Area – this Study Area is shown in **Figure 2.2-3. Table 2.2-3** presents 2000 to 2010 to projected 2017 to forecasted 2027 population for these tracts.

Table 2.2-3 Population Change for Census Tracts within ½ Mile of Affected Area[6]

Census Tract Number	Population Year			
	2000	**2010**	**2017**	**2027**
920	2892	3154	3281	3469
896	3654	3546	3688	3900
916	4238	4325	4499	4757
918	2847	2804	2917	3084
922	2865	2691	2799	2960
1132	1387	1937	2015	2130
1130	3544	3891	4047	4280
1098	1488	1917	1994	2108
	22,915	**24,265**	**25,240**	**28,716**

Compared to no-action development, the proposed action would introduce an increment of 597 new dwelling units, of which a 100% of the Proposed Development or 531 units would be affordable and 30% of the Projected Development Site on Site 3 or 21 would be affordable pursuant to Mandatory Inclusionary Housing. Assuming an average household size of 2.701 persons, which is the average for the Brownsville Neighborhood of Brooklyn, there would be 1612 new residents resulting from the proposed action.

[6] Projection was calculated by identifying a compound annual growth rate, which was identified as 5.89 percent from 2000 to 2010 from US Census totals, or .574 per year. The average annual rate of growth was then applied to forecast a 2017 and 2027 population for the Study Area



Legend

- Census Tracts Selection
- Affected Area
- Site 1 - Block 3862
- Site 2 - Block 3861
- Site 3 - Block 3860

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Figure 2.2-3: Socioeconomic Study Area

Table 2.2-4 Population Comparison between With-Action and No-Action Condition

Census Projected 2027 Population	Additional No-Action Residents	Gross Adjusted No-Action Population	Additional With-Action Residents	Gross Adjusted With-Action Population	Percent Difference between No-Action and With-Action Population
28,716	0	28,716	1612	30,328	5.6%

In determining whether a detailed analysis of potential indirect residential displacement is warranted, *CEQR Technical Manual* Chapter 5, Section 322.1, Step 2, states in part, 'if the population increase is less than 5% within the study area, or identified subarea, further analysis is not necessary as this change would not be expected to affect real estate market conditions. As shown in **Table 2.2-4**, the 1612 new residents of induced development under the With-Action Condition would result in a population increase of 5.6%, compared to the study area's No-Build forecasted 2027 population. This is slightly above the 5% increment identified as warranting further assessment. The same Section cited above indicates that if the population increase is greater than 5% but less than 10% that this analysis considers whether the Study Area has already experienced a readily observable trend toward increasing rents and the likely effect of The Proposed Action on such trends.

There has been little recent direct development of new residential units within the Brownsville neighborhood, however the area has not been immune to the trend of rising rents throughout New York City, and more specifically rent increases that outpace median income averages experienced in the neighborhood. As the most recent data for those Census Tracts that define the Study Area are not specifically available, the Brownsville Neighborhood Tabulation Areas will serve as a substitute for the Census Tracts (many of which are shared) that define the above Socioeconomic Study Area. Overall, Brownsville has lagged the rest of Brooklyn and the City in terms of rising rents in the City per a June 2016, NYU Furman Center Study[7]. This study combines Brownsville/Ocean Hill into a single Sub-Borough Area and identifies that it has experience rent changes in average rent of 20.5% from 1990 to 2010-2014 Community Survey Census and pegs the areas average household income at $43,100. The report shows that average rent in NYC increased at a rate of 22.1% from 1990 to the 2010-2014 Community Survey Census, and that although defining the Brownsville/Ocean Hill neighborhood as gentrifying, it was marginally so, only 2.5% above the threshold for defining a community as gentrifying or non-gentrifying. Overall, Brownsville saw its average cost of rent rise at a slower rate than NYC during this 24-year study period. Perhaps more defining to the issue of affordability trends is StreetEasy's April 2016 report on the State of New York City Rent Affordability[8] This Study identifies that the average Brownsville resident experiences a rent-to-income ratio of 62%, slightly lower than Brooklyn, which the Study shows at 65.4%. This study however compares the rent-to-income ratios presented as the share of median household income that is spent on private, non-subsidized rental units, further it may significantly undercount the median household income for the area at $31,900 – while the Socioeconomic Study Area census tracts – identifies a 2014 ACS median household income of $34,763. At any rate, due to the overall trends in rental costs – outpacing income growth, that although Brownsville may not be gentrifying as extensively as New York City or Brooklyn, the Study Area population will likely continue to experience rental

[7] http://furmancenter.org/files/sotc/Part_1_Gentrification_SOCin2015_9JUNE2016.pdf
[8] http://streeteasy.com/blog/new-york-city-rent-affordability-2016/

costs that stress household's ability to pay. It is due to these specific conditions, that the Applicant proposes a 100% affordable development and that Affected Area be mapped for MIH. Due to the high number of affordable housing units to be generated by induced development resulting from the Proposed Action, this Action would strongly reinforce existing socioeconomic conditions in the Study Area population rather than contributing to gentrification.

To evaluate the potential impact of the Proposed Rezoning on the Affected Area and the broader Socioeconomic Study Area and whether it may impact an already observable trend toward increasing rents, an evaluation of housing value and rent must be performed that – per section 322.1 of the CEQR technical manual, identifies the "extent to which the market-rate rents and sales prices for new housing and existing unregulated rental housing in the future with the project would differ from, or conform to, the existing trends of market-rate rents and sales. A first step of analysis here per CEQR is to determine whether the new population would be "similar to the average incomes of the study area population."

The Socioeconomic Study Area, defined in **Figure 2.2-3** above, has a Median Family Income of 39,951[9] in the 2010-2014 ACS. The average household size for the Study Area – as identified above is estimated by 2010-2014 ACS as 2.701. **Table 2.2-5** identifies the range of incomes present in the Study Area. As this Figure shows, over 40% of the Study Area has Family Household Income over $50,000.

Table 2.2-5 Income Range in Study Area

Family households	6,000	100.00%
Less than $10,000	859	14.30%
$10,000 to $14,999	418	7.00%
$15,000 to $24,999	853	14.20%
$25,000 to $34,999	573	9.60%
$35,000 to $49,999	829	13.80%
$50,000 to $74,999	899	15.00%
$75,000 to $99,999	656	10.90%
$100,000 to $149,999	646	10.80%
$150,000 to $199,999	205	3.40%
$200,000 or more	62	1.00%
Median family income (dollars)		39,951

In order to compare median family household income of the Study Area and that anticipated from new residents of from Proposed Action, the Area Median Income (AMI) requirements for NYC must be applied to the Projected Development Sites. The current AMI for a family of 3 in NYC is $81,600 (the average household size in the Study Area is 2.701) – prorated to the median family

[9] American Community Survey 2010-2104

size in the Study Area – the AMI would be $73,467. The program for the Affected Area is as follows, Projected Site 1 and 2 would have a total of 531 dwelling units – and given the two programs described above for all units to be below 80% AMI – would overall have an average AMI that would be below 60% AMI, while Projected Development Site 3 would have 30% of its 69 units or 21 units at 80% of AMI, while the remainder are assumed at market rate for the Study Area. **Table 2.2-6** identifies those income requirements assumed based on restrictions related to the above MIH program for the Affected Area.

Table 2.2-6 Income Ranges Anticipated in Affected Area

Units	Income Requirement	AMI
531	$44,080.00	60% AMI
21	$58,773.60	80% AMI
48*	$73,467.00	100% AMI

*Assumes likely to be rented by family over 100% AMI

Based on the above information, comparing the anticipated median family incomes from new development within the Affected Area and the family income ranges present as of 2014 forecasts – the proposed development will not lead to distortions in the existing socio-economic fabric but rather reinforce the median income range that is present in the Study Area. The proposed development is projected to provide 92% of its units toward the dominant two income bands identified in **Table 2.2-5** between $35,000 and $75,000 that represents almost 30% of the entire population within the Study Area. As the incomes resulting from the Proposed Development are projected to be similar to those in the Study Area – no further analysis is warranted.

2.3 COMMUNITY FACILITIES AND SERVICES

A community facilities assessment may be necessary if an action could potentially affect the provision of services provided by public or publicly funded community facilities such as schools, hospitals, libraries, day care/Head Start facilities, and fire and police protection. Per the screening levels established in the *CEQR Technical Manual*, there are direct and indirect effects. An assessment of the project's effects on community facilities is generally warranted if:

- a project would add new population to an area that would increase the demand for services and cause potential indirect effects on service delivery. Depending on the size, income characteristics, and age distribution of the new population there may be effects on public or publicly funded schools, libraries, health care facilities, or day care/Head Start facilities.

- a project would physically alter a community facility, whether by displacement of the facility or other physical change. This direct effect triggers the need to assess the service delivery of the facility and the potential effect that the change may have on that service delivery.

Preliminary Screening

Based upon the proposed actions, the Affected Area – the Proposed Development and projected induced development sites would add 597 new residential units compared to the no-action condition, 180 of which would be low to moderate income housing required under MIH. However, The Applicant plans to implement a 100% affordable housing development on Projected Development Sites 1 and 2 for a total of 531 units, while Projected Development Site 3, would have 30% of its projected net 66 units or 21 as affordable – for a total of 552 affordable units for purposes of this analysis. Based on a preliminary assessment of CEQR thresholds for analysis, as shown in **Table 2.3-1 Community Facilities – Preliminary Assessment of CEQR Thresholds,** this project does not trigger a detailed C*EQR* analysis for libraries, health care facilities, or Police and Fire Protection services. However, there is a potential impact to public schools and Publicly Funded Child Care and Head Start. A preliminary assessment was conducted to determine the necessity of additional analysis.

Table 2.3-1 Community Facilities-Preliminary Assessment of *CEQR* Thresholds

Community Facility	Threshold	597 total DUs 552 low to moderate income DUs		Exceeds Criteria Threshold
Public Schools	>50 elementary and middle school children (combined)			Yes
Elementary School and Middle School Students		0.29 0.12	173 72	(Total of 245 elementary and middle school)
High School Students	>150 high school students (see 2014 *CEQR Technical Manual*, Table 6-1a)	0.14	84	No
Libraries >5% Increase in ratio of residential units	>734 DUs in Brooklyn (*CEQR Technical Manual* Table 6-1)		NA	No
Health Care Facilities	NA		NA	No

>600 low or low-to-moderate income units				
Publicly Funded Day Care/Head Start Facilities <6 years old	> 20 children 110 low-to-moderate income DUs in the Brooklyn generate a total of 20 children (see 2014 *CEQR Technical Manual*, Table 6-1b)	0.178	98	Yes (Up to 98 children eligible for publicly funded day care/Head Start)
Fire Protection	Direct Effect			No
Police Protection	Direct Effect			No

2.3.1 Elementary & Intermediate Public Schools – Detailed Assessment

Study Area

Per the *2014 CEQR Technical Manual*, the study area for the analysis of elementary and intermediate schools is to be conducted in the school district's "sub-district" in which the project is located. The Project Area is located entirely within Community School District 23 (CSD 23), Sub-district 1 **(Figure 2.3-1: Public Elementary and Intermediate Schools)**. CSD 23's Sub-district 1 is covers nearly all of the Brownsville neighborhood of Brooklyn. It is bounded by Linden Blvd to the south, the BMT Canarsie Line of the NYC Subway, Eastern Pkwy to the north, and Rockaway Pkwy and Howard Ave intersection to the west. CSD 23 Sub-district 1 has 11 Intermediate Schools and 12 Elementary Public Schools.

Existing Conditions

As shown in **Table 2.3-2**, excluding charter schools, Subdistrict 1 has a capacity of 4,425 seats at the elementary level, with an enrollment of 3,629 students, a utilization rate of 82%. There are currently 796 elementary seats available. As shown in Table 2.3-3, excluding charter schools, Subdistrict 1 has a capacity of 3,001 seats at the intermediate level, with an enrollment of 1,820 students, a utilization rate of 61%. There are currently 1,181 intermediate seats available.



Legend

- Affected Area
- Elementary & Intermediate Schools within Project Area
- School Sub-Districts
- Community District Boudaries

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Figure 2-3-1: Public Elementary & Intermediate Schools Within the School District 23 Subdistrict 1

Table 2.3-2 Public Elementary Schools within CSD 23, Subdistrict 1 Enrollment, Capacity and Utilization

ORG ID	School Name	Address	Grades	Enrollment	Target Capacity	Available Seats	Utilization
Elementary Schools							
K041	**P.S. 41 - K ***	411 THATFORD AVENUE	PK-5	343	487	144	70%
K150	**P.S. 150 - K**	364 SACKMAN STREET	PK-5	184	351	167	52%
K156	**P.S. 156 - K**	104 SUTTER AVENUE	PK-5	751	752	1	100%
K165	**P.S. 165 – K***	76 LOTT AVENUE	PK-5	290	384	94	76%
K184	**P.S. 184 – K***	273 NEWPORT STREET	PK-5	381	570	189	67%
K284	**P.S. 284 – K***	213 OSBORN STREET	PK-5	333	316	-17	105%
K298	**P.S. 298 - K**	85 WATKINS STREET	PK-5	216	344	128	63%
K323	**P.S./I.S. 323 – K***	210 CHESTER STREET	PK-5	261	364	103	72%
K327	**P.S. 327 (TANDEM K396-D75)-K***	111 BRISTOL STREET	PK-5	368	538	170	68%
K401	**P.S. 332 - K**	51 CHRISTOPHER AVENUE	PK-5	316	336	20	94%
K446	**P.S. 183 - K**	76 RIVERDALE AVENUE	PK-5	370	334	-36	111%
Totals				**3813**	**4776**	**963**	**80%**

Source: NYC Department of Education, *Enrollment/Capacity/Utilization Report 2015-2016 School Year*
* - P.S. component of P.S./I.S. schools

Table 2.3-3 Public Intermediate Schools within CSD 23, Subdistrict 1 Enrollment, Capacity and Utilization

ORG ID	School Name	Address	Grades	Enrollment	Target Capacity	Available Seats	Utilization
Intermediate Schools							
K041	**P.S. 41 - K ***	411 THATFORD AVENUE	6-8	156	222	66	70%
K165	**P.S. 165 - K***	76 LOTT AVENUE	6-8	117	154	37	76%
K184	**P.S. 184 - K***	273 NEWPORT STREET	6-8	123	184	61	67%
K284	**P.S. 284 - K***	213 OSBORN STREET	6-8	202	191	-11	106%
K323	**P.S./I.S. 323 - K***	210 CHESTER STREET	6-8	181	253	72	72%
K327	**P.S. 327 (TANDEM K396-D75)-K***	111 BRISTOL STREET	6-8	159	232	73	69%
K363	**I.S. 392 - K**	85 WATKINS STREET	6-8	97	264	167	37%
K392	**P.S. 156 - K**	104 SUTTER AVENUE	6-8	258	329	71	78%
K518	**I.S. 518 - K**	985 ROCKAWAY AVENUE	6-8	192	413	221	46%
K634	**P.S. 183 - K RIVERDALE AVENUE MIDDLE SCHOOL**	76 RIVERDALE AVENUE	6-8	126	311	185	41%
K671	**MS 671K - (P.S./I.S. 323 - K)**	210 CHESTER STREET	6-8	207	443	236	47%
				1818	**2996**	**1178**	**61%**

Source: NYC Department of Education, *Enrollment/Capacity/Utilization Report 2015-2016 School Year*
* - I.S. component of P.S./I.S. schools

Future No-Action Condition

In the future without the proposed action, it is assumed that the auto body, light manufacturing and retail uses operating in the Affected Area would continue in their current state. Utilizing the latest projections made available by the New York City Department of Education (DOE)[10] for enrollment from 2015 through 2024, elementary enrollment in CSD 23 is expected to decrease significantly from 5,310 spaces in 2016 to 4,180 by 2027[11]. Intermediate enrollment also follows this trend, with 2016 current enrollment of 2,675 expected to decrease to 2,147 by 2027 CSD wide. As **Table 2.3-4** shows, Sub-District 1 has 84.73% of the total elementary students within CSD 23, and 68.8% of the total intermediate students within CSD 23. Utilizing these apportionments, elementary enrollment is projected to be 3,542 elementary students 1,477 intermediate students in 2027.

Table 2.3-4 SCA Enrollment Projections Apportioned to CSD 23 Sub-District 1, 2027 Build Year[12]

	Elementary	Intermediate
2027 Projected CSD 23 Enrollment	4180	2147
Percentage Provided for sub-district 1	84.73%	68.80%
2027 Projected Enrollment for sub-district 1	3542	1477

Utilizing the above projections, a final adjusted estimate for enrollment in 2027 for CSD 23 Sub-District 1 was developed by including SCA estimates for Housing Generated Pipeline Students[13] and determining whether and adjacent significant new development would produce demand for school seats. SCA estimates for Housing Generated Pipeline Students identified a projected addition 93 elementary students and 38 intermediate students in CSD 23 Sub-District 1. A Review of NYC Planning Commission Reports revealed no relevant projects that directly impact demand for school seats by 2027. **Table 2.3-5** reveals that under the Future No-Action Condition, it is projected that public elementary schools within CSD 23, Sub District 1 would operate at 77.92 percent utilization, and public intermediate schools would operate at 53.40 percent utilization.

Table 2.3-5 2027 No-action, Enrollment, Capacity and Utilization for Public Schools in CSD 23, Sub-District 1

	Projected Enrollment 2027	SCA Pipeline No-Action Students	Total No Action Enrollment	Capacity	Available Seats	Utilization
Elementary School						
CSD 23, Sub District 1	3542	93	3635	4665	1030	77.92%
Intermediate Schools						
CSD 23, Sub District 1	1477	38	1515	2837	1322	53.40%

[10] The Grier Partnership. *Enrollment Projections 2015 to 2024: New York City Public Schools*
[11] 2027 projection uses the 2024 final forecast year as future enrollment
[12] The Grier Partnership. *Enrollment Projections 2015 to 2024: New York City Public Schools*
[13] *NYC School Construction Authority. Housing Pipeline Projections 2015*

Future With-Action Condition

In the future without the action, the Board of Education anticipates enrollment at the elementary level will be 3635 Elementary students and 1515 Intermediate Students. In the future without the proposed action, the Sub District 1 Elementary utilization rate will be 77.92%, with 1083 seats available and Intermediate utilization rate of 53.40%, with 1322 seats available. Under the proposed action, an additional 597 dwelling units are expected to be developed in the Affected Area by 2027. This would generate 173 elementary and 72 intermediate school students by the 2027 analysis year, as shown in **Tables 2.3-6**. The resulting Enrollment, Capacity and Utilization for Public Schools in CSD 23, Sub-District 1 in the Future With-Action Condition is identified **Table 2.3.7**. Under the With-Action Condition, the Planned and Projected Development would generate additional students resulting in 79.73% utilization for Elementary Schools and 52.98% utilization of Intermediate School seats in 2027.

Table 2.3-6 Public School Students Generated by the Proposed Rezoning

Project-generated DUs	E.S. Students	I.S. Students	Total E.S./I.S. Students
597	173	72	245

Source: *CEQR Technical Manual,* 2015, Table 6-1a

Table 2.3-7 Projected Public Elementary and Intermediate School Enrollment, Capacity and Utilization in 2027 with the Proposed Action

	Projected No-Action Enrollment	Project Generated Students	Total With Action Enrollment	Capacity	Available Seats	Utilization
Elementary School						
CSD 23, Sub District 1	3635	173	3808	4776	968	79.73%
Intermediate Schools						
CSD 23, Sub District 1	1515	72	1587	2996	1409	52.98%

Conclusion

As stated in Section 6-410 of the 2014 CEQR Technical Manual, a significant impact may result warranting consideration of potential mitigation, if a proposed project would result in both following conditions:

- A collective utilization rate of the elementary or intermediate schools that is equal to or greater than 100 percent in the With-Action Condition; and
- An increase of five percent or more in the collective utilization rate between the No-Action and With-Action conditions.

This analysis indicates that the proposed action would increase utilization but well below 100 percent in the with action and less than a 5% increase in utilization from the No-Action Condition for both Elementary and Intermediate Schools. Therefore, pursuant to CEQR Technical Manual methodology the proposed action would not result in significant adverse impacts related to elementary school utilization.

2.3.2 Group Child Care and Head Start Centers - Detailed Assessment

Existing Conditions

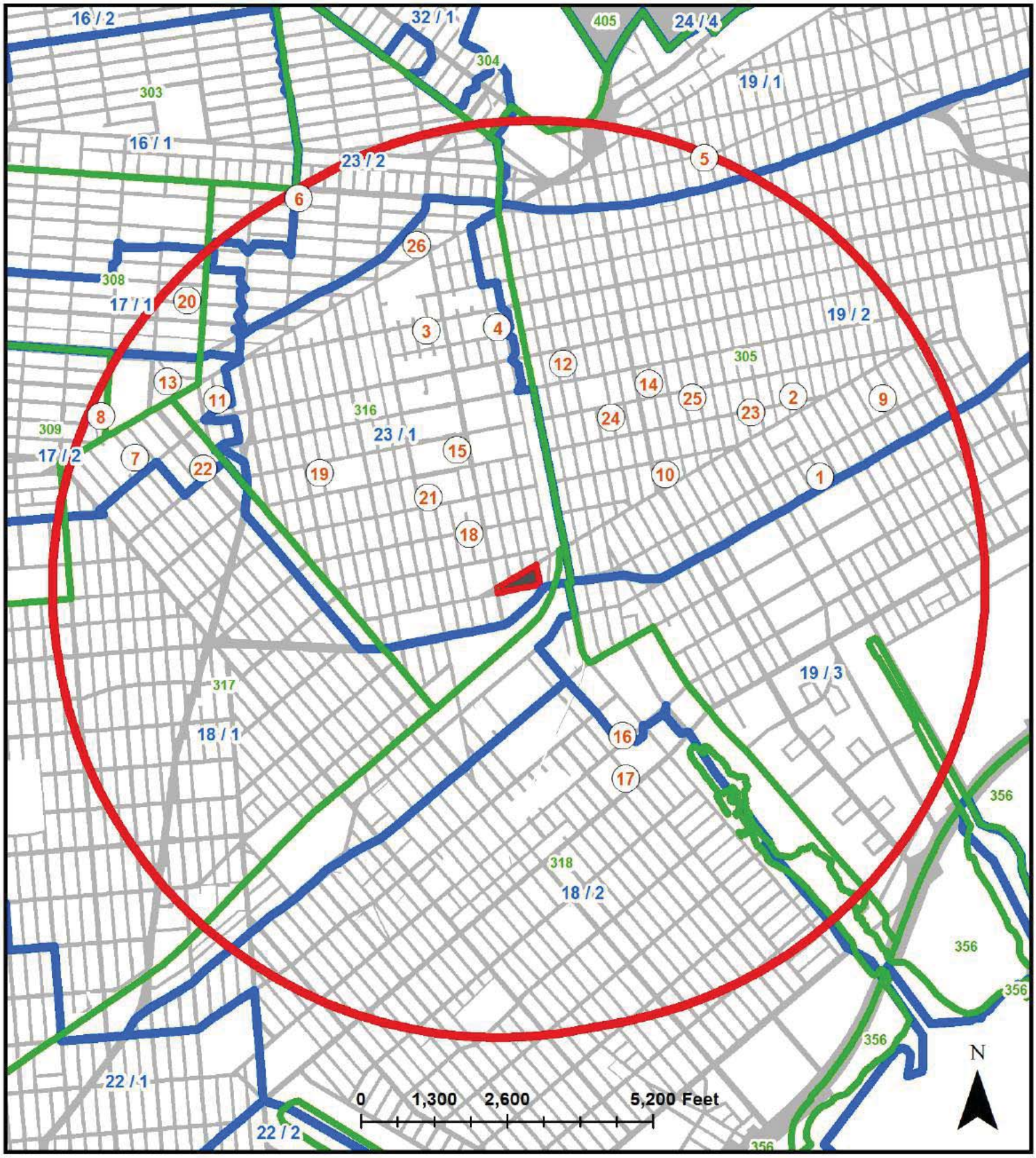
Per the *2014 CEQR Technical Manual*, the study area for the analysis of publicly funded group child care and Head Start Centers should be approximately 1.5-mile radius from the Affected Area. The 1.5-mile buffer around Affected Area touches 7 community districts (CD) including Brooklyn CD 4, 5, 8, 9, 16, 17, and 18. Within this Study Area, as Shown in **Figure 2.3-2**, there are 26 publicly funded group day care and Head Start centers. As **Table 2.3-8** shows, these facilities have a total capacity of 2,283 slots[14].

Table 2.3-8 Projected Daycare & Head Start Centers within CSD 23, Sub District 1 Enrollment, Capacity and Utilization

Map Key	Program Address	Contractor Name	Boro	ZIP	CD*	Total Capacity	Total Enrollment	% of Enroll
1	2150 Linden Boulevard	Boulevard Nursery School Inc.	brooklyn	11207	05	40	38	95%
2	679 New Lots Avenue	Brightside Academy, Inc.	brooklyn	11207	05	71	45	63%
3	50 Belmont Avenue	Brightside Academy, Inc.	brooklyn	11212	16	39	31	79%
4	232 Powell Street	Brooklyn Kindergarten Society, Inc.	brooklyn	11212	16	88	84	95%
5	220 Hendrix Street	Catholic Charities Neighborhood Services, Inc.	brooklyn	11207	05	28	24	86%
6	311 Saratoga Avenue	Child Prodigy Learning Center, Inc.	brooklyn	11233	16	12	10	83%
7	60 East 93rd Street	Community Parents, Inc.	brooklyn	11212	17	105	105	100%
8	36 Ford Street	Friends of Crown Heights Educational Centers, Inc.	brooklyn	11213	09	126	71	56%
9	921 Hegeman Avenue	Friends of Crown Heights Educational Ctrs, Inc.	brooklyn	11208	05	80	70	88%
10	370 New Lots Avenue	Friends of Crown Heights Educational Ctrs, Inc.	brooklyn	11207	05	100	92	92%
11	20 Sutter Avenue	Friends of Crown Heights Educational Ctrs, Inc.	brooklyn	11212	16	74	62	84%
12	515 Blake Avenue	HELP Day Care Corporation	brooklyn	11207	05	84	82	98%
13	1181 East New York Avenue	Inner Force Tots Inc	brooklyn	11212	08	339	269	79%
14	452 Pennsylvania Avenue	Police Athletic League, Inc.	brooklyn	11207	05	103	89	86%
15	280 Livonia Avenue	Police Athletic League, Inc.	brooklyn	11212	16	185	175	95%
16	717 East 105th Street	Recreation Rooms and Settlement, Inc	brooklyn	11236	18	70	68	97%
17	715 East 105th Street	Recreation Rooms and Settlement, Inc	brooklyn	11236	18	34	34	100%
18	225 Newport Street	SCO Family of Services	brooklyn	11212	16	65	60	92%
19	774 Saratoga Avenue	SCO Family of Services	brooklyn	11212	16	106	100	94%
20	1620 Saint John's Place	St. John's Place Family Center Day Care Corporation	brooklyn	11233	08	37	30	81%
21	280 Riverdale Avenue	The Salvation Army	brooklyn	11212	16	63	47	75%
22	1112 Winthrop Street	Traditional Day Care Center, Inc.	brooklyn	11212	17	59	56	95%
23	613 New Lots Avenue	United Community Day Care Center	brooklyn	11207	05	94	93	99%
24	565 Livonia Avenue	University Settlement Society of NY, Inc.	brooklyn	11207	05	181	150	83%
25	1152 Elton Street	Urban Strategies, Inc	brooklyn	11207	05	70	70	100%
26	1592 East New York Ave	YWCA of the City of New York	brooklyn	11212	16	30	23	77%
	Totals					**2283**	**1978**	**87%**

Source: NYC Administration for Children's Services, 2016

[14] NYC DCP. *ACS Contract Enrollment Data as of 6-01-15*



Legend

- Daycare & Headstart
- Affected Area
- 1.5 Mile Buffer
- Community District Boudaries
- School Sub-Districts

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Ebenezer Plaza Environmental Assessment

Figure 2-3-2: Daycares & Headstarts in Vicinity of the Proposed Rezoning Area

Future No-Action Condition

In the future without the proposed action, it is assumed that the current automotive repair, local retail, and light industrial uses present within the Affected Area would continue to operate under present condition. No known developments planned in the area would affect the Future No-Action Condition. Therefore, as Table **2.3-9** shows, Future No-Action Condition in 2027 is anticipated to remain with a capacity of 2,283 seats, with occupancy of 1,978 students – leaving 305 available spaces or a 87% occupancy rate.

Table 2.3-9 2027 No-Action Projected Child Care & Head Start Students within Study Area - Enrollment, Capacity and Utilization

Existing Capacity	2,283
Capacity Generated by No Action Projects	-
2027 No-Action Capacity	2,283
Existing Enrollment	1,978
No-action Project Generated Enrollment	-
2027 No-Action Enrollment	1,978
Available Seats	305
2027 No Action Utilization	**87%**

Future With-Action Condition

The proposed action would result in a net increase of 597 residential units, which for this analysis, 552 of these dwelling units would be affordable to moderate and low income residents per MIH. This would generate 98 publicly funded child care and head start program eligible children for Brooklyn based on the .178 multiplier per dwelling unit identified for Brooklyn in Table 6-1A of the *2014 CEQR Technical Manual*. No capacity enhancing projects for child care and head start centers is projected for the Affected Area compared to the Future No-Action Condition. In the Future With-Action Condition, factoring in the projected eligible children generated by the Proposed Action, **Table 2.3-10** shows that there would be 2,076 child care and head start eligible students – increasing occupancy to 91% and reducing the number of available spaces to 207.

Table 2.3-10 With-Action Projected Child Care & Head Start Programs within Study Area - Enrollment, Capacity and Utilization

Existing Capacity	2,283
Capacity Generated by Action	0
2027 With-Action Capacity	2,283
No-Action Enrollment	1,978
Enrollment Generated by Action	98
2027 With Action Enrollment	2,076
Available Seats	207
2027 With Action Utilization	**91%**

Conclusion

As stated in the *CEQR Technical Manual*, for the purposes of CEQR analysis, a Future With-Action base utilization rate of 100 percent is the utilization threshold for overcrowding. As such,

per CEQR, a significant adverse impact may result; warranting consideration of potential mitigation, if a proposed project would result in both of the following conditions:

- A collective utilization rate of child care and head start centers in the study area that is equal to or greater than 100 percent in the Future With-Action Condition; and
- An increase of five percent or more in the collective utilization rate between the Future No-Action and Future With-Action conditions.

This analysis indicates that the proposed action would increase utilization from 87% to 91% - leaving 207 child care and head start center seats available. Therefore, pursuant to CEQR Technical Manual methodology the proposed action would not result in significant adverse impacts related to elementary school utilization.

2.4 OPEN SPACE

Open space is defined as publicly or privately owned land that is publicly accessible and operates, functions, or is available for leisure, play, or sport, or set aside for the protection and/or enhancement of the natural environment. Pursuant to the *CEQR Technical Manual*, an open space assessment may be necessary if an action could potentially have a direct or indirect effect on open space resources in the Affected Area. A direct impact would occur if the proposed action would physically change, diminish, or eliminate an open space or reduce its utilization or aesthetic value. Introduction of a substantial new user population that would create or exacerbate an over utilization of open space resources would result in an indirect impact.

Direct effects would occur if the proposed action would result in the physical loss of a public open space; change of use of an open space so that it no longer serves the same user population; limit public access to an open space; or cause increased noise or air pollutant emissions, odors, or shadows on public open space that would affect its usefulness, whether temporary or permanent.

The Projected Development would not directly affect any public open space. For most new projects in New York City located in areas that are neither "underserved" or "well-served" area for open space, an open space assessment is generally conducted if the proposed project would generate more than 200 residents or 500 employees. This area is not considered an underserved open space area by the NYC Mayor's Office of Environmental Coordination.[15] The proposed action would potentially add a net increase of approximately 1612 residents in 597 units (based on an average of 2.701 persons per unit[16]). Prior to the planned development of the site – there were as many as 80 to 90 employees in total within the rezoning area – only about 35 employees remain within the Affected Area now. The RWCDS calls for a total of approximately 44,000 SF of commercial space – which assuming local commercial uses – would generate about 1 employee per 500 SF generally or approximately 88 employees. In addition, the Proposed Development would provide a 34,465 SF Church – community facility use – that is projected to generate approximately 5 regular full time jobs. In total, all Projected Development Sites would produce approximately 93 jobs compared to the pre-development planning maximum estimated number of 90 jobs or a difference of net 3 jobs. As a result, no significant additional employees are expected to result from the Proposed Action when compared to the No-Action Scenario. As the number of new residents anticipated resulting from the proposed action is above the CEQR preliminary screening threshold level of 200 residents, a preliminary analysis of open space impacts due to new residents is warranted.

2.4.1 Preliminary Open Space Assessment

Per the guidelines of the City's *CEQR Technical Manual* for analysis of residential development, census tracts with at least half of their geographic area within a one-half mile radius of the Affected Area should comprise the open space study area. Using current population figures, an open space ratio is calculated for both the future no-action and future action scenarios, expressed as the amount of open space acreage per 1,000 user population. Typically, a comparison is made to the median open space ratio (OSR) of the City, which is 1.50 acres per 1,000 residents. A reduction in the open space ratio increment of more than 5 percent over future no-action conditions generally warrants a more detailed analysis, unless the open space ratio is below the citywide average, in which case even a small reduction could be considered significant. In addition to field surveys, information from the NYC Department of City Planning's Community District Needs Statements, NYC Parks Department website, and US Census data were utilized in preparing the open space analysis.

[15] http://www.nyc.gov/html/oec/html/ceqr/open_space_maps_brooklyn.shtml
[16] Census FactFinder, *2009-2013 ACS Profile Brownsville, CD 16*

Study Area Definition

In accordance with the guidelines established in the City's 2014 *CEQR Technical Manual*, the open space study area is defined to analyze both the nearby open spaces and the population using those open space resources. It is generally defined by a reasonable walking distance that users would travel to reach local open spaces and recreational areas. The study area is typically a one-half-mile radius from residential users. Since the proposed action would not introduce a significant daytime user population compared to the No-Action (i.e., workers), the 1/2-mile study area is used for a residential population.

The open space study area includes all U.S. Census Tracts that have 50 percent or more of the tract within a half-mile radius of the project site, as shown in **Figure 2.4-1**, consisting of the following Census Tracts shown in **Table 2.4-1**. The Affected Area is located within Brooklyn Census Tract 920 and the half-mile study area lies within Brooklyn Community District 16 which roughly overlaps the Brownsville neighborhood of Brooklyn.

Existing Conditions

Per 2010 U.S. Census population data, there are a total of 24,265 residents in the study area, as shown in **Table 2.4-1**. Assuming a background growth rate commensurate with the rate of growth between 2000 and 2010 in these census tracts, a rate of 0.574 percent per year, the 2017 population is estimated to be approximately 25,240 residents. The study area contains a total of approximately 8.48 acres of publicly accessible open space (both active and passive)[17], with the size of existing open space resources within this study area identified in **Table 2.4-2** and shown in **Figure 2.4-2**.

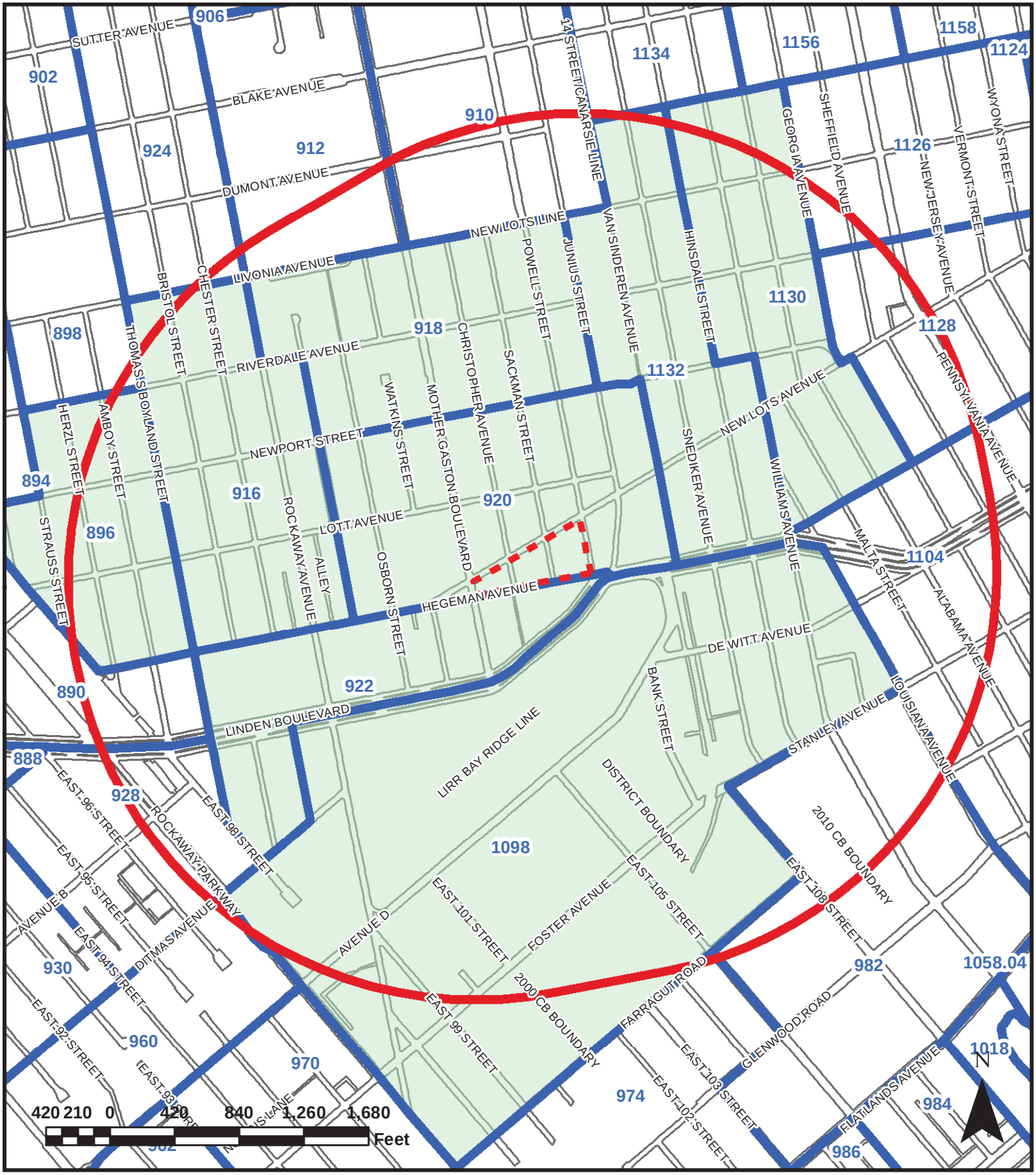
In accordance, with CEQR methodology, the assessment of open space resources in the study area focuses on the calculated open space ratio (OSR), or the ratio of the acres of open space per 1,000 persons. The existing OSR in the study area is approximately .335 acres per 1,000 residents, below the City's target OSR of 1.50 acres per 1,000 residents.

Table 2.4-1 Census Tracts and Population in the Study Area through 2027

Census Tract Number	Population Year			
	2000	**2010**	**2017**	**2027**
920	2892	3154	3281	3469
896	3654	3546	3688	3900
916	4238	4325	4499	4757
918	2847	2804	2917	3084
922	2865	2691	2799	2960
1132	1387	1937	2015	2130
1130	3544	3891	4047	4280
1098	1488	1917	1994	2108
	22,915	**24,265**	**25,240**	**28,716**

Source: New York City Census Fact Finder
Notes: Shaded row indicates census tract of the projected development site.

[17] Success Garden is included in analysis due to its size and frequency of use to the community



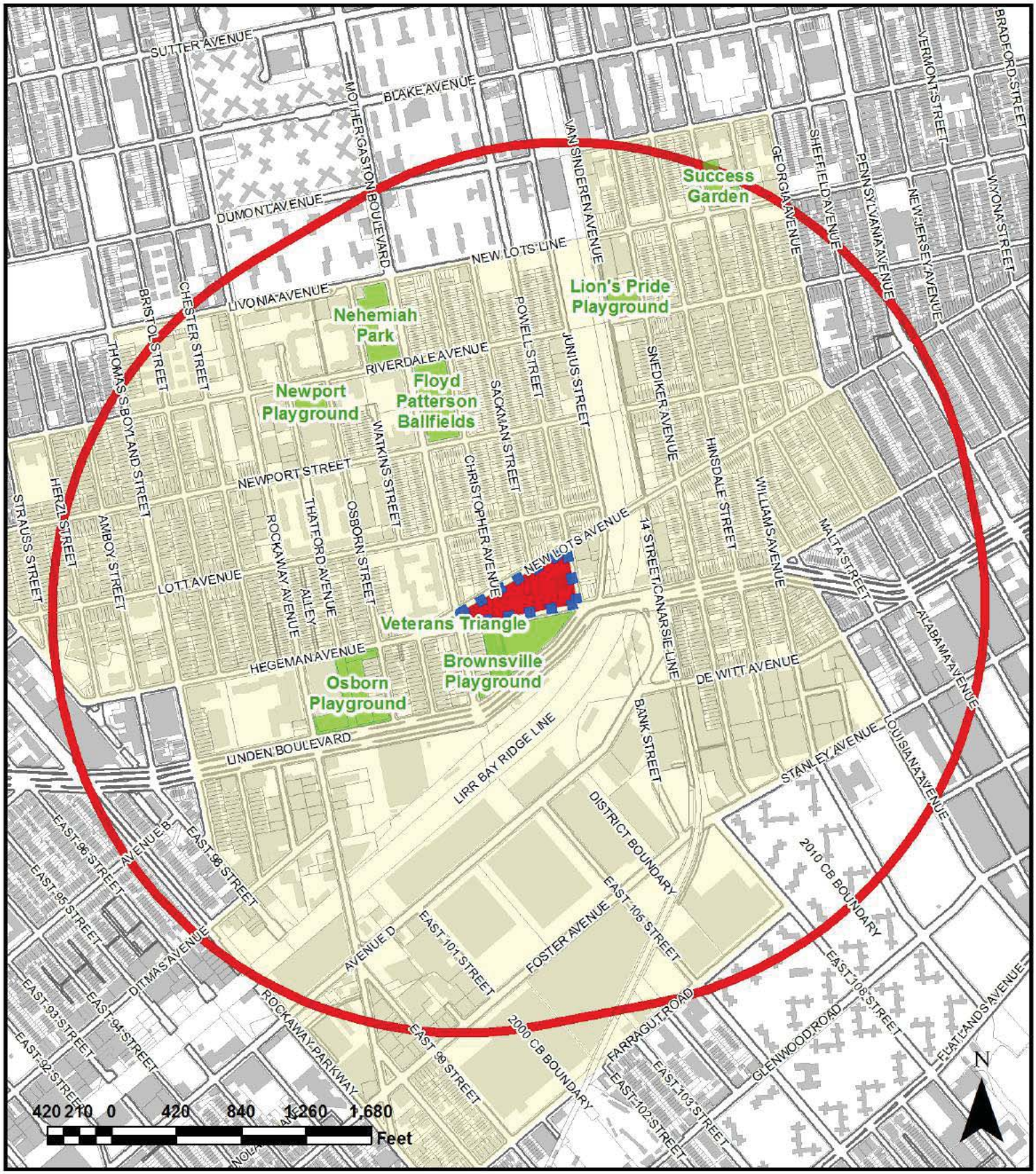
Legend

- Affected Area
- .5 Mile Open Space Study Area
- Census Tracts
- Selected Census Tracts

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Figure 2.4-1: Open Space Study Area



Legend

- Affected Area
- Parks within Study Area
- .5 Mile Open Space Study Area
- Census Tracts Selection

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Ebenezer Plaza Environmental Assessment

Figure 2.4-2: Open Space Resources in Study Area

Table 2.4-2 Open Space Resources in the Study Area

NYC Park Number	Park Name	Type	Acres
B270	Brownsville Playground	Buildings/Institutions	3.02
B343	Osborn Playground	Jointly Operated Playground	1.90
B339	Newport Playground	Jointly Operated Playground	0.92
B377	Floyd Patterson Ballfields	Recreation Field/Courts	2.30
B396	Nehemiah Park	Playground	1.65
B107	Lion's Pride Playground	Playground	0.86
B027	Veterans Triangle	Triangle/Plaza	0.13
			8.48

Source: NYC Department of City Planning; Field Reconnaissance, American Fact Finder
https://www.nycgovparks.org/befitnyc/playgrounds/in/10472/facilities/2#facilities

Future No-Action Conditions

In the future without the proposed action, the Affected Area is projected under the RWCDS to remain as it currently operates under existing conditions. By the 2027 build year, it is expected that the population in the surrounding area would continue to grow by approximately 0.574 percent a year, representing an average of the preceding growth rate experienced from 2000 to 2010 in this built out urban environment. Thus, the approximately 25,240 residents in the study area under 2017 conditions would grow to approximately 28,716 residents under the Future No-Action Condition. Therefore, the existing OSR of .295 acres of open space per 1,000 residents calculated for the open space study area is expected to be reduced to approximately .04 acres of open space per 1,000 residents under the Future No-Action Condition, assuming no additional open space resources are added to the area, as expected.

Future With-Action Conditions

Preliminary screening procedures from the *CEQR Technical Manual* indicate that impacts may occur if a project reduces the OSR by more than five percent. In areas that are lacking in open space resources, a reduction as small as one percent may be considered significant. Under the Future With-Action Condition, there would be a net increase of up to 1612 new residents, thereby increasing the study area population from approximately 28,716 residents under the Future No-Action Condition to 30,328 residents under the Future With-Action Condition. The resulting OSR would decrease from .295 acres per 1,000 residents under the Future No-Action Condition to .28 acres of open space per 1,000 persons under the Future With-Action Condition, a decrease of approximately .015 acres or approximately 5 percent. The reduction in OSR related to the proposed action would be 5% of the Future No-Action Condition. As this reduction is at the threshold for additional analysis, the following assessment section puts this OSR reduction in perspective of additional resources and characteristics of the Study Area.

Assessment

Despite the lack of open space resources that appear present within the Study Area under NYCDCP criteria, there are characteristics related to the Study Area and many more resources available within the Study Area that are not captured by the limited quantitative formula for OSR. Many open space resources are available just outside of the Study Area but within 1500 feet walking distance of the Affected Area or proximate to the Study Area. Further, the nature of this section of Brownsville is unique, in that the open space ratio fails to capture more local and resident specific options for open

space that are present due to the type of residential development that is present in both the Public Housing locations which have abundant open space as a part of their residential campus and the presence of many single and two family homes that were developed under the Nehemiah Program that have individual backyards available privately to residents.

In terms of available but not qualified resources present within the Study Area, there are many important and publicly open community centered resources such as community gardens within the Study Area. Specifically, Table **2.4-3** identifies the following Community garden resources are within the Study Area. Although community gardens have limited accessibility and hours, they are an important active open space resource that provide area residents access to a unique use of the land in their area that is communally oriented. Further, such resources provide a sense of community visually as well as provide visually relief from the build environment much in the same way as a passive park provides a physical place to site and rest. Nearly 3 acres of community gardens are present within the Study Areas.

Table 2.4-3 Community Gardens within Study Area

B383	Success Garden	Garden	1.07
B436	Gethsemane Garden	Garden	0.05
B415	Georgia Ave Garden	Garden	0.08
B513	United Community Centers Youth Farm	Garden	0.14
B486	Powell St Block Association	Garden	0.04
B533	Garden	Garden	0.28
B516	Powell Street Livonia Garden	Garden	0.49
B506	Prophecy Garden	Garden	0.06
B527	United Community Centers	Garden	0.68
Total			**2.89**

In addition to the community garden resources that are within walking distance from the Affected Area, there are also many active traditional playgrounds and passive park resources that are within 1500 feet but excluded from the OSR calculation as they did not fall within the Study Area definition due to irregularities of the shape of census tracts present in the area that were used to define the Study Area. These parks and playgrounds are identified in **Table 2.4-4.** As this Table shows, nearly 20 acres of additional parks and playgrounds are within walking distance or 1500 feet of the Study Area – chief among these resources are the Breukelen Ballfields – which at 16.6 acres are only 1200 feet from the Study Area but were excluded due to the Study Area definition requirements. Breukelen Ballfields is a large multi-purpose park approximately 1250 SF to the southeast of the Affected Area – which also connects the large Brownsville Community to the water through Fresh Creek – connecting the Affected Area to waterfront resources at Canarsie Park and Fresh Creek Park and the Broader Gateway National Recreation Area. The Ballfields provide access to baseball fields, dog-friendly areas, handball courts, playgrounds and spray showers.

Table 2.4-4 Community Gardens within Study Area

B247	Breukelen Ballfields	Community Park	16.60
B367	Livonia Park	Neighborhood Park	0.92
B249	Van Dyke Playground	Neighborhood Park	1.40
BS15	P.S. 190	School Yard to Playground	0.26
Total			**19.18**

Finally, an important additional open space resource that is approximately ½ mile or a 10-15 minute walk from the Affected Area is Betsy Head Park. This anchor park for Brownsville – has served that area for over 100 years. The 10.5-acre park that features an outdoor public pool, athletic courts and fields for baseball, basketball, football, and handball, as well as playgrounds, running track and a recreation center. Betsy Head Park is a key anchor facility providing recreation and outdoor access to the entire community.

Given the nature of the study area and its unique mix of low density residential and public housing as well as the many additional resources identified above available for use of future residents generated by the Proposed Action that are not captured by the quantitative assessment of the OSR - when considering these additional factors and the impact to open space between the build and no-build condition, the Proposed Rezoning will not result in a significant adverse impact to open space resources.

2.5 SHADOWS[1]

The *CEQR Technical Manual* defines a shadow as the condition that results when a building or other built structure blocks the sunlight that would otherwise directly reach a certain area, space or feature. An incremental shadow is the additional or new shadow that a building or other built structure resulting from a proposed project would cast on a sunlight-sensitive resource during the year. The sunlight-sensitive resources of concern are those resources that depend on sunlight or for which direct sunlight is necessary to maintain the resource's usability or architectural integrity, including public open space, architectural resources and natural resources. Shadows can have impacts on publicly accessible open spaces or natural features by adversely affecting their use and important landscaping and vegetation. In general, increases in shadow coverage make parks feel darker and colder, affecting the experience of park patrons. Shadows can also have impacts on historic resources whose features are sunlight-sensitive, such as stained-glass windows, by obscuring the features or details, which make the resources significant.

The duration and dimensions of Shadows are determined by the geographic location of the area from which the shadow is cast and the time of day and season. Shadows cast during the morning and evening, when the sun is low in the sky, are longer, while midday shadows are shorter in length. Shadows in winter, when the sun arcs low across the southern sky, are also longer throughout the day than at corresponding times in spring and fall seasons. In summer, the high arc of the sun casts shorter shadows than at any other time of year, and early and late shadows during the summer are cast towards the south than shadows cast in early and late winter months.

The *CEQR Technical Manual* states that a shadow assessment considers projects that result in new shadows long enough to reach a sunlight-sensitive resource. Therefore, a shadow assessment is warranted only if the project would either result in: (a) new structures (or additions to existing structures including the addition of rooftop mechanical equipment) of 50 feet or more; or, (b) be located adjacent to, or across the street from, a sunlight-sensitive resource. However, a project located adjacent to or across the street from a sunlight-sensitive open space resource (which is not a designated New York City Landmark or listed on the State/National Registers of Historic Places, or eligible for these programs) may not require a detailed shadow assessment if the project's height increase is ten feet or less.

The sunlight-sensitive resources of concern are those resources that depend on sunlight or for which direct sunlight is necessary to maintain the resource's usability or architectural integrity, including public open space, architectural resources and natural resources. In general, shadows on city streets and sidewalks or on other buildings are not considered significant. Some open spaces also contain facilities that are not sensitive to sunlight. These are usually paved such as handball or basketball courts, contain no seating areas and no vegetation, no unusual or historic plantings, or contain only unusual or historic plantings that are shade tolerant. These types of facilities do not need to be analyzed for shadow impacts. Additionally, it is generally not necessary to assess resources located to the south of projected development sites, as shadows cast by the action-generated development would not be cast in the direction of these resources. Furthermore, shadows occurring within one and one-half hour of sunrise or sunset generally are not considered significant in accordance with the *CEQR Technical Manual*.

The Projected Development Sites on Blocks 3861 and 3862 could be developed with buildings of up to eleven stories and 115 feet in height, while the Projected Development Site on Block 3860 could be developed with buildings of up to 95 feet in height. Accordingly, a preliminary assessment of shadows is warranted.

[1]This Revised EAS supersedes the EAS issued on March 17, 2017. The Revised EAS has incorporated a shadows assessment of Green Valley Garden (Block 3857, Lots 1, 24, 25 26 and 27) which is included in Appendix #5

2.5.1 Preliminary Shadow Screening Assessment

The shadow assessment begins with a preliminary screening assessment to ascertain whether a project's shadow may reach any sunlight-sensitive resources at any time of the year. If the screening assessment does not eliminate this possibility, a detailed shadow analysis may be warranted to determine the extent and duration of the net incremental shadow resulting from the project. The effects of shadows on a sunlight-sensitive resource are site-specific; therefore, as directed in the *CEQR Technical Manual*, the screening assessment was performed for the relevant Projected Development Sites to determine whether they fall within the range of maximum possible shadow cast on potential sunlight sensitive resources as described above. To determine this, a Tier 1 Screening Assessment was performed in accordance with the *CEQR Technical Manual*. A base map is developed that illustrates the proposed site location in relationship to any sunlight-sensitive resources. The longest shadow study area is then determined, which encompasses the site of the proposed project(s) and a perimeter around the site's boundary with a radius equal to the longest shadow that could be cast by the proposed structure, which is 4.3 times the height of the structure that occurs on December 21st, the winter solstice. A map as shown in **Figure 2.5-1** was prepared placing, NYC Department of Parks Resources as well as Selected Facilities and Program Sites provided on NYC.gov Department of City Planning GIS portal, as well as a list of park and public spaces provided from NYC.gov DOITT- GIS and Mapping Portal, as well as a screen of SHPO and NYC Landmark Listed Properties. After this a buffer map was prepared to display the maximum possible shadow of 515.3 feet, which could be cast from each Proposed or Projected Development site in the proposed rezoning area. This shadow cast was derived by multiplying 119'-10" feet (the maximum possible height under R7D with MIH bonus plus bulkhead) by 4.3 (the CEQR Technical Manual multiplier representing the maximum shadow cast from any object as being 4.3 times its height). The potentially impacted area of shadow from each projected site was then compared to those resources identified above to see if any fell within the shadow cast area.

Based on the Tier 1 analysis in **Figure 2.5.1**, it was determined that three open space resources, the Brownsville Playground, Veterans Triangle, and Powell Street Block Association Garden are within reach of the longest possible shadow that could be cast from the Proposed Development or Projected Development buildings associated with the requested rezoning within the Affected Area.

Figure 2.5-1: Tier 1 Screening Analysis for Projected Development Sites 1 and 2



Tier 2 Screening Assessment

The *CEQR Technical Manual* states that if any portion of a sunlight-sensitive resource lies within the longest shadow study area, a Tier 2 screening assessment should be performed. Because of the path the sun travels across the sky in the northern hemisphere, no shadow can be cast in a triangular area south of any given project site. In New York City, this area lies between -108 and +108 degrees from true north. For a Tier 2 screening assessment, sunlight-sensitive resources within the triangular area cannot be shaded by new development sites, and are screened out. The complementing portion to the north within the longest shadow study area is the area that can be shaded by the proposed project.

As shown in **Figure 2.5-2**, the Tier 2 screening assessment showed that the same three open space resources identified under the Tier 1 analysis can still be reached by a potential shadow from the "Affected Area" outside the triangular area where no shadow can be cast. Therefore, further analysis is required for these open space resources to determine the extent of the impact of shadows on these resources.

Tier 3 Screening Assessment

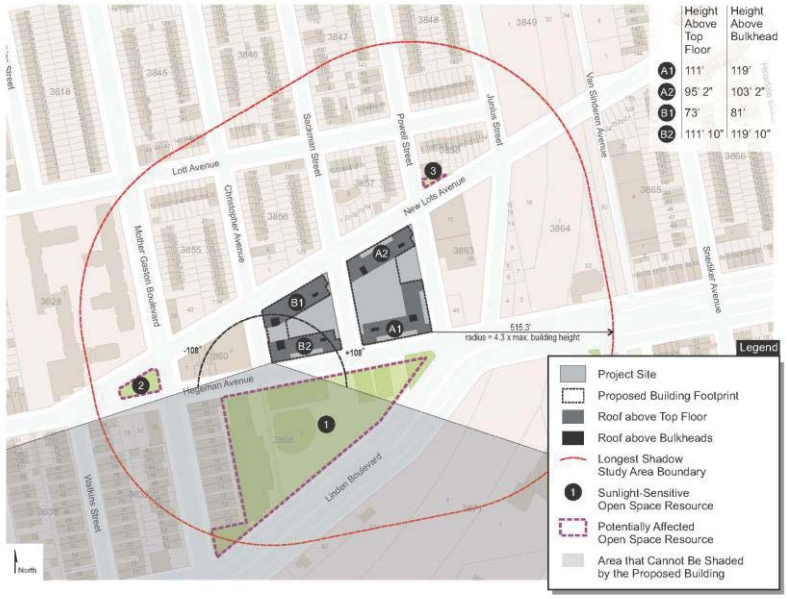
Based on the results of the Tier 2 screening assessment, a Tier 3 screening assessment should be performed if any portion of a sunlight-sensitive resource is within the area that could be shaded by the proposed project. Because the sun rises in the east and travels across the southern part of the sky to set in the west, a project's earliest shadows would be cast almost directly westward. Throughout the day, shadows shift clockwise (moving northwest, then north, then northeast) until sunset, when they would fall east. Therefore, a project's earliest shadow on a sunlight-sensitive resource would occur in a similar pattern, depending on the location of the resource in relation to the project site.

The *CEQR Technical Manual* states that for the New York City area, the months of interest for an open space resource encompass the growing season (March through October) and one month between November and February (usually December) representing a cold-weather month. Assessments of the incremental shadows cast during four representative dates were made in accordance with the *CEQR Technical Manual* to encompass a cold-weather month and months during the growing season. The four representative dates of the Tier 3 screening assessment are:

- December 21st
- March 21st
- May 6th
- June 21st

Figure 2.5-2: Tier 2 Screening Analysis

Ebenezer Plaza, Brooklyn — Tier 2 Screening Assessment



Urban Cartographics

Ebenezer Plaza, Brooklyn — Tier 2 Screening Assessment



Urban Cartographics

As shown in **Figure 2.5-3** through **Figure 2.5-6**, the Tier 3 screening assessment showed that project-generated shadows have the potential to reach the Open Space resource 1, Brownsville Playground on May 6 and June 21 Analysis Days; Open Space resource 2, Veterans Triangle on June 21 and May 6 Analysis Days; and Open Space Resource 3, Powell Street Block Association Garden on December 21 Analysis Days. Based on the Tier 3 screening, a detailed shadow analysis was performed for these resources for the relevant days.

Figure 2.5-3: Tier 3 - December 21 Shadow Simulation

Ebenezer Plaza, Brooklyn

Tier 3 Screening Assessment for the December 21 Analysis Day



Urban Cartographics

Figure 2.5-4: Tier 3 - March 21 Shadow Simulation

Ebenezer Plaza, Brooklyn

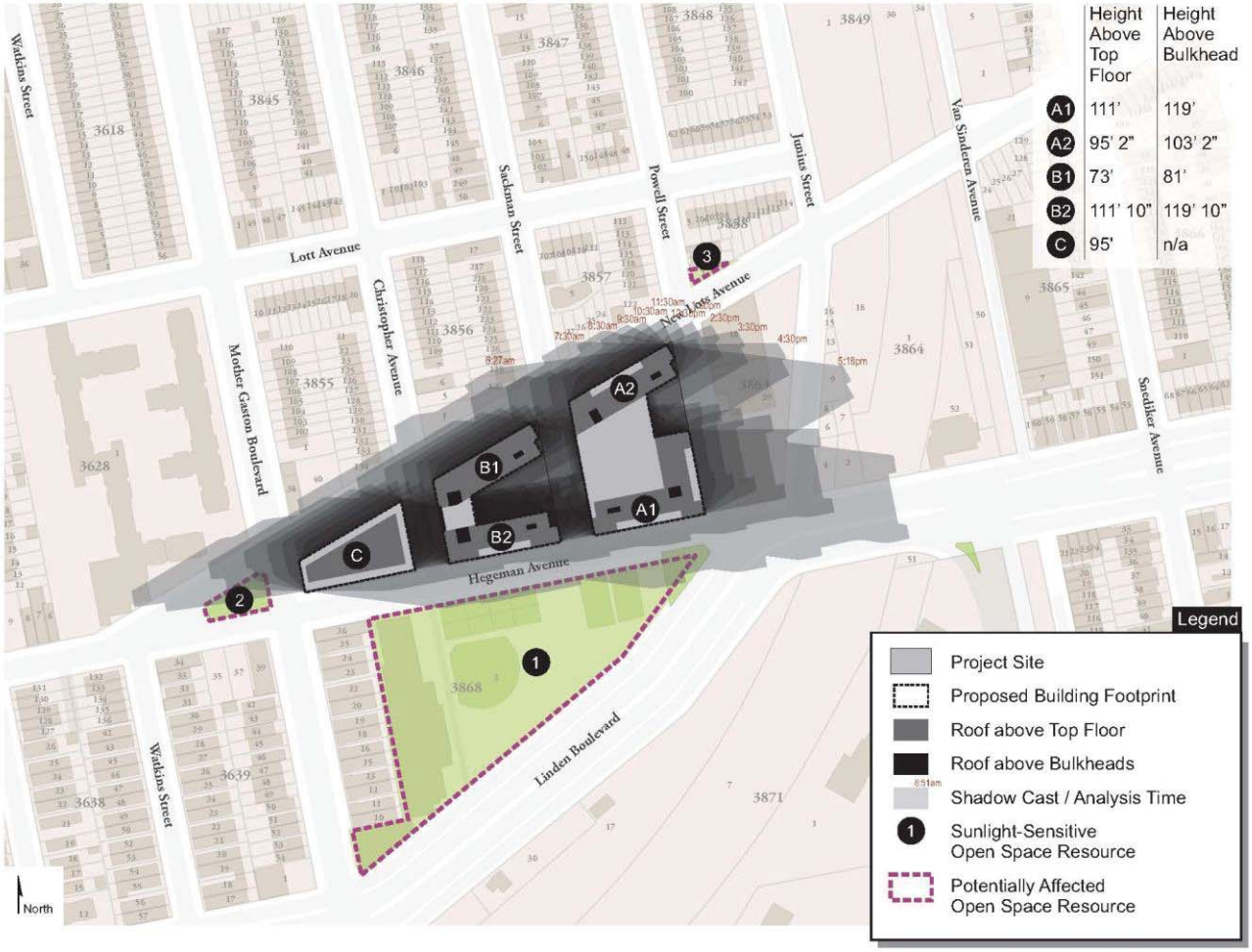
Tier 3 Screening Assessment for the March 21 Analysis Day



Urban Cartographics

Figure 2.5-5: Tier 3 - May 6 Shadow Simulation

Ebenezer Plaza, Brooklyn — Tier 3 Screening Assessment for the May 6 Analysis Day

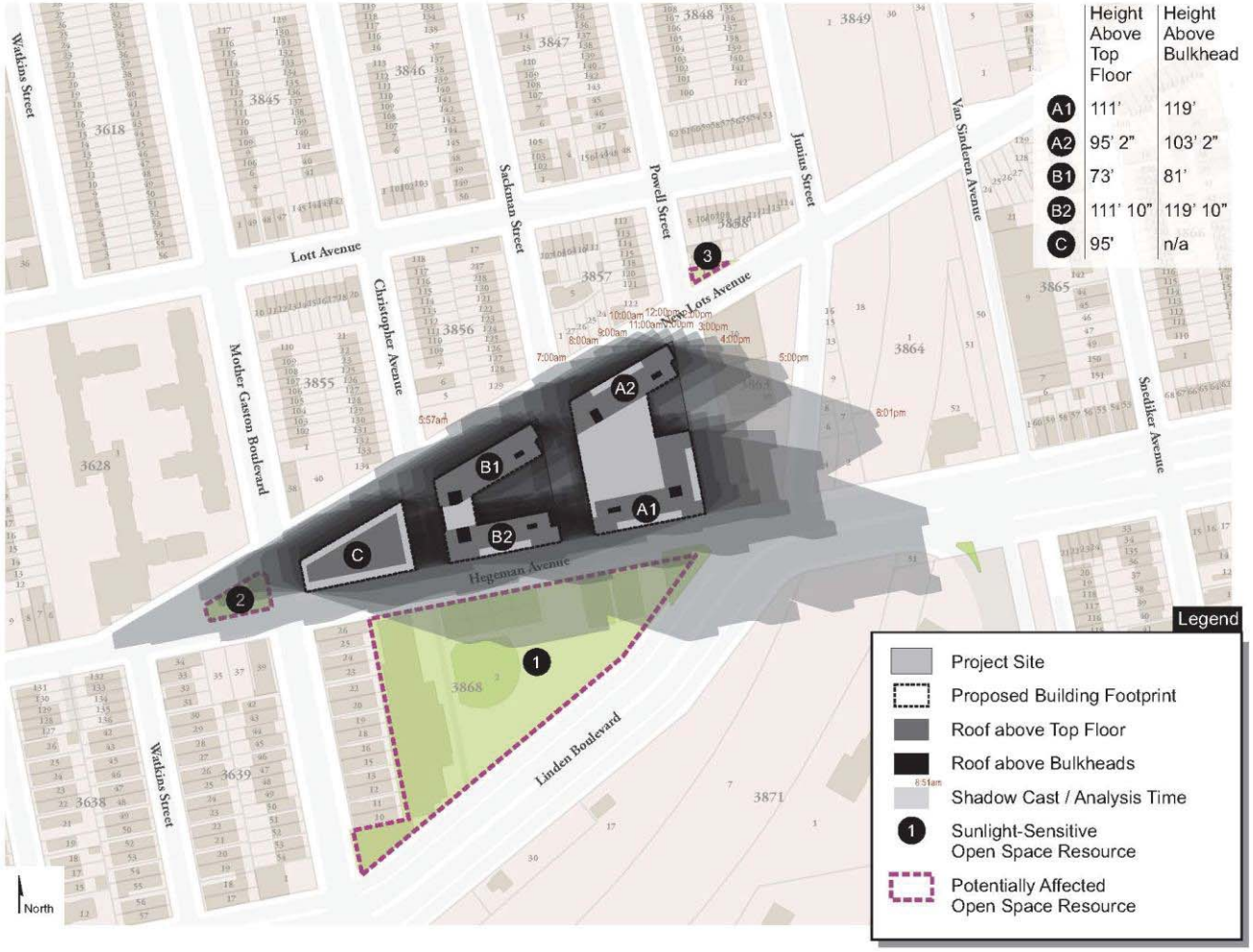


Urban Cartographics

Figure 2.5-6: Tier 3 - June 21 Shadow Simulation

Ebenezer Plaza, Brooklyn

Tier 3 Screening Assessment for the June 21 Analysis Day



Urban Cartographics

2.5.2 Detailed Shadow Analysis

The *CEQR Technical Manual* states that a detailed shadow analysis is warranted when the screening analyses does not rule out the possibility that project-generated shadows would reach any sunlight-sensitive resources. The purpose of the detailed analysis is to determine the extent and duration of new incremental shadows that fall on a sunlight-sensitive resource as a result of the proposed project. The results of the detailed shadow analyses on the identified resources of concern are summarized in **Table 2.5-1** and visualized in **Figures 2.5-7 – 2.5-10**.

Table 2.5-1 Detailed Shadow Analysis Summary

Analysis Date	December 21	March 21	May 6	June 21
Analysis Period	**8:51 a.m. – 2:53 p.m.**	**7:36 a.m. – 4:29 p.m.**	**6:27 a.m. – 5:18 p.m.**	**5:57 a.m. – 6:01 p.m.**
Open Space Resource 1				
Shadows Enter/ Exit Time		.	4:53 p.m. – 5:18 p.m. 5:12 p.m. – 5:18 p.m.	4:42 p.m. - 6:01 p.m. 5:06 p.m. - 6:01 p.m.
Shadow Duration			25 min	1 h 19 min
Open Space Resource 2				
Shadows Enter/ Exit Time		7:36 a.m. - 8:15 p.m.	6:27 a.m. – 9:02 a.m.	5:57 a.m. - 9:00 a.m.
Shadow Duration		39 min	2 hours 35 min	3 hours 3 mins
Open Space Resource 3				
Shadows Enter/ Exit Time	12:30 p.m. - 2:53 p.m.			
Shadow Duration	2 h 23 min			

Note: Daylight Saving Time not used/applied (per CEQR)

Sensitive Receptor Detailed Shadow Analysis

Brownsville Playground (Resource 1) is a 3-acre community recreational open space featuring handball, basketball, baseball and soccer fields. The entering and exiting shadows for Brownsville Playground are shown on the Tier 3 screening assessment figures (see **Figure 2.5-3** through **Figure 2.5-6**). The following is an assessment of project-generated shadows on Brownsville Playground for each of the representative analysis dates:

- On May 6th, the project-generated shadow from Site 2 – Building 2 enter Brownsville Playground at 4:53 p.m. and exit the resource at 5:18 p.m., for a total duration of approximately one hour and 19 minutes. This shadow overlaps a shadow cast from Site C– which casts a shadow on the same day from 5:12 pm to 5:18 p.m. The shadow cast on the Brownsville Playground at 5:18 PM represents the maximum extent of the project-generated shadow on the resource before dusk. After this point, the shadow recedes off the Brownsville Playground as shown in **Figure 2.5-9.**

- On June 21st, the project-generated shadow from Site 2 – Building 2 enter Brownsville Playground at 4:42 p.m. and exit the resource at 6:01 p.m., for a total duration of approximately one hour and 19 minutes. This shadow overlaps a shadow cast from Site 1 Building 1 – which casts a shadow on the same day from 5:06 pm to 6:01 p.m. The shadow cast on the Brownsville Playground at 6:01 PM represents the maximum extent of the project-generated shadow on the resource before dusk. After this point, the shadow recedes off the Brownsville Playground as shown in **Figure 2.5-10.**

Veterans Triangle (Resource 2) is a small pocket park featuring a small fenced green space planted with a few trees and shrubs and a hardscaped area with seating. Veterans triangle is so called due to its location – created by the triangular area form at the conversion of Hegeman Avenue to the south, Mother Gaston Blvd to the east, and New Lots Avenue to the north The entering and exiting shadows for Veterans Triangle are shown on the Tier 3 screening assessment figures (see **Figure 2.5-3** through **Figure 2.5-6**). The following is an assessment of project-generated shadows on Veterans Triangle for each of the representative analysis dates:

- On March 21st, the project-generated shadow from Site 3 enter Veterans Triangle at 7:36 a.m. and exit the resource at 8:15 a.m., for a total duration of approximately 39 minutes. The shadow cast on the Veterans Playground at 7:36 a.m. represents the maximum extent of the project-generated shadow on the resource before dusk. The shadow cast duration is very short due to the small size of the park and recedes off the Triangle early in the morning as shown in **Figure 2.5-8.**

- On May 6th, the project-generated shadow from Site 3 – enters Veterans Triangle at 6:27 a.m. and exit the resource at 9:02 a.m., for a total duration of approximately 2 hours 35 minutes. The shadow cast on the Veterans Playground at 6:27 a.m. represents the maximum extent of the project-generated shadow on the resource before dusk. The shadow cast duration although nearly 3 hours – recedes off receptor relatively early in the morning as shown in **Figure 2.5-9.**

- On June 21st, the project-generated shadow from Site 3 –enter Veterans Triangle at 5:57 a.m. and exit the resource at 9:00 a.m., for a total duration of approximately 3 hours and 3 minutes. The shadow cast on the Veterans Playground at 5:57 a.m. represents the maximum extent of the project-generated shadow on the resource. The shadow cast duration although three hours recedes off the Triangle by 9 am in the morning as shown in **Figure 2.5-10.**

Powell Street Block Association Community Garden (Resource 3) is a well-used and active community garden featuring locally planted crops and flowers. The entering and exiting shadows for Resource 3 are shown on the Tier 3 screening assessment figures (see **Figure 2.5-3** through **Figure 2.5-6**). The following is an assessment of project-generated shadows on Resource 3 for each of the relevant analysis dates:

- On December 21st, the project-generated shadow from Site 1– Building 2 enters Resource 3 at 12:30 p.m. and exit the resource at 2:53 p.m., for a total duration of approximately 2 hours and 23 minutes. The shadow cast on the Resource at 1:27 represents the maximum extent of the shadow cast on this day as shown in **Figure 2.5-7.**

Figure 2.5-7: Tier 3 – December 21 Incremental Impact

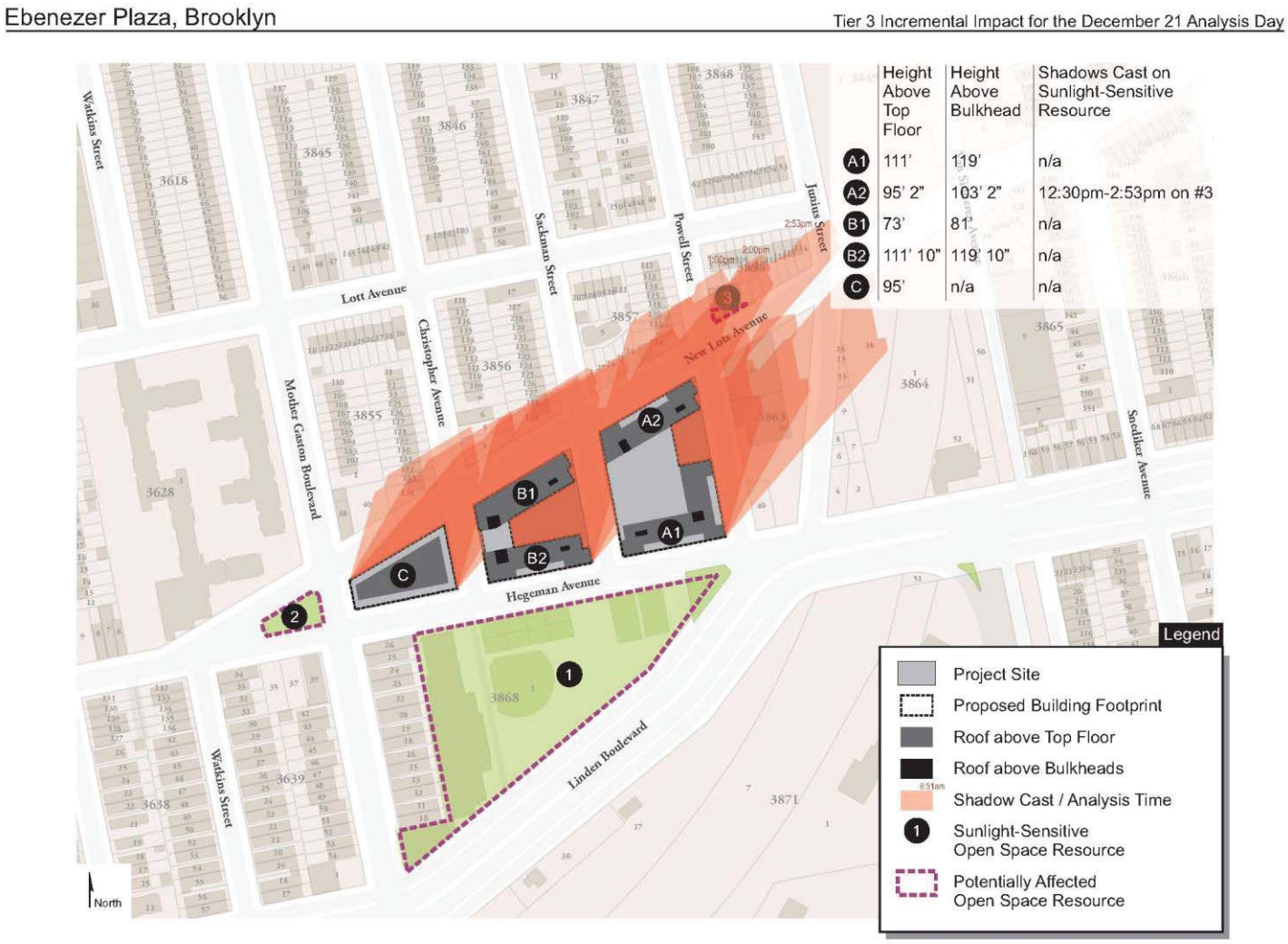


Figure 2.5-8: Tier 3 – March 21 Incremental Impact

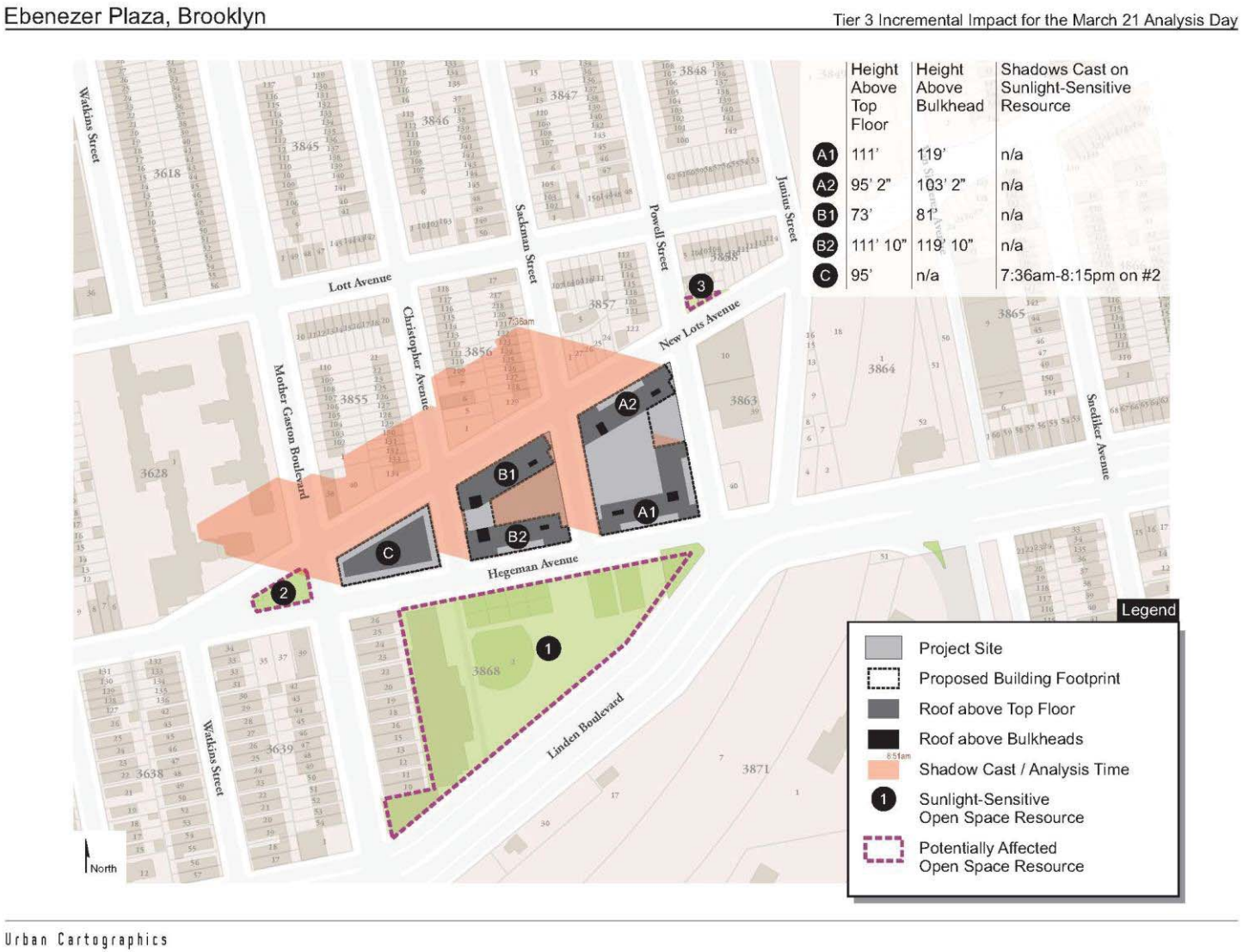
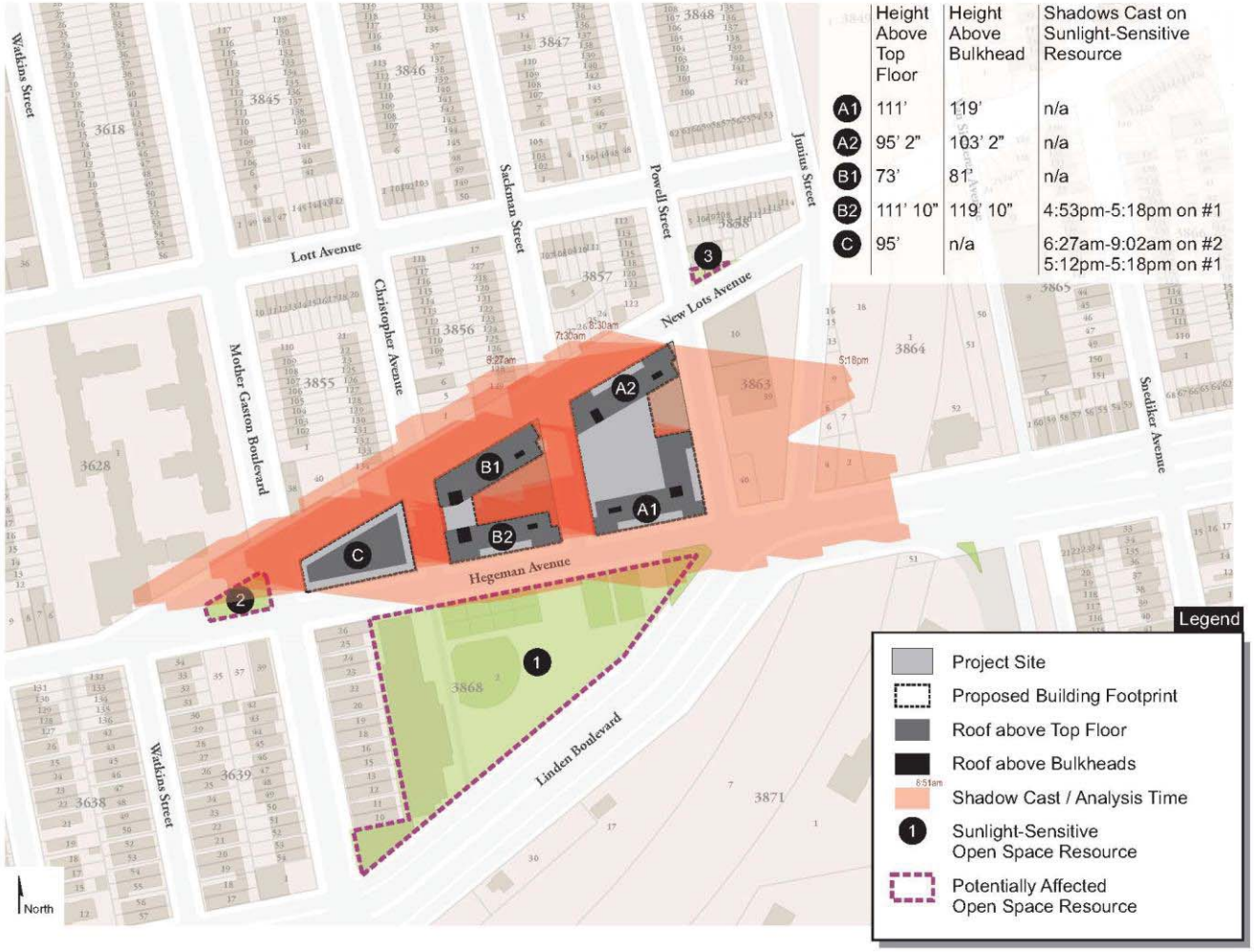


Figure 2.5-9: Tier 3 – May 6 Incremental Impact

Ebenezer Plaza, Brooklyn

Tier 3 Incremental Impact for the May 6 Analysis Day

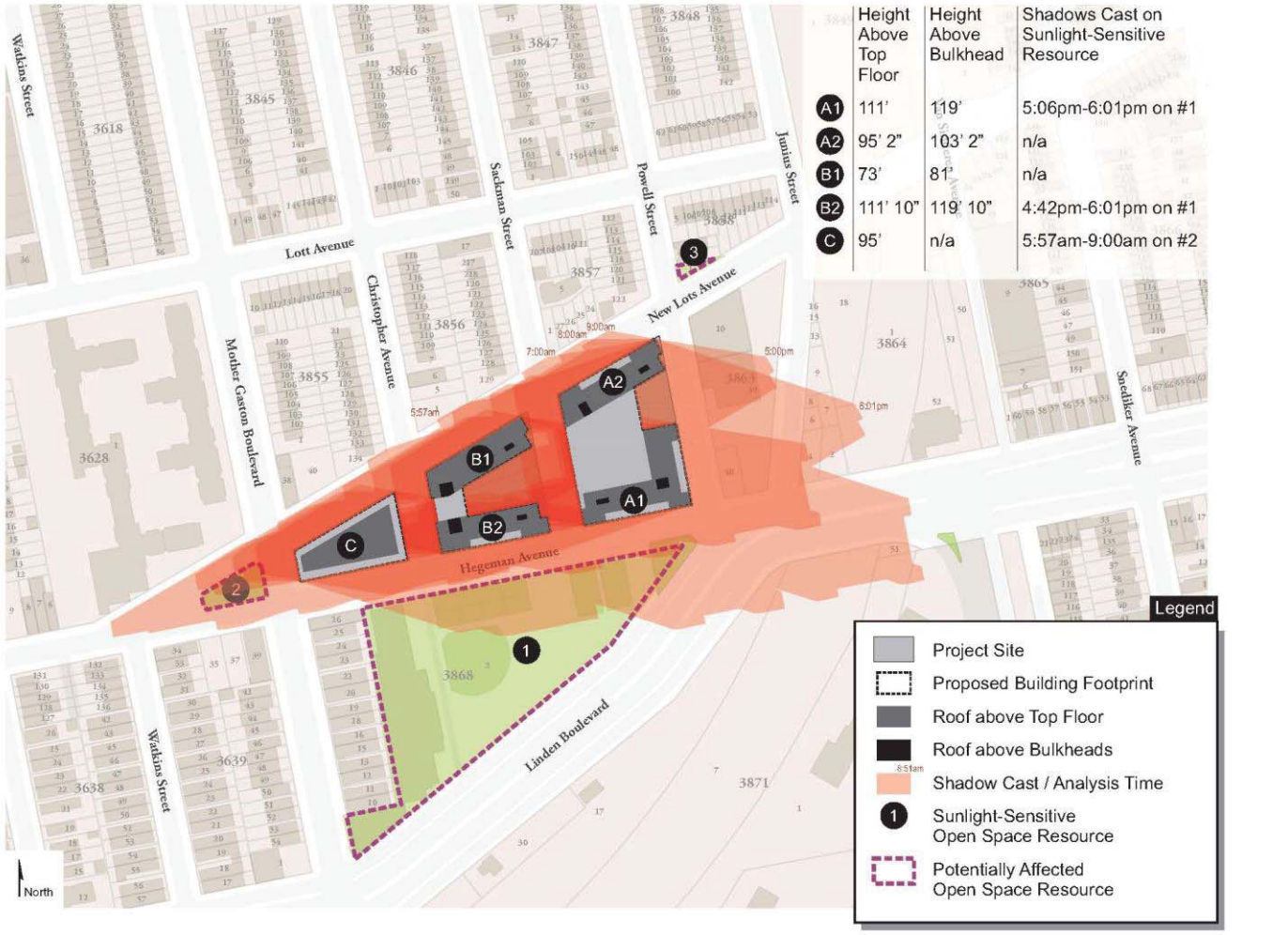


Urban Cartographics

Figure 2.5-10: Tier 3 – June 21 Incremental Impact

Ebenezer Plaza, Brooklyn

Tier 3 Incremental Impact for the June 21 Analysis Day



Urban Cartographics

Determination of Shadow Impact Significance.

The *CEQR Technical Manual* states that the determination of significance of shadow on a sunlight-sensitive resource is based on: (1) the information resulting from the detailed shadow analysis describing the extent and duration of incremental shadows; and (2) an analysis of the resource's sensitivity to reduced sunlight. The goal of the assessment is to determine whether the effects of incremental shadows on a sunlight-sensitive resource are significant under CEQR. A shadow impact occurs when the incremental shadow from a proposed project falls on a sunlight-sensitive resource or feature and reduces its direct sunlight exposure. Determining whether this impact is significant or not, under CEQR, depends on the extent and duration of the incremental shadow and the specific context in which the impact occurs.

For open space and natural resources, the uses and features of a resource is an indicator of its sensitivity to shadows. Shadows occurring during the cold-weather months generally do not affect the growing season of outdoor vegetation; however, their effects on other uses and activities should be assessed. This sensitivity is assessed for warm-weather-dependent features (such as wading pools and sand boxes) or vegetation that could be affected by a loss of sunlight during the growing season, and for features (such as benches) that could be affected by a loss of winter sunlight. Vegetation requiring direct sunlight includes the tree canopy, flowering plants and plots in community gardens. Generally, four to six hours a day of sunlight, particularly in the growing season, is often a minimum requirement. Where the incremental shadows from the project fall on sunlight-sensitive features or uses, the analysis assesses the loss of sunlight relative to sunlight that would be available without the project.

As stated in the *CEQR Technical Manual*, to determine impact significance, an incremental shadow is generally not considered significant when its duration is no longer than 10 minutes at any time of year and the resource continues to receive substantial direct sunlight. A significant shadow impact generally occurs when an incremental shadow of 10 minutes or longer falls on a sunlight-sensitive resource and results in one of the following:

Vegetation - A substantial reduction in sunlight available to a sunlight-sensitive feature of the resource to less than the minimum time necessary for its survival (when there was sufficient sunlight in the future without the project). Or, a reduction in direct sunlight exposure where the sunlight-sensitive feature of the resource is already subject to substandard sunlight (i.e., less than minimum time necessary for its survival).

Open Space Utilization - A substantial reduction in the usability of open space as a result of increased shadow.

For Any Sunlight-Sensitive Feature of a Resource - Complete elimination of all direct sunlight on the sunlight-sensitive feature of the resource, when the complete elimination results in substantial effects on the survival, enjoyment, or, in the case of open space or natural resources, the use of the resource.

Sensitive Resource Impact Assessment

Brownsville Playground

This resource is almost entirely composed hardcourt recreational playfields. The playground Is only subject to shadows on two of the study dates, May 6th and June 21st, near the end of daylight

hours on both days. As the minimal amount of shadow cast has a relatively minimal duration – near an hour on June 21st, does not affect vegetation, the utilization of the recreational spaces, which are lit at night - or result in elimination of light from the resource - as such no significant impact would occur from the proposed action.

Veterans Triangle

This resource is cast in shadow on three of the study days, on March 21st from 7:36 to 8:15, May 6th from 6:27 am to 9:02 am, and June 21st from 5:57 to 9:00 am. On each of these days the shadow – produced from Site C – or Projected Development Site 1 – recedes from the site no later than 9:02 am. Such a shadow duration at such an early time in the morning would not result in an impact to the vegetation or use of open space- which is passive and not impacted significantly by the presence of continual unshaded light - and as such no significant impact would occur from the proposed action.

Powell Street Block Association Community Garden

This resource is a vital community garden that is indeed sensitive to the reduction of light. However, as the analysis shows, the garden would only be subjected to the shadows produced by the proposed development on the December 21st analysis day. *The shadow impact as identified would not be during growing season. Further, presumably - the garden would not be functionally operational as a garden during mid-December, as such the shadow generated from the proposed development would have no significant impact on this resource.*

While there would be a limited amount new project-generated shadows on sunlight-sensitive resources from new development on the proposed rezoning area, the duration and coverage of the new shadows would be limited and during a time of year when the garden is not in use and would not affect the vitality or usage of the sunlight-sensitive resources identified in the study area. Thus, significant adverse impacts from shadows would not result from the proposed action.

2.6 HISTORIC AND CULTURAL RESOURCES

An assessment of historic and cultural resources is usually necessary for projects that are located in close proximity to historic or landmark structures or districts, or for projects that require in-ground disturbance, unless such disturbance occurs in an area that has been formerly excavated.

The term "historic resources" defines districts, buildings, structures, sites, and objects of historical, aesthetic, cultural, architectural and archaeological importance. In assessing both historic and cultural resources, the findings of the appropriate city, state, and federal agencies are consulted. Historic resources include: the New York City Landmarks Preservation Commission (LPC) designated landmarks, interior landmarks, scenic landmarks, and historic districts; locations being considered for landmark status by the LPC; properties/districts listed on, or formally determined eligible for, inclusion on the State and/or National Register (S/NR) of Historic Places; locations recommended by the New York State Board for Listings on the State and/or National Register of Historic Places and National Historic Landmarks.

Architectural Resources

Per *CEQR Technical Manual* guidelines, impacts on historic resources are considered on those sites affected by the proposed action and in the area surrounding identified development sites. The historic resources study area is therefore defined as the project site plus an approximately 400-foot radius around the proposed action area.

To determine whether the projected development has the potential to affect nearby off-site historic or architectural resources, the study area was screened for historic and architectural resources. No architectural resources were found in the project area that were considered historic or significant.

The LPC was contacted for their initial review of the project's potential to impact nearby historic and cultural resources, and a response was received in October 2016 indicating that the Projected Development Sites do not contain any known architectural or archeological significance (see **Appendix to the EAS**).

Cultural and Archaeological Resources

Unlike the architectural evaluation of a study area that extends beyond the footprint of a project's block and lot lines, the analysis of potential and/or projected impacts to archaeological resources is controlled by the actual footprint of the limits of soil disturbance. Archeological resources are physical remains, usually subsurface, of the prehistoric and historic periods such as burials, foundations, artifacts, wells and privies. The *CEQR Technical Manual* requires a detailed evaluation of a project's potential effect on the archeological resources if it would potentially result in an in-ground disturbance to an area not previously excavated.

The project would result in an in-ground disturbance to develop the proposed buildings identified in project program. As noted, the LPC was contacted for their initial review of the project's potential to impact nearby historic and cultural resources, and a response was received on October 2016 (see **Appendix to the EAS**). The LPC has indicated that no cultural resource, architectural or archaeological significance is associated with the proposed development site or projected development sites. Therefore, significant adverse impacts to archaeological resources are not expected because of the proposed action, and further analysis is not warranted.

2.7 URBAN DESIGN AND VISUAL RESOURCES

According to the *CEQR Technical Manual*, urban design is the totality of components that may affect a pedestrian's experience of public space. Elements that play an important role in the pedestrian's experience include streets, buildings, visual resources, open space, and natural features, as well as wind as it relates to channelization and downwash pressure from tall buildings.

Pursuant to the 2014 *CEQR Technical Manual*, an assessment of Urban Design may be warranted when a proposed action may affect one or more of the elements that contribute to the pedestrian experience of an area, specifically the arrangement, appearance, and functionality of the built environment. As stated in the *CEQR Technical Manual*, the study area for urban design is the area where the project may influence land use patterns and the built environment, and is generally consistent with the study area used for the land use analysis (i.e., 400 feet around the project sites). For visual resources, existing publicly accessible view corridors within the study area should be identified. The purpose of the preliminary assessment is to determine whether any physical changes proposed by a project may raise the potential to significantly and adversely affect elements of urban design, which would warrant the need for a detailed urban design and visual resources assessment. The proposed action would result in redevelopment of lower density M1-1 zoned blocks occupied by auto body repair, auto-maintenance, used auto-sales, as well as some other light industrial uses as well as local convenience retail. The development that would result is not permitted under the site's current zoning and would constitute a new element in the built environment that could not occur in the Affected Area without the proposed action.

2.7.1 Preliminary Analysis

Existing Conditions – Affected Area

The Affected Area is in the Brownsville neighborhood, Community District 16 of Brooklyn. The project site consists of two blocks, bounded by Hegeman Avenue to the south, New Lots Avenue to the north, Powell Street to the east, and Christopher Avenue to the west. The affected area additionally includes the block bounded by Hegeman Avenue to the south, New Lots Avenue to the north, Christopher Avenue to the east, and Mother Gaston Boulevard to the west. A ground level photograph map key is provided in the previously presented **Figure 1-3**, with ground-level photographs of the projected development sites and the immediate surrounding area are provided in previously presented **in Photographs 1-18** at the end of Section 1 of this document. As that section shows, there are no significant visual resources or natural features located in or around the Affected Area, as defined by the 2014 CEQR Technical Manual, nor does the Affected Areas have any visual or physical resources that connect the public realm to natural or built features of any significance.

The Affected Area encompasses three individual Blocks that are visual and physically bound together by a triangular road system that creates a unique cohesion of build form that is defined by its street network. Both Blocks 3861 and 3862 – the Proposed Development Sites and 3860 – the non-client owned Projected Development Site 3 are bound by the one-way, west-bound local road - Hegeman Avenue to the South and the two-lane bi-directional, New Lots Avenue to the North – which intersect or are terminated at the two-lane, bi-directional Mother Gaston Boulevard to the west – effectively capped by Veterans Triangle which forms the tip of the triangle that is physically created by these three roads at the western end of the Affected Area. Mother Garston Blvd is a Major Collector Road, while New Lots Avenue is considered a Minor Arterial Road by the NYS Department of Transportation. Forming the eastern base of this triangular street environment which frames the affected area the north bound one-way, local road- Powell Street.

Within this triangular area, the triangular shaped Affected Areas is bisected by north-south running local roadways, Christopher Street, a one-way northbound local road separates Blocks 3860 and 3861, while Sackman Street, a one-way southbound local road separates Blocks 3861 and 3862.

Bike Lanes are provided on New Lots Avenue and Mother Gaston Blvd in both directions, while on-street parallel parking is available throughout the Affected Area on all streets on both sides of roadways. Sidewalks are provided throughout the project area however they are generally devoid of uniform streetscape elements – with the exception of cobra-head lampposts – which are placed regularly throughout the project area and its adjacent streets. New Lots Avenue and Hegeman Avenue offer intermittent street trees on the sidewalks in primarily planted median on New Lots and in planters on Hegeman Avenue opposite the Affected Areas. No street trees are present within the Affect Area. Sidewalks are present throughout the Affected Area – however, under existing conditions many of the interior sidewalks have become a resting place for automobiles – some it appears for months if not longer – either waiting to be worked on in the adjacent auto-shops or left-over remnant waiting to be disposed. However most of these sidewalks are wide and accommodating to pedestrians if cleared for proper use.

As noted in **Chapter 2.1-1**, the Affected Area is characterized by primarily light manufacturing and auto-related sales and repair uses, as well as convenience retail, a few residential uses and minor community facility uses. The architecture throughout the affected area is comprised of two-story and almost of uniformly functional warehouse style, composed either of brick on concrete masonry, with storefront access primarily by rollup steel-garage door. An assemblage of non-unique pre-war two-story mixed-use brick façade structures cap the western edge of the Affected Area at Mother Gaston Blvd. While there is a unity of form and style and upkeep of the build environment in the Affected Areas it is one that signifies a typical assemblage of secondary market auto-repair and light manufacturing style uses – and an assemblage that is not well regulated nor serves as a positive contributor to the broader neighborhood. Buildings within the Affected Area, in addition to generally being built out to their lot lines, most all are attached to one another, as opposed to free-standing detached buildings.

Existing Conditions – Secondary Study Area

The surrounding area, or the 400-foot Secondary Study Area from the boundary of the Project Area extends approximately one block in each direction from the Affected Area. The area generally includes the almost exclusively one-and two-family residential area bounded by Lott Avenue to the North, encompasses the southeastern portion of Plaza Residences – a 385 unit, 6- story affordable housing covering the entire block bound by Lott Avenue, Mother Gaston Blvd, Hegeman Avenue and Osborne Street, portions of the one- and two-story residential area fronting Watkins Street just south of Hegeman avenue as well as most of the one- and two-story residential dwellings facing Mother Gaston Blvd between Linden Blvd and Hegeman Avenue, all of Brownsville Playground and Recreational Center directly south of the Affected Area, as well as the block of commercial development directly to the east of the Affected Area between Junius Street and Powell Street as well as some of the transportation right-of-way carrying LRR Bay Ridge Line just behind this area to the west. It should be noted that public facilities, schools dot portions of the secondary study area as do some local retail uses – these can be seen in **Chapter 2.1-1**.

A variety of street environments are present in the Study Area. The residential neighborhood directly north of the Study Area, residences fronting Lott Avenue and its intersecting streets that are shared with the Affected Area, Powell Street, Sackman Street, and Christopher Street all feature a high-quality pedestrian environment with sidewalk that is ADA compliant, in a state of

good repair, planted with planted will well maintained street trees that are planted primarily in in grass swales that are also well maintained. On-Street parking is provided throughout these streets. Street lighting is almost exclusively freestanding gooseneck style area lighting or a goose-neck arm fixed to a powerline pole. Overall the neighborhood has an almost suburban design aesthetic and pedestrian feel. As noted Above Lott Avenue is a bi-direction street intersected by one-way local roads within this Study Area. This neighborhood is bounded by walled and fenced section of the MTA - L and LIRR Bat Ridge Line to the east and Mother Gaston Blvd to the west. As noted above, Mother Gaston at this section is a major collector road and transitions from the low scale one- and two-story neighborhood to the east to the larger scale 6 story affordable housing complex – Plaza Residences. The sidewalks fronting this section of Mother Gaston Blvd are appropriately scaled – with narrow sidewalks and street trees planted in grass swales on the east and wide sidewalks with no street trees on the west side of the road in this location. The western central section of the secondary study section features Veterans Triangle an organizing street/plaza element that helps to circulate traffic to and from Linden Boulevard through Mother Gaston Blvd to New Lots Avenue west and is bounded by the local Road Hegeman Avenue which intersects with New Lots Avenue at its western point to join with New Lots and distribute traffic to the east of the study area. This area features multiple bus stops (B15 and B35 have stops here) and serves as a defacto transit center for the local area. This area is heavily trafficked and sees a combination of heavy pedestrian, bus and automobile interaction as well as serving as a well-used community pocket park and access area to local convenience retail that faces the Triangle. Facing this pocket park are for the most part, the only non- one- and two- family residential uses in the area, featuring local retail and convenience, community facility and institutional uses as well as multi-family dwellings. The intersecting streets, south of the Triangle, on Watkins Street and Mother Gaston Blvd – present pleasant nearly uniform brick-façade, pre-war, semi-detached, two-story one- and two- family and multi-family residential dwellings. The architecture on both sides of the street is identical on Watkins Street and nearly identical on Mother Gaston Blvd, set back from the sidewalk and featuring hard-scaped courtyards. The street and sidewalk are well maintained as are the buildings themselves. The overall visual impact and aesthetic for this neighborhood is one with an actual unified sense – tied together by build form, unified by quality streets and a bounded geography created by the built road and transit network – a neighborhood with a real community center, although small in scale at Veterans Triangle. To complete this neighborhood is its key civic and community recreation area at Brownsville Playground and Recreation Center. The only existing element that erodes the neighborhood identity and stands as a disjunction between residents and their primary public amenity are the industrial/manufacturing zoned blocks at the heart of this neighborhood.

Future No-Action Condition

Under the Future No-Action Condition, significant changes to the study area are not expected by the final analysis year of 2027. It is expected – due to the current restrictions of the existing M1-1 zoning that little changes to the existing building environment or uses would change to any substantial degree - while tenants within area manufacturing or retail may change any physical changes to buildings in the study area would comply with designated zoning regulations and other surrounding districts. No significant changes to the area's urban character are anticipated. No changes to the area's views to the adjacent parks and open spaces are expected.

Future With-Action Condition

According to the *CEQR Technical Manual*, if a preliminary assessment determines that changes to the pedestrian environment are sufficiently significant to require greater explanation and further study, then a detailed urban design and visual resources analysis is appropriate. Detailed

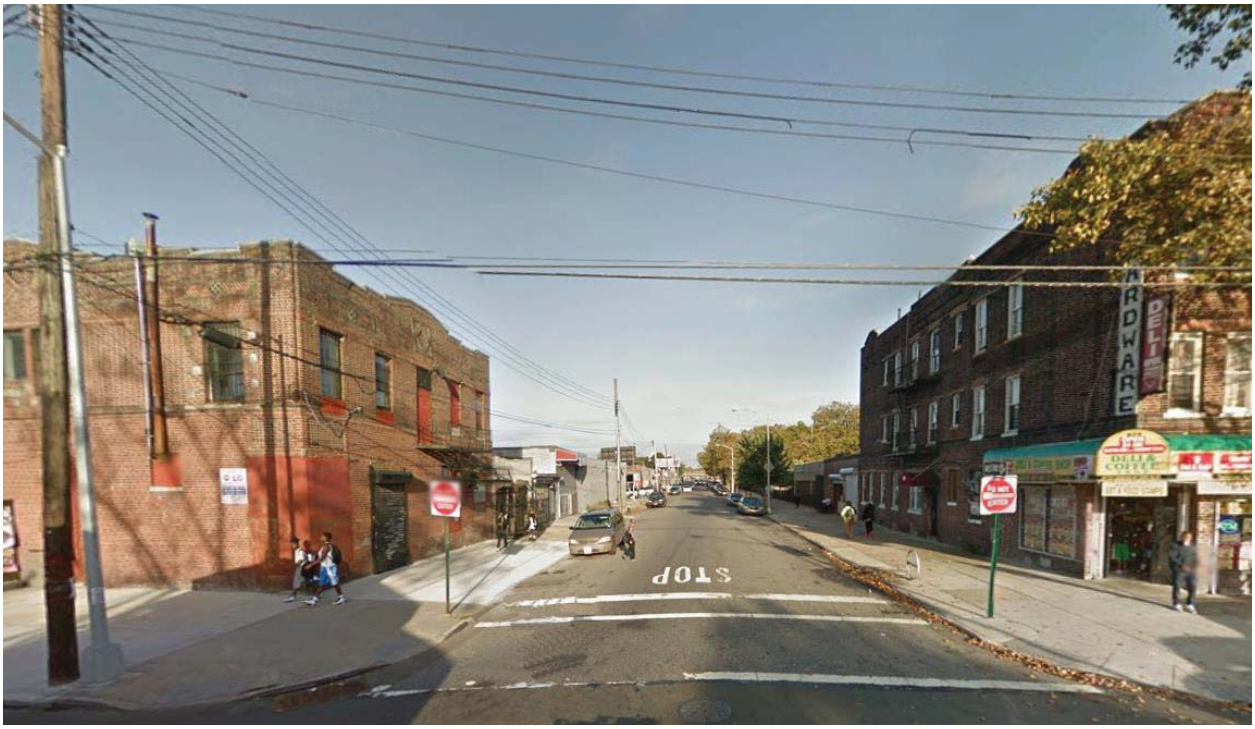
analyses are generally appropriate for all area-wide rezoning applications that include an increase in permitted floor area or changes in height and setback requirements, general large scale developments, or projects that would result in substantial changes to the built environment of a historic district, or components of an historic building that contribute to the resource's historic significance. Conditions that merit consideration for further analysis of visual resources include when the project partially or totally blocks a view corridor or a natural or built rare or defining visual resource. Further conditions that merit consideration are when the project changes urban design features so that the context of a natural or built visual resource is altered, such as if a project alters the street grid so that the approach to the resource changes, or if a project changes the scale of surrounding buildings so that the context changes.

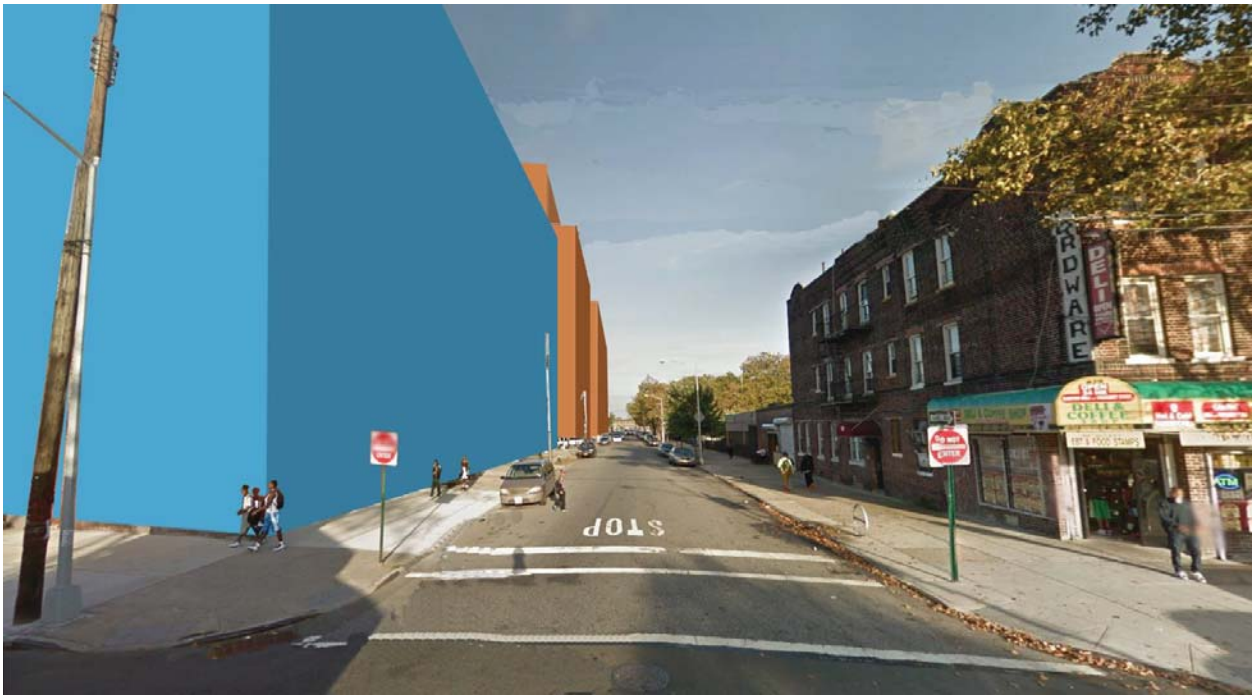
The Proposed Development Sites are presently used for auto-body, auto-repair, and auto-sales uses. The Proposed Projected Development Site 1 on Block 3862 has a lot area of 55,080 square feet, while the Proposed Projected Development Site 2 on Block 3861 has a lot area of 36,284 square feet. The other Projected Development Site within the Affected Area – Site 3 on Block 3860 has a mix of local retail and auto-body uses – has a lot area of 23,548 square feet.

Under the Future With-Action Condition, the existing one-and two-story auto-body and repair uses that occupy the Affected Area would be redeveloped - demolished and replaced with up to 10- and 11-story - maximum 115-foot mixed-use development on both Block 3861 and 3862, and up to a 9-story, 95-foot mixed-use building on projected development sit not under applicants ownership on Block 3860. The total induced development would replace the existing 3,400 residential square feet, 72,500 commercial square feet, 2,846 community facility floor area, and 12,788 manufacturing floor area with 539,676 residential square feet containing 600 new units, 44,414 commercial square feet, and 34,465 square feet of community facility floor. A three-dimensional representation of an approximate building envelope allowed under a reasonable worst case development scenario for the Project Area is overlaid a photograph of the street under existing conditions and compared with a photograph under existing conditions without the proposed building envelope in **Figures 2.7.1** and **2.7.2**

As the montages show, the project does indeed introduce greater density in relation to the adjacent community the north of the project site on New Lots Avenue and south of the Affected Area across from Hegeman Avenue where Brownsville Playground sits. However, the density of the project and its adjacency to the newly redeveloped commercial area to the east of Powell Street creates a boundary to the neighborhood that neither impacts the urban design quality of the lower density, lower scale neighborhood area to the north and west of the project site. Further, the additional local commercial, and community facility uses planned for the Affected Area will provide significant positive land uses that will enhance the neighborhood and replace the current industrial and manufacturing uses that are effectively a nuisance with uses that effectively transition and buffer Linden Blvd to the broader residential neighborhood. Further, the proposed development of the Affected Area should greatly enhance the quality and use of the sidewalks surrounding that area – as the auto-body uses currently occupying the Affected Area often place cars that are unfinished on area sidewalks or work on cars on area sidewalks during daylight hours...effectively blocking use of these sidewalks from pedestrians passing through the area.

Figure 2.7.1 View Hegeman Avenue Looking East – No-Build Condition and Photomontage of Massing Scenario of Proposed Action[18]





[18] Showing Projected Development Site 3 in the foreground, Site 2 in the middle and Site 3 far in the background

Figure 2.7.2 View of New Lots Avenue Looking West – No-Build Condition and Photomontage of Massing Scenario of Proposed Action [19]





[19] Showing Projected Development Site 1 in the foreground and Projected Development Site 2 in the background

There are currently no views of consequence to the project site or the projected development sites – in fact redevelopment would assist in visually improving this section of blocks in the Affected Area, The proposed action would not result in any of the above conditions that would merit further detailed assessment of urban design and visual resources. As the Proposed Action would not diminish or disturb the existing aesthetic continuity, pedestrian features of the community or neighborhood, and as the proposed action would not block any view corridors or views to/from any natural areas with rare or defining features, nor would the proposed action impact an historical or culturally sensitive community features, the proposed action is not expected to result in any significant adverse urban design or visual resource related impacts.

2.8 NATURAL RESOURCES

Per CEQR Technical Manual, a natural resource is defined as (1) the City's biodiversity (plants, wildlife, and other organisms); (2) any aquatic or terrestrial areas capable of providing suitable habitat to sustain the life processes of plants, wildlife, and other organisms; and (3) any areas capable of functioning in support of the ecological systems that maintain the City's environmental stability. Under CEQR, a natural resources assessment considers species in the context of the surrounding environment, habitat, or ecosystem and examines a project's potential to impact those resources.

Resources such as ground water, soils, and geologic features; numerous types of natural and human-created aquatic and terrestrial habitats (including wetlands, dunes, beaches, grasslands, woodlands, landscaped areas, gardens, parks, and built structures); and any areas used by wildlife may be considered, as appropriate, in a natural resources analysis. Stormwater runoff may also be considered in a natural resources assessment and evaluated in the context of its impact on local ecosystem functions and on the quality of adjacent waterbodies.

The proposed project lies within the broader Jamaica Bay Watershed, and as such an evaluation of the proposed rezoning and induced development was completed utilizing the Jamaica Bay Watershed Form (provided in **Appendix to this EAS**). Per the evaluation, the site will not add any new impervious surface area or displace any existing natural or remove any form of vegetation, nor will any additional runoff or excavation near or below the median annual high groundwater mark, nor will any surface waters or wetland areas be affected by the proposed project. Further, the Affected Area is outside of any identified FEMA 100 or 500-year flood zone. Given the evaluation of the proposed projected on the Jamaica Bay Watershed, no significant impact to Jamaica Bay Watershed and as no other natural resources existing within the study area – no impact is anticipated from the proposed action upon natural resources generally.

2.9 HAZARDOUS MATERIALS

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 semi-volatile organic compounds (VOCs and SVOCs), methane, polychlorinated biphenyls (PCBs), and hazardous wastes (defined as substances that are chemically reactive, ignitable, corrosive, or toxic). Per the *CEQR Technical Manual*, the potential for significant impacts from hazardous materials can occur when: a) hazardous materials exist on a site; and b) action would increase pathways to their exposure; or c) an action would introduce new activities or processes using hazardous materials.

Pursuant to *CEQR Technical Manual* methodology, actions that would result in ground disturbance in an area where current or past uses on or near the site raise the potential for the presence of hazardous materials should be assessed for hazardous materials.

The proposed action would allow new residential development at a greater density than is permitted under existing zoning and result in an in-ground disturbance on sites that have a history of industrial uses. Accordingly, a Phase I Environmental Site Assessment was conducted for the Development Sites. In addition, an updated Phase 1 and Phase II Environmental Site Assessment and Environmental Remedial Work Plan has been developed as well as an Application for inclusion into the NYC DEC Brownfield Clean-up Program has been submitted.

2.9.1 Summary of Phase I ESA

Multiple Phase I ESA's have been prepared in the last several years, including A Phase 1 ESA was originally conducted for the Project Area by the Chazen Companies in November of 2015 as well as Phase 1 completed in June of 2016 by Hillman Consulting. The later study conducted by Hillman will be summarized in this section.

The Property consists of seven tax lots covering two blocks located on the south side of New Lots Avenue and the north side of Hegeman Avenue between Christopher Avenue to the west and Powell Street to the east. Sackman Street bisects the Property and separates the west and east parcels, Blocks 3861 and 3862, respectively. The parcels have a combined area of approximately 91,213 square feet. The Property is in an urban developed area characterized by residential, commercial retail, industrial, recreational and public transportation maintenance properties. The terrain of the Property appeared to be relatively flat. No natural surface waterbodies were noted at the Property.

Block 3861, Lot 1 is developed with three one-story slab on grade buildings totaling 15,500 SF with partial basements and consists of eleven tenant spaces with addresses of 585 to 595 Christopher Avenue, 247 to 269 Hegeman Avenue and 804 to 814 Sackman Street that are occupied by D&M Body Shop Collision, JM Mobile Glass, Trax Inc., A&B Auto, Mr. T Auto Body & Repair Shop, Duco Auto Body Repair Shop Inc., Super Star Auto Sales/Strickit The Best, Charles Auto Repair, Strauss Auto, Choice First Auto Repair, and New Movement Auto Care Inc. The space at 257 Hegeman Avenue includes 1,500 SF of interior and 3,500 SF of exterior lot space. Block 3862, Lot 6 is developed with a one-story slab on grade building totaling 16,130 SF and consists of five tenant spaces with addresses of 579 to 583 Christopher Avenue, 68 to 92 New Lots Avenue and 790 to 802 Sackman Street that are occupied by A1 General Auto Repair, Silk Auto Repair, Equal Rights Auto Repair, Sun Shine Auto Repair, and Devon N Devon Auto Repair. Block 3862, Lot 1 is an L-shaped parcel that is developed with three one-story slab on

grade buildings, two two-story plus basement buildings, a three-story plus basement building and a mobile office trailer totaling 32,250 SF. This portion of the Property consists of seven tenant spaces with addresses of 94-118 New Lots Avenue, 789 to 813 Sackman Street, 271 to 281 Hegeman Avenue and 640 to 654 Powell Street that are occupied by Carl's Auto Body and Sale, New Community Auto Repairs/Auto Body, Gabriel Cabrerizo Auto, Pan American Auto Repair, BNI Supply, Newspaper Distribution, Restaurant Equipment Supply, Greater Works Prophetic Healing and Deliverance, and Linden Used Cars Inc. Block 3862, Lots 23, 24 and 25 are paved lots that are not developed with any structures except for a mobile office trailer. This portion of the Property is occupied by Linden Used Cars Inc. and has addresses of 656 to 662 Powell Street. Block 3862, Lot 26 is developed with a one-story slab on grade building totaling 1,056 SF and consists of one tenant space occupied by Linden Used Cars Inc. with addresses of 666 to 676 Powell Street and 283 to 293 Hegeman Avenue. The western lot (Block 3861) of the Property appears to have been developed since 1928 with various uses including store, auto garage, warehouse, auto repair, auto body, commercial building, manufacturing building and auto wrecking lot in one area. Three gasoline USTs were identified in the northern portion of the block: one UST beneath 70-76 New Lots Avenue in 1928 only and two USTs beneath 78-92 New Lots Avenue from 1928 to 1987. No information regarding the removal of the three tanks in Block 3861 has been provided to Hillmann.

The eastern lot (Block 3862) of the Property appears to have been developed since 1928 with various uses including residential building, auto garage, drycleaner, filling station (a.k.a. gas station), auto repair, auto laundry (a.k.a. car wash), warehouse, parking, used auto sales, public center, church and auto wrecking lot in two areas. Eight benzene USTs were identified in the northeastern portion of the block beneath 652 Powell Street in 1950 only. Three gasoline USTs associated with the gas station were identified in the southeastern portion of the block at 666- 676 Powell Street from 1950 to 1977. One gasoline UST was identified in the northern western portion of the block beneath 799 Sackman Street from 1967 to 1991. Information from prior reports discussed in Section 3.1 suggests that all tanks in Block 3862 shown on the Sanborn maps as well as others that were not depicted were removed.

Prior to these developments, the Property was vacant lots dating back to at least 1907.

Findings

Hillmann performed a Phase I Environmental Site Assessment in accordance with the scope and limitations of ASTM Practice E 1527-13 of the Property as described in Section 2 of this report. Any additions to, exceptions to, or deletions from this practice are also described in Section 2 of this report.

Recognized Environmental Conditions

This assessment has revealed the following *recognized environmental conditions* in connection with the Property;

- Active/Open NYSDEC spill case no. 09-06674 for the 650 Powell Street Property address is identified as a REC. Per a Phase II Environmental Site Assessment of the Property (The Chazen Companies, February 8, 2010) soil and groundwater exhibited elevated concentrations of VOCs.

- Historical use of the Property including gas station, dry cleaner, auto repair/auto body shops, and auto dismantling facility is identified as a REC.

- The current use of the Property including auto repair/auto body shops is identified as a REC.
- The potential to encounter three abandoned gasoline USTs shown on Sanborn maps beneath the buildings at 70-76 New Lots Avenue and 78-92 New Lots Avenue, and identified on
- Building Department records in Block 3861, is identified as a REC.
- The potential for unregistered USTs and oil water separators associated with former heating systems and auto repair activities to be encountered during site redevelopment is identified as a REC.
- Drums and ASTs including waste oil that may be left by tenants upon vacating the Property are identified as a REC.
- Per a prior Phase I ESA report (The Chazen Companies, November 3, 2015), evidence of a hydraulic elevator was observed in the basement of the 654 Powell Street building. No information regarding the closure of the hydraulic elevator was provided and therefore, it is identified as a REC. This area was inaccessible at the time of Hillman's site assessment.
- Per a Phase II Environmental Site Assessment of the Property (The Chazen Companies, February 8, 2010) surface soils in a former auto salvage yard area exhibited elevated concentrations of metals (barium and lead) and SVOCs (benzo(a)anthracene and chrysene) exceeding Unrestricted Use Soil Cleanup Objectives and therefore it is identified as a REC. This area was inaccessible at the time of Hillmann's site assessment.

Controlled Recognized Environmental Conditions (CRECs):

- No evidence of any CRECs in connection with the Property was identified.

Historical Recognized Environmental Conditions (HRECs):

- Two T-shaped vent pipes indicative of motor vehicle fuel underground storage tanks (USTs) were identified on the roof above 799 Sackman Street. Historical Sanborn maps depicted a gasoline UST at this building. Tank removal information discussed in Section 3.1 suggests tat these two USTs were removed by Don Carlo in 2004. The vent pipes were likely not removed to maintain the structural integrity of the building. Considering the status, the USTs are identified as a HREC.
- Three fill ports filled with concrete indicative of USTs were identified on the curb in the Powell Street sidewalk buffer area in front of 666 Powell Street. Tank removal information discussed in Sections 3.1 and 4.1.1 and noted on PBS 2-609740 indicates that six 550-gallon gasoline USTs were removed at 666 Powell Street with no date provided. Considering the status, the USTs are identified as a HREC.
- Tank removal information discussed in Sections 3.1 and 4.1.1 and noted on PBS 2-609739 indicates that two 3,000 or 4,000-gallon heating oil USTs were removed at 114 New Lots Avenue with no date provided. Considering the status, the USTs are identified as a HREC.

Notable Findings

Although not considered to be a REC, the following notable environmental concerns were identified:

- A paint and solvent odor was noted at the Property that appeared to be related to on-site auto body painting operations.
- The adjoining south property, Brownsville Recreation Center, 1555 Linden Boulevard, was listed in the EDR regulatory report on the UST, Historic UST, AST, Historic AST, CBS, CBS AST and LTANKS databases. According to the databases, petroleum bulk storage (PBS) certificate 2-604996 listed a 3,000 gallon # 2 fuel oil AST installed in 1980 as in service, a 10,000 gallon #2 fuel oil UST as closed in place in May 2002, and a 6,000 gallon #2 fuel oil UST installed in 2002 as in service. According to the databases, chemical bulk storage (CBS) certificate 2-000207 listed a 200-gallon chlorine AST installed in 1990 as in service but indicates that the facility has a status of "unregulated-closed", a 10,000 gallon #2 fuel oil UST as closed in place in May 2002, and a 6,000 gallon #2 fuel oil UST installed in 2002 as in service. Spill no. 0012906 was reported on March 8, 2001 due to a tank test failure involving a no. 2 fuel oil tank. The UST was closed in 2002 as noted previously. Approximately 11.63 tons of impacted soil was excavated in 2012. Endpoint soil and groundwater samples collected in 2013 by Liro identified no VOCs or SVOCs exceeding NYSDEC guidance document CP-51. A work plan for a vapor intrusion evaluation with sub slab and indoor air assessment prepared by Liro was approved by NYSDEC in 2015. However, results of the vapor investigation were not provided in the database. Liro requested spill closure but no determination has been made. Considering the subsurface sample results provided and down gradient location, these listings are not identified as a REC for the Property.
- Historically numerous auto repair/body shops were located adjoining east, west and south of the Property. These properties have either been redeveloped or are currently under renovation.

Non-ASTM Considerations

Hillmann also performed cursory evaluations for ASTM "Non-Scope" items, such as asbestos-containing materials (ACM), lead-based paint, radon, mold and wetlands. Our observations and research did not identify any notable concerns, except for the following:

- Considering the date of construction of the buildings, asbestos containing materials (ACM) may be present. Suspected ACM noted during a cursory visual screening included aircell pipe insulation, boiler insulation on an obsolete unit, gummy pipe wrap, sheetrock wall and ceiling systems (sheetrock and joint compound), wall plaster, suspended ceiling tiles, 9"x9" vinyl floor tiles and mastic, 12"x12" vinyl floor tiles and mastic, caulking, glazing and roofing materials (roof field, flashing, shingles) in locally damaged condition. Additional quantities of ACM may exist in enclosed areas or areas not accessed during the assessment. It is emphasized that this limited screening does not constitute a comprehensive asbestos survey of the premises and is meant only to provide a cursory evaluation regarding the potential presence of ACM at the Property.

Significant Data Gaps

No data gaps that significantly impacted Hillmann's ability to identify RECs in connection with the Property have been identified, except for inaccessible areas during the site assessment. Further inspection would be needed to rule out RECs in these areas. Hillmann was not provided access to the following tenant spaces:

- 90A New Lots Avenue occupied by Equal Rights Auto Repair due to an uncooperative tenant

- 650 Powell Street occupied by Restaurant Equipment Supply and Greater Works Prophetic Healing and Deliverance due to the tenants not being present to provide access,

Recommendations

Recognized Environmental Conditions
Based on the findings of the Phase I Environmental Site Assessment, no further investigation is recommended at this time, except for the following;

- Additional visual inspection of the inaccessible areas for evidence of RECs should be completed when feasible.
- Hillmann recommends an additional Phase II investigation including, but not necessarily limited to, a geophysical survey and soil vapor sampling.
- Hillmann recommends completing remedial investigations/remedial actions needed to close spill case no. 09-06674 with NYSDEC.
- Hillman recommends proper closure of tanks and oil water separators encountered including post-excavation soil sampling.
- Hillmann recommends proper waste characterization sampling and closure of the hydraulic elevator in the basement of the 654 Powell Street building prior to building demolition.
- Hillman recommends proper waste characterization sampling and disposal of all ASTs and drums left by tenants and remaining on the Property prior to building demolition.

Non-ASTM Considerations

The following should be considered with regard to further investigation or management of Non-ASTM considerations addressed by this report:

- Compliance with all applicable rules and regulations pertaining to asbestos is recommended including conducting pre-demolition surveys to determine appropriate handling and disposal practices.

2.9.2 Conclusions

The Phase I analysis as well as other environmental documentation – identify a variety of recognized environment conditions that are indicative of the presence of toxic constituents detected in the subsurface related to petroleum and other past industrial uses at the site. For the residential use contemplated under the proposed rezoning further Phase 2 ESI may need to be performed to determine the extent of the VOCs, SVOCs and Metals present on the Proposed Development Sites and determine what mitigation if any may be required during demolition and reconstruction at the proposed development site.

E- Designations

An E-designation would be assigned to all three Projected Development Sites. While the Applicant owned sites have applied for the NYSDEC's Brownfield Cleanup Program - as this is a voluntary program, an E-designation will be assigned to ensure that testing and mitigation will be performed as necessary, in the event that the applicant falls out of the voluntary BCP.

Task 1-Sampling Protocol

The applicant submits to OER, for review and approval, a Phase I of the site along with a soil, groundwater and soil vapor testing protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented. If site sampling is necessary, no sampling should begin until written approval of a protocol is received from OER. The number and location of samples should be selected to adequately characterize the site, specific sources 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 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 he 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 from test results, a proposed remediation plan must be submitted to 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.

A construction-related health and safety plan should be submitted to OER and would be implemented during excavation and construction activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil, groundwater and/or soil vapor. This plan would be submitted to OER prior to implementation.

With this (E) designation in place, no significant adverse impacts related to hazardous materials are expected, and no further analysis is warranted.

2.10 TRANSPORTATION

2.10.1 Introduction

The applicant proposes to construct two buildings located on Block 3861 (Projected Development Site "1") and Block 3862 (Projected Development Site "2") in Brownsville, Brooklyn.

Development Site 1 would be developed with a "C"-shaped, eight-story building on New Lots Avenue, and an eleven-story building on Hegeman Avenue. The ground floor of the building would contain retail space fronting on New Lots and Hegeman Avenues, as well as a landscaped courtyard accessible from Sackman Street. The second through eleventh stories would contain affordable residential dwelling units. Development Site 1would contain a total of 195,914 square feet of residential floor area and 21,153 square feet of retail floor area. This development would produce 216 affordable dwelling units. No accessory parking would be provided.[20] Development Site 1is presently occupied by 31,360 square feet of auto repair uses.

The proposed development on Development Site "2" would consist of a "C"-shaped building with frontage on New Lots Avenue, Sackman Street, and Hegeman Avenue. The building would contain ground floor retail on the New Lots Avenue frontage and a church on the Hegeman Avenue frontage. Residential entrances would be provided on Sackman Street and Powell Street. The portion of the building fronting on Hegeman Avenue would be eleven stories in height, and the portion fronting on New Lots Avenue would be nine stories in height. This building would contain a total of 279,594 square feet of residential floor area producing 315 affordable dwelling units, 8,400 square feet of commercial retail floor area, and a 35,928-square foot church. No accessory parking would be provided.[1] Development Site "B" is presently occupied by 35,750 square feet of auto repair uses and 1,056 square feet of retail space.

In addition to the proposed development on Sites 1 and "2," the Affected Area contains property not under the applicant's control, identified as Development Site "3." This site consists of Block 3860, Lots 1, 3, 4, 5, and 6. The eastern end of this block, consisting of Lots 5 and 6, is occupied by 12,788 square feet of manufacturing/light industrial uses: an iron fabricator, and a metal supply distribution and warehouse facility. Both uses occupy one-story buildings. The western end of the block contains two-story buildings containing 4,514 square feet of ground floor retail uses, three upper residences on Lots 3 and 4, and a 2,846-square foot church on Lot 1. Owners of these sites, that are currently underdeveloped with respect to the proposed zoning, may take advantage of the expanded floor area allowed under the proposed zoning. Thus, development of Site "3" on Block 3860 (Lots 1, 3, 4, 5, and 6) is considered likely to occur under the proposed Action.

The projected development horizon is ten years. Therefore, the future analysis year is 2027.

2.10.2 Transportation Screening

According to the *CEQR Technical Manual*[21], interrelationships between the key technical areas of the transportation system – traffic, transit, pedestrians, and parking – should be taken into account in any assessment. Furthermore, the individual technical areas should be separately assessed to determine whether a project has the potential to adversely and significantly affect a

[20] There is no accessory parking requirement for affordable housing units (defined as units affordable to households at or below 80% AMI Income Index) within a Transit Zone under Mandatory Inclusionary Housing (MIH), and commercial parking is waived if the number of required accessory spaces for the commercial use is fewer than 40.

[21] March 2014 edition.

specific area of the transportation system. The *CEQR Technical Manual* states that a preliminary trip generation assessment should be prepared to determine whether a quantified analysis of any technical areas of the transportation system is necessary. Except in unusual circumstances, a further quantified analysis would typically not be needed for a technical area if the proposed development would result in fewer than the following increments, based on a Level 1 screening assessment:

- 50 peak hour vehicle trips;
- 200 peak hour subway/rail or bus transit riders; or
- 200 peak hour pedestrian trips.

If the Level 1 trip generation thresholds identified above are exceeded, a Level 2 screening assessment is then conducted. The *CEQR Technical Manual* states that, based on the Level 2 screening assessment:

- Intersections with fewer than 50 vehicle trips during the analysis peak hour may likely be screened out, and no further analysis would be needed for those intersections;

- Bus routes with fewer than 50 bus passengers assigned to a single bus line (in one direction) would likely be screened out;

- Subway stations or subway lines with fewer than 200 passengers would likely be screened out; and

- Projected pedestrian volume increases of fewer than 200 pedestrians per hour at any sidewalk, crosswalk, or intersection corner would not typically be considered a significant impact and would not require a detailed analysis because that level of increase would not generally be perceptible.

To determine the change in trip generation associated with the proposed Action, trip generation estimates were prepared for each of the land uses proposed as part of the Action. These trip generation estimates used standard trip generation rates, temporal distributions, and other travel demand factors from the *CEQR Technical Manual* and the *East New York Rezoning Proposal EIS*, as well as modal splits and auto occupancies calculated from American Community Survey (ACS) census data for the most recent available five-year period (2010-2014, inclusive)[22]. The census data was obtained for the census tracts that included the project development sites, as well as all adjacent tracts.

Table 2.10-1 shows the estimated person-trips for the proposed Action during the weekday AM, weekday midday, weekday PM, and Saturday midday peak hours, as well as the associated transportation planning assumptions. **Table 2.10-2** shows the projected mode splits and the estimated vehicle-trips for the proposed Action during all four peak hours. **Table 2.10-3** shows the corresponding person-trip estimates for the subway, bus, and walk modes under the proposed Action during all four peak hours. It should be noted that **Tables 2.10-1 through 2.10-3** show the

[22] When this study was first completed, data from the American FactFinder census website was used – and at that time there was only 2010-2014 data available for Journey to Work. Since that time, 2011-2015 table was added. A sensitivity test was performed to account for this difference by updating the trip generation table with the latest 2011-2015 data, and discovered that the differences (both increases and decreases in trips) are no more than 3 trips, with mostly a difference of 1 to 2 trips (for both vehicles and pedestrians). Because these changes in trip generation would not be significant, especially in light of the current operational performance of the study intersections and sample character of the data – the overall study was not adjusted to account for the immaterial changes resulting from the newer data.

addition of trips associated with the proposed residential, commercial retail, and church land uses (positive trips), as well as the elimination of trips associated with the existing auto repair, church, and manufacturing/light industrial land uses (negative trips).

As shown in **Table 2.10-2**, the proposed Action is estimated to generate vehicle-trip increments as follows:

- Weekday AM peak hour: 0 vehicle-trips (-71 inbound and 71 outbound)
- Weekday midday peak hour: -8 vehicle-trips (-4 inbound and -4 outbound)
- Weekday PM peak hour: 20 vehicle-trips (45 inbound and -25 outbound)
- Saturday midday peak hour: 55 vehicle-trips (29 inbound and 26 outbound)

Based on the vehicle trip generation estimates shown in **Table 2.10-2**, only the Saturday midday peak hour (55 vehicle-trips) exceeds the Level 1 screening threshold of 50 vehicle-trips in the *CEQR Technical Manual*. However, based on an assignment of these 55 vehicle-trips to the study area roadway network in accordance with a Level 2 screening assessment, there would not be more than 50 vehicle-trips generated at any one intersection. Therefore, the proposed development is not projected to result in any significant adverse traffic impacts and no detailed assessment of the potential for traffic-related impacts as a result of the proposed Action is warranted.

Table 2.10-1: Estimated Person-Trip Generation and Transportation Planning Assumptions

Development Site 1 (Applicant Site)

Land Use	Size	No. of Dwelling Units	Weekday Daily Person-Trip Rate	Saturday Daily Person-Trip Rate	Temporal Distribution (%)				Estimated Person-Trips			
					Weekday AM	Weekday MD	Weekday PM	Saturday MD	Weekday AM	Weekday MD	Weekday PM	Saturday MD
Local Retail	21,153		205 trips per 1,000 sq. ft.	240 trips per 1,000 sq. ft.	3.0%	19.0%	10.0%	10.0%	130	824	434	508
Residential	195,914	212	8.075 trips per DU	9.6 trips per DU	10.0%	5.0%	11.0%	8.0%	171	86	188	163
Auto Repair	-31,630		19.42 trips per 1,000 sq. ft.	19.42 trips per 1,000 sq. ft.	13.2%	11.0%	14.2%	10.7%	-81	-68	-87	-66
								TOTAL PERSON-TRIPS =	220	842	535	605

Development Site 2 (Applicant Site)

Land Use	Size	No. of Dwelling Units	Weekday Daily Person-Trip Rate	Saturday Daily Person-Trip Rate	Temporal Distribution (%)				Estimated Person-Trips			
					Weekday AM	Weekday MD	Weekday PM	Saturday MD	Weekday AM	Weekday MD	Weekday PM	Saturday MD
Local Retail	7,344		205 trips per 1,000 sq. ft.	240 trips per 1,000 sq. ft.	3.0%	19.0%	10.0%	10.0%	45	286	151	176
Residential	279,594	314	8.075 trips per DU	9.6 trips per DU	10.0%	5.0%	11.0%	8.0%	254	127	279	241
Church	35,928		19.18 trips per 1,000 sq. ft.	21.83 trips per 1,000 sq. ft.	7.9%	4.0%	7.2%	15.8%	54	28	50	124
Auto Repair	-35,750		19.42 trips per 1,000 sq. ft.	19.42 trips per 1,000 sq. ft.	13.2%	11.0%	14.2%	10.7%	-92	-76	-99	-74
								TOTAL PERSON-TRIPS =	262	364	380	467

Development Site 3 (Non-Applicant Site)

Land Use	Size	No. of Dwelling Units	Weekday Daily Person-Trip Rate	Saturday Daily Person-Trip Rate	Temporal Distribution (%)				Estimated Person-Trips			
					Weekday AM	Weekday MD	Weekday PM	Saturday MD	Weekday AM	Weekday MD	Weekday PM	Saturday MD
Local Retail	12,173		205 trips per 1,000 sq. ft.	240 trips per 1,000 sq. ft.	3.0%	19.0%	10.0%	10.0%	75	474	250	292
Residential	68,602	66	8.075 trips per DU	9.6 trips per DU	10.0%	5.0%	11.0%	8.0%	53	27	59	51
Church	-2,846		19.18 trips per 1,000 sq. ft.	21.83 trips per 1,000 sq. ft.	7.9%	4.0%	7.2%	15.8%	-4	-2	-4	-10
Manufacturing (Light Industrial)	-12,788		14.7 trips per 1,000 sq. ft.	2.2 trips per 1,000 sq. ft.	13.2%	11.0%	14.2%	10.7%	-25	-21	-27	-3
								TOTAL PERSON-TRIPS =	99	478	278	330
									581	1,684	1,193	1,402

Notes:
Trip generation rates and temporal distributions for Local Retail and Residential obtained from *CEQR Technical Manual*.
Trip generation rates and temporal distributions for Church obtained from House of Worship land use in *East New York Rezoning Proposal EIS* (Table 13-9).
Trip generation rates and temporal distributions for Community Center obtained from Community Center land use in *East New York Rezoning Proposal EIS* (Table 13-9).
Trip generation rates and temporal distributions for Light Industrial and Auto Repair obtained from *East New York Rezoning Proposal EIS* (Table 13-9).
All trip values rounded to the nearest one (1) trip.

Table 2.10-2: Estimated Vehicle-Trip Generation and Mode Splits

Development Site 1 (Applicant Site)

Land Use	Size	No. of Dwelling Units	Estimated Mode Split							Estimated Total Vehicle Trips											
										Weekday AM			Weekday MD			Weekday PM			Saturday MD		
			Auto	Taxi	Sub-way	Rail-road	Bus	Walk	Total	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out
Local Retail	21,153		5.0%	1.0%	3.0%	0.0%	6.0%	85.0%	100.0%	5	3	3	30	15	15	15	8	8	18	9	9
Pass-by Trip Reduction =										*0*	*0*	*0*	*7*	*4*	*4*	*4*	*2*	*2*	*4*	*2*	*2*
Net New Trips =										5	2	2	22	11	11	11	6	6	13	7	7
Residential	195,914	212	24.6%	3.9%	51.3%	0.0%	16.6%	3.6%	100.0%	49	8	41	25	13	13	53	37	16	46	23	23
Auto Repair	-31,630		85.0%	5.0%	1.0%	0.0%	1.0%	8.0%	100.0%	-63	-40	-23	-52	-26	-26	-64	-32	-32	-48	-24	-24
TOTAL =	185,437	212								-9	-30	21	-4	-2	-2	0	11	-10	11	6	6

Development Site 2 (Applicant Site)

Land Use	Size	No. of Dwelling Units	Estimated Mode Split							Estimated Total Vehicle Trips											
										Weekday AM			Weekday MD			Weekday PM			Saturday MD		
			Auto	Taxi	Sub-way	Rail-road	Bus	Walk	Total	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out
Local Retail	7,344		5.0%	1.0%	3.0%	0.0%	6.0%	85.0%	100.0%	2	1	1	10	5	5	5	3	3	6	3	3
Pass-by Trip Reduction =										*0*	*0*	*0*	*3*	*1*	*1*	*1*	*1*	*1*	2	*1*	*1*
Net New Trips =										2	1	1	8	4	4	4	2	2	5	2	2
Residential	279,594	314	24.6%	3.9%	51.3%	0.0%	16.6%	3.6%	100.0%	73	12	61	37	19	19	78	55	24	68	34	34
Church	35,928		5.0%	1.0%	3.0%	0.0%	6.0%	85.0%	100.0%	2	1	1	1	1	1	2	1	1	6	4	2
Auto Repair	-35,750		85.0%	5.0%	1.0%	0.0%	1.0%	8.0%	100.0%	-71	-46	-26	-59	-29	-29	-72	-36	-36	-54	-27	-27
TOTAL =	287,116	314								6	-32	38	-13	-6	-6	12	22	-10	24	13	11

Development Site 3 (Non-Applicant Site)

Land Use	Size	No. of Dwelling Units	Estimated Mode Split							Estimated Total Vehicle Trips											
										Weekday AM			Weekday MD			Weekday PM			Saturday MD		
			Auto	Taxi	Sub-way	Rail-road	Bus	Walk	Total	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out
Local Retail	12,173		5.0%	1.0%	3.0%	0.0%	6.0%	85.0%	100.0%	3	1	1	17	9	9	9	4	4	10	5	5
Pass-by Trip Reduction =										*0*	*0*	*0*	*4*	*2*	*2*	*2*	*1*	*1*	*3*	*1*	*1*
Net New Trips =										3	1	1	12	6	6	7	3	3	8	4	4
Residential	68,602	66	24.6%	3.9%	51.3%	0.0%	16.6%	3.6%	100.0%	15	2	13	8	4	4	16	12	5	14	7	7
Church	-2,846		5.0%	1.0%	3.0%	0.0%	6.0%	85.0%	100.0%	0	0	0	0	0	0	0	0	0	0	0	0
Manufacturing (Light Industrial)	-12,788		63.7%	1.1%	18.0%	0.0%	7.9%	9.3%	100.0%	-15	-13	-2	-12	-6	-6	-15	-2	-13	-2	-1	-1
TOTAL =	65,141	66								3	-9	12	8	4	4	8	13	-5	20	10	10
GRAND TOTALS =	537,694	592								0	-71	71	-8	-4	-4	21	45	-25	55	29	26

Notes:
Mode Splits:
Local Retail, Church, Light Industrial, and Auto Repair modal splits based on *East New York Rezoning Proposal EIS*
Residential modal split based on American Community Survey 2010-2014 census journey-to-work data for tracts in vicinity of proposed development sites (916, 918, 920, 922, 1098 and 1132).
Light Industrial modal split based on American Community Survey 2010-2014 census reverse journey-to-work data for tracts in vicinity of project site (916, 918, 920, 922, 1098 and 1132).
Pass-by Trip Reduction:
25% pass-by/linked-trip reduction assumed for retail trips during the weekday midday, weekday PM, and Saturday midday peak hours.
Vehicle occupancy rates (Auto/Taxi):
Local Retail (2.00/2.00) based on Local Retail modal split from *East New York Rezoning Proposal EIS* (Table 13-9).
Residential (1.10/1.40) based on American Community Survey 2010-2014 census journey-to-work data for tracts in vicinity of project site (916, 918, 920, 922, 1098 and 1132).
Church (1.65/1.40) based on House of Worship from *East New York Rezoning Proposal EIS* (Table 13-9).
Manufacturing (1.20/1.20) based on Light Industrial in *East New York Rezoning Proposal EIS* (Table 13-9).
Auto Repair (1.30/1.30) based on Auto Repair in *East New York Rezoning Proposal EIS* (Table 13-9).
Directional Distributions:
Local Retail (50/50 all time periods) based on Local Retail in *East New York Rezoning Proposal EIS* (Table 13-9).
Residential (AM: 15/85, MD: 50/50, PM: 70/30, SAT: 50/50) based on Residential in *East New York Rezoning Proposal EIS* (Table 13-9).
Church (AM: 54/46, MD: 50/50, PM: 52/48, SAT: 71/29) based on House of Worship *East New York Rezoning Proposal EIS* (Table 13-9).
Manufacturing (AM: 88/12, MD: 50/50, PM: 12/88, SAT: 47/53) based on Light Industrial in *East New York Rezoning Proposal EIS* (Table 13-9).
Auto Repair (AM: 65/35), MD: 50/50, PM: 50/50, SAT: 50/50) based on Auto Repair in *East New York Rezoning Proposal EIS* (Table 13-9).
Truck Trip Generation Rates, Temporal Distributions, and Directional Distributions:
Local Retail and Residential from *CEQR Technical Manual*.
Church, Manufacturing (Light Industrial) and Auto Repair based on *East New York Rezoning Proposal EIS* (Table 13-9).

All trip values rounded to the nearest one (1) trip.

Table 2.10-3: Estimated Trip Generation for Subway, Bus and Walk Modes

Development Site 1 (Applicant Site)

Land Use	Weekday AM									Weekday Midday									Weekday PM									Saturday Midday								
	Subway			Bus			Walk			Subway			Bus			Walk			Subway			Bus			Walk			Subway			Bus			Walk		
	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out
Local Retail	4	2	2	8	4	4	111	55	55	25	12	12	49	25	25	700	350	350	13	7	7	26	13	13	369	184	184	15	8	8	30	15	15	432	216	216
Residential	88	13	75	28	4	24	6	1	5	44	22	22	14	7	7	3	2	2	97	68	29	31	22	9	7	5	2	84	42	42	27	14	14	6	3	3
Auto Repair	-1	-1	0	-1	-1	0	-6	-4	-2	-1	0	0	-1	0	0	-5	-3	-3	-1	0	0	-1	0	0	-7	-3	-3	-1	0	0	-1	0	0	-5	-3	-3
TOTAL =	91	15	76	35	8	28	110	52	58	68	34	34	63	31	31	698	349	349	109	74	35	56	34	22	368	186	183	98	49	49	57	28	28	432	216	216
	Total AM Pedestrian Trips = 237									Total Midday Pedestrian Trips = 829									Total PM Pedestrian Trips = 534									Total Saturday Pedestrian Trips = 587								

Development Site 2 (Applicant Site)

Land Use	Weekday AM									Weekday Midday									Weekday PM									Saturday Midday								
	Subway			Bus			Walk			Subway			Bus			Walk			Subway			Bus			Walk			Subway			Bus			Walk		
	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out
Local Retail	1	1	1	3	1	1	38	19	19	9	4	4	17	9	9	243	122	122	5	2	2	9	5	5	128	64	64	5	3	3	11	5	5	150	75	75
Residential	130	20	111	42	6	36	9	1	8	65	33	33	21	11	11	5	2	2	143	100	43	46	32	14	10	7	3	124	62	62	40	20	20	9	4	4
Church	2	1	1	3	2	2	46	25	21	1	0	0	2	1	1	23	12	12	1	1	1	3	2	1	42	22	20	4	3	1	7	5	2	105	75	31
Auto Repair	-1	-1	0	-1	-1	0	-7	-5	-3	-1	0	0	-1	0	0	-6	-3	-3	-1	0	0	-1	0	0	-8	-4	-4	-1	0	0	-1	0	0	-6	-3	-3
TOTAL =	132	20	112	47	9	38	86	41	46	74	37	37	39	20	20	265	133	133	148	103	45	57	38	19	172	89	83	132	67	65	57	30	27	258	151	107
	Total AM Pedestrian Trips = 266									Total Midday Pedestrian Trips = 378									Total PM Pedestrian Trips = 378									Total Saturday Pedestrian Trips = 447								

Development Site 3 (Non-Applicant Site)

Land Use	Weekday AM									Weekday Midday									Weekday PM									Saturday Midday								
	Subway			Bus			Walk			Subway			Bus			Walk			Subway			Bus			Walk			Subway			Bus			Walk		
	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out
Local Retail	2	1	1	4	2	2	64	32	32	14	7	7	28	14	14	403	202	202	7	4	4	15	7	7	212	106	106	9	4	4	18	9	9	248	124	124
Residential	27	4	23	9	1	8	2	0	2	14	7	7	4	2	2	1	0	0	30	21	9	10	7	3	2	1	1	26	13	13	8	4	4	2	1	1
Church	0	0	0	0	0	0	-4	-2	-2	0	0	0	0	0	0	-2	-1	-1	0	0	0	0	0	0	-3	-2	-2	0	0	0	-1	0	0	-8	-6	-2
Manufacturing (Light Industrial)	-4	-4	-1	-2	-2	0	-2	-2	0	-4	-2	-2	-2	-1	-1	-2	-1	-1	-5	-1	-4	-2	0	-2	-2	0	-2	-1	0	0	0	0	0	0	0	0
TOTAL =	25	1	24	11	2	9	60	28	31	24	12	12	31	16	16	400	200	200	33	24	8	22	14	8	208	105	103	34	17	17	25	12	13	242	119	123
	Total AM Pedestrian Trips = 96									Total Midday Pedestrian Trips = 455									Total PM Pedestrian Trips = 263									Total Saturday Pedestrian Trips = 301								

GRAND TOTAL = 248 36 212 94 18 75 256 121 135 166 83 83 133 67 67 1,363 682 682 289 201 89 136 86 50 749 380 369 264 133 131 139 71 68 932 486 445

Grand Total AM Pedestrian Trips = 598 Grand Total Midday Pedestrian Trips = 1,662 Grand Total PM Pedestrian Trips = 1,175 Grand Total Saturday Pedestrian Trips = 1,335

Directional Distributions:

Local Retail (50/50 all time periods) based on Local Retail in *East New York Rezoning Proposal EIS* (Table 13-9).
Residential (AM: 15/85, MD: 50/50, PM: 70/30, SAT: 50/50) based on Residential in *East New York Rezoning Proposal EIS* (Table 13-9).
Church (AM: 54/46, MD: 50/50, PM: 52/48, SAT: 71/29) based on House of Worship *East New York Rezoning Proposal EIS* (Table 13-9).
Manufacturing (AM: 88/12, MD: 50/50, PM: 12/88, SAT: 47/53) based on Light Industrial in *East New York Rezoning Proposal EIS* (Table 13-9).
Auto Repair (AM: 65/35), MD: 50/50, PM: 50/50, SAT: 50/50) based on Auto Repair in *East New York Rezoning Proposal EIS* (Table 13-9).

All trip values rounded to the nearest one (1) trip.

As shown in **Table 2.10-3**, the proposed Action (i.e., the grand total of all three development sites) would generate fewer than 200 new subway trips during the weekday midday peak hour (166 trips), and more than 200 new subway trips during the weekday AM peak hour (248 trips), weekday PM peak hour (289 trips), and Saturday midday peak hour (264 trips). However, because these total numbers of subway trips are projected to be distributed approximately equally to both the New Lots Avenue and Junius Street subway stations, neither station is projected to see an increase of more than 200 trips. Therefore, the proposed development is not projected to result in any significant adverse subway impacts at either station, and no detailed assessment of the potential for subway-related impacts as a result of the proposed Action is warranted.

Table 2.10-3 also summarizes the resulting numbers of new public bus trips expected to be generated by the project during the weekday AM, weekday midday, weekday PM, and Saturday midday peak hours with the proposed project. As shown in **Table 2.10-3,** the proposed project would generate fewer than 200 new bus trips during all four peak hours. Therefore, the proposed development is not projected to result in any significant adverse public bus impacts, and no detailed assessment of the potential for bus-related impacts as a result of the proposed Action is warranted.

As shown in **Table 2.10-3**, the proposed project is projected to generate more than 200 combined new pedestrian trips (i.e., the combined total of subway, bus, and walk trips) during the weekday AM, weekday midday, weekday PM, and Saturday midday peak hours (i.e., 598 trips, 1,662 trips,

1,175 trips, and 1,335 trips, respectively). Because the proposed Action is projected to generate a significantly higher number of trips during the weekday midday peak hour (1,662 trips) than during the Saturday midday peak hour (1,335 trips), the weekday midday peak hour is assumed to represent a reasonable worst-case scenario for midday hours. Therefore, the Saturday midday peak hour was eliminated from further detailed analysis and the detailed pedestrian analyses focus on operations during the weekday AM, midday, and PM peak hours under existing conditions, Future No-Action conditions, and Future With-Action conditions.

2.10.3 Pedestrian Analysis

Existing Pedestrian Conditions

Study Intersections and Data Collection

As shown in **Figure 2.10-1**, the following six (6) intersections were identified as the key pedestrian study locations based on their proximity to the proposed rezoning sites and the likelihood that they will experience increased concentrations of more than 200 pedestrian trips on any one pedestrian element as a result of the proposed Action:

- Powell Street/New Lots Avenue
- Sackman Street/New Lots Avenue
- Christopher Avenue/New Lots Avenue
- Powell Street/Hegeman Avenue
- Sackman Street/Hegeman Avenue
- Christopher Avenue/Hegeman Avenue

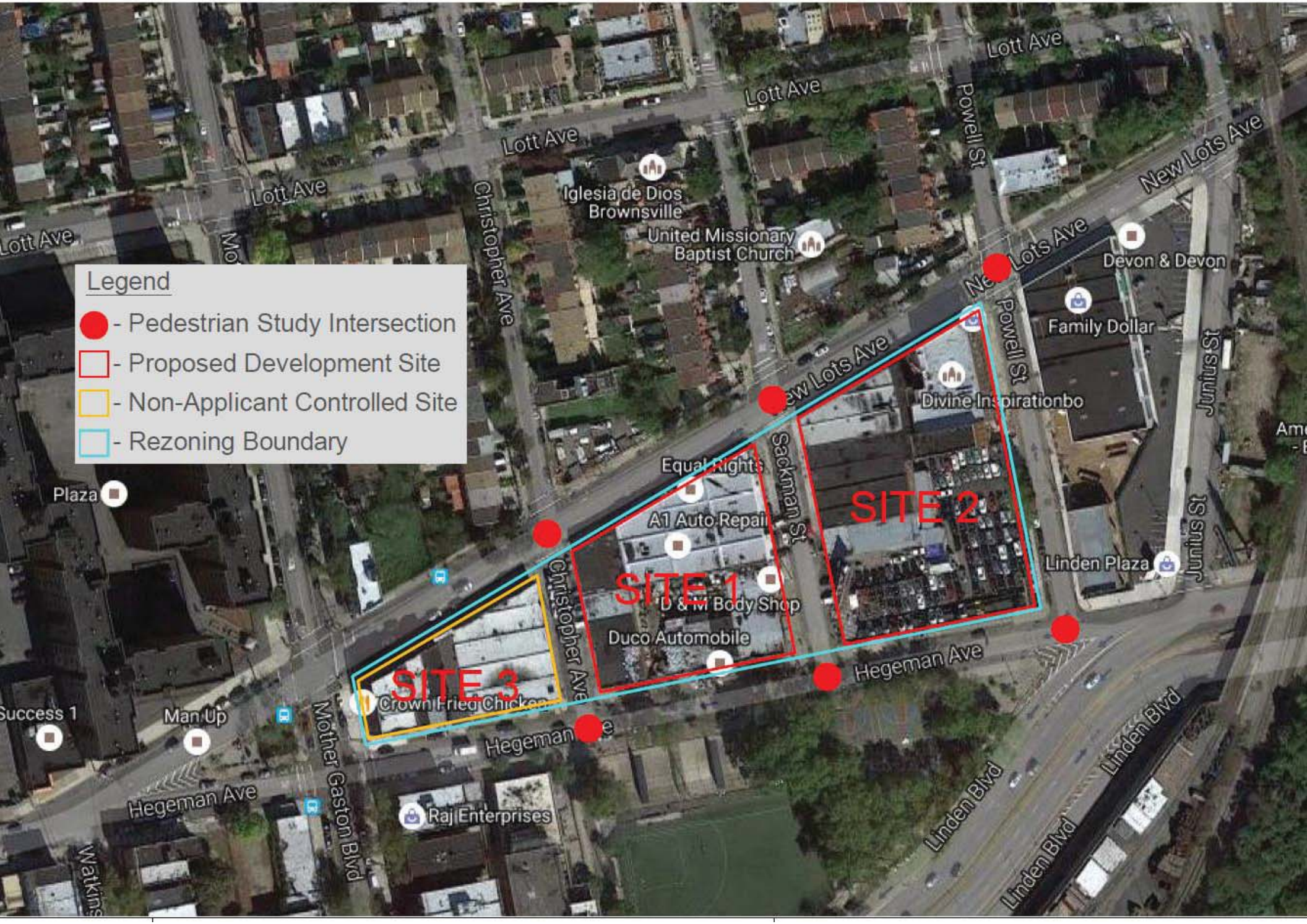
Field counts of pedestrian volumes on all sidewalks, crosswalks, and corners at all of the study intersections were conducted in October 2016 during the weekday AM (7:00 to 9:00 AM), midday (12:00 to 2:00 PM), and PM (4:00 to 6:00 PM) peak periods. Based on these two-hour peak period counts, the weekday AM, midday, and PM peak hours for pedestrian activity in the study area were determined. **Figures 2.10-2, 2.10-3 and 2.10-4** show the resulting pedestrian volumes calculated during the weekday AM (7:15 to 8:15 AM), midday (12:15 to 1:15 PM), and PM (4:30 to 5:30 PM) peak hours, respectively. In addition, counts of the vehicles making conflicting turning movements through each of the crosswalks during each of these three analysis peak hours were also obtained.

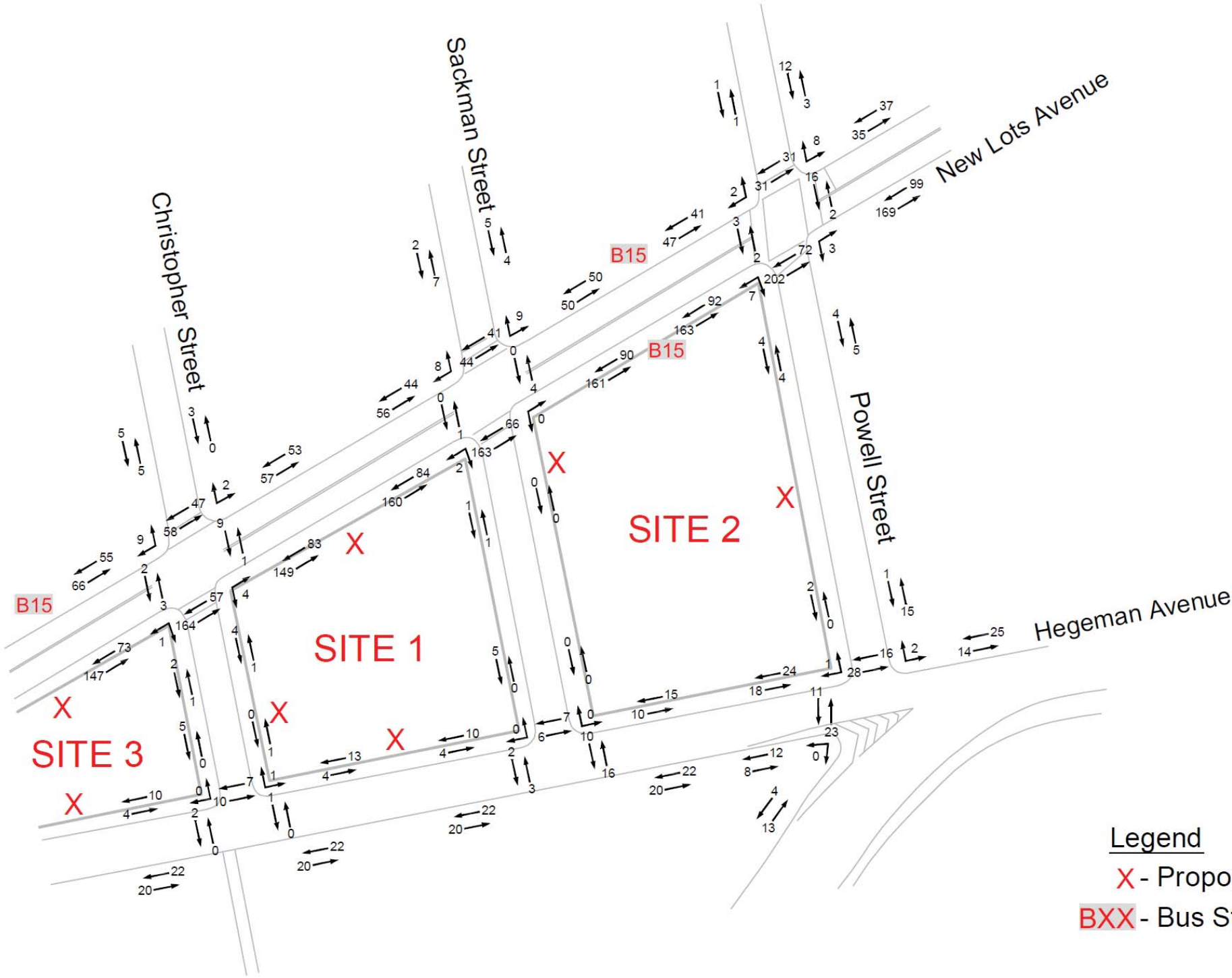
The physical characteristics of all pedestrian elements at each study intersection were inventoried in the field. This inventory specifically included:

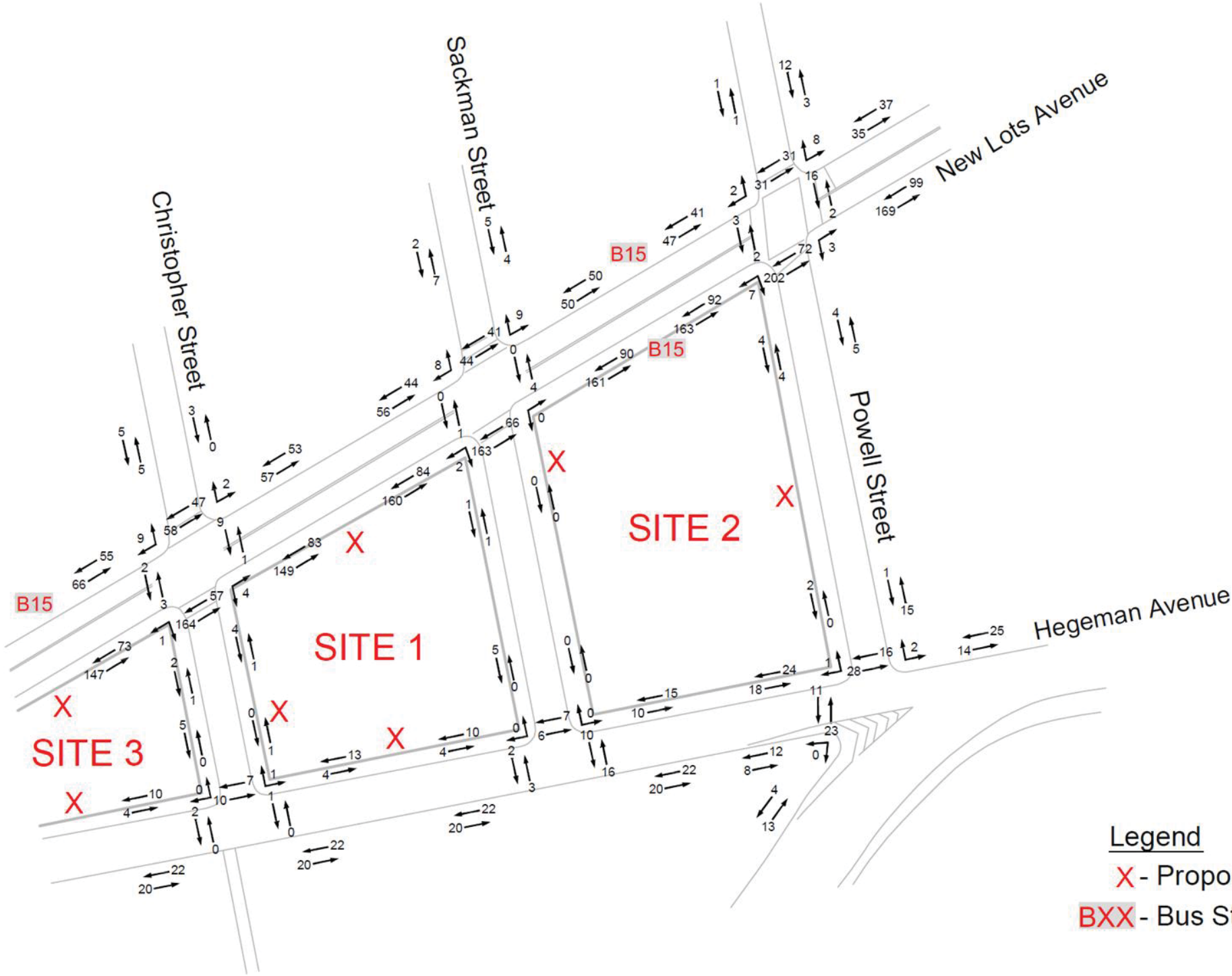
- Crosswalk locations, types (standard crosswalks or high-visibility crosswalks), widths, and lengths;
- Sidewalk locations and widths;
- Curb return radii; and
- Locations and dimensions of street appurtenances along the sidewalks and on corners (which constitute obstacles to the unimpeded flow of pedestrians).

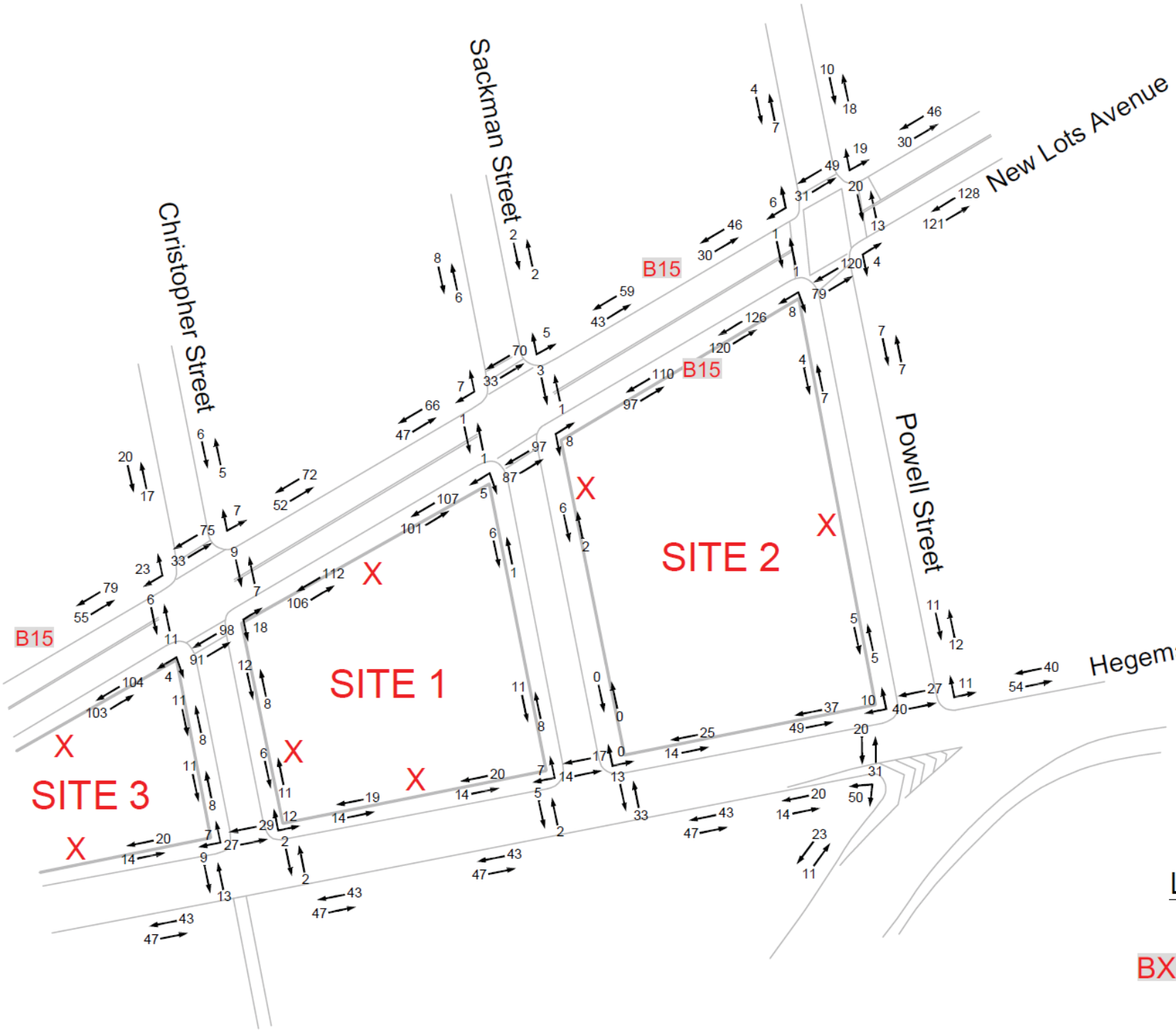
The official traffic signal timing plan for the Powell Street/New Lots Avenue intersection was obtained from the New York City Department of Transportation (NYCDOT) and used in the analysis.

Based on the observed pedestrian volumes, crosswalk, sidewalk, and street corner level-of-service (LOS) analyses were conducted at the signalized intersection of Powell Street/New Lots Avenue. At the other five stop-controlled intersections, only the crosswalk and sidewalk LOS analyses were conducted, because pedestrians always have the right-of-way when crossing stop-controlled approaches, resulting in no pedestrian delays on street corners. All pedestrian LOS analyses were conducted for the weekday AM, midday, and PM peak hours for pedestrian activity under existing conditions, Future No-Action conditions, and Future With-Action conditions.


Legend
- Pedestrian Study Intersection
- Proposed Development Site
- Non-Applicant Controlled Site
- Rezoning Boundary
SITE 1
SITE 2
SITE 3
Lott Ave
Christopher Ave
Iglesia de Dios Brownsville
United Missionary Baptist Church
Powell St
New Lots Ave
Devon & Devon
Family Dollar
Junius St
Sackman St
Divine Inspirationbo
Equal Rights
A1 Auto Repair
D & M Body Shop
Duco Automobile
Linden Plaza
Hegeman Ave
Crown Fried Chicken
Mother Gaston Blvd
Linden Blvd
Raj Enterprises
Man Up
Success 1
Plaza


Sackman Street
Christopher Street
New Lots Avenue
Powell Street
Hegeman Avenue
B15
B15
B15
SITE 1
SITE 2
SITE 3
X
X
X
X
X
X
Legend
X - Propo
BXX - Bus S


Sackman Street
Christopher Street
New Lots Avenue
Powell Street
Hegeman Avenue
B15
B15
B15
SITE 1
SITE 2
SITE 3
X
X
X
X
X
X
Legend
X - Propo
BXX - Bus S


Sackman Street
Christopher Street
New Lots Avenue
Powell Street
Hegeman Avenue
B15
B15
B15
SITE 1
SITE 2
SITE 3
X
X
X
X
X
X
Legend
X - Propo
BXX - Bus S

Analysis Methodology

The analysis of pedestrian flow involves quantifying the comfort level for pedestrians walking along the sidewalks, waiting to cross the street at intersection corners, and crossing intersection crosswalks. The LOS for these elements is calculated using the physical and operational parameters at the intersection including the pedestrian flow rates, the lengths and widths (i.e., area) of the crosswalks, the effective widths of the sidewalks, the area of each street corner, conflicting vehicular traffic volumes that turn through the crosswalks, and the signal timing at the intersection. Crosswalk, street corner, and sidewalk operations were analyzed using the methodologies described in the *CEQR Technical Manual* and were conducted using NYCDOT's pedestrian analysis Excel spreadsheet.

The crosswalk and street corner LOS methodologies are based on pedestrian density, as expressed in units of "square feet of space per pedestrian" (feet^2/ped), during the peak 15-minute period of the peak hour. A pedestrian walking speed of 3.0 feet/second is indicated on NYCDOT's official traffic signal timing sheet for the Powell Street/New Lots Avenue intersection and was used in the analysis. The LOS ranges for crosswalks and street corners are as shown below in **Table 2.10-4**.

Table 2.10-4: LOS Criteria for Crosswalks and Street Corners

LOS	Square Feet of Space per Pedestrian (feet^2/ped)
A	> 60
B	> 40 to 60
C	> 24 to 40
D	> 15 to 24
E	> 8 to 15
F	≤ 8

Source: Adapted from March 2014 *CEQR Technical Manual*, Table 16-10, page 16-48.

The LOS methodology for sidewalks is also based on pedestrian density, as expressed in units of "square feet of space per pedestrian" (feet^2/ped), during the peak 15-minute period of the peak hour. The LOS ranges for sidewalks under platoon flow conditions are as shown below in **Table 2.10-5.**

Table 2.10-5: LOS Criteria for Sidewalks under Platoon Flow Conditions

LOS	Square Feet of Space per Pedestrian (feet^2/ped)
A	> 530
B	> 90 to 530
C	> 40 to 90
D	> 23 to 40
E	> 11 to 23
F	≤ 11

Source: Adapted from March 2014 *CEQR Technical Manual*, Table 16-9, page 16-47.

Existing Levels-of-Service

The pedestrian LOS analyses for existing conditions are based on peak 15-minute pedestrian flows observed during the weekday AM, midday, and PM peak hours. **Tables 2.10-6, 2.10-7 and**

2.10-8 summarize the results of the existing conditions pedestrian LOS analyses for crosswalks, street corners, and sidewalks, respectively. As shown in **Tables 2.10-6 through 2.10-8**, all crosswalks, street corners, and sidewalks currently operate at LOS "B" or better during the weekday AM, midday, and PM peak hours. These conditions reflect the relatively low pedestrian volumes that currently exist at these six intersections and the relative freedom of movement that pedestrian experience when walking through these intersections.

Table 2.9-6: Year 2016 Existing Conditions Pedestrian Crosswalk Analyses

Intersection	Peak Hour	Crosswalk	Crosswalk Length (Feet - approx.)	Crosswalk Width (Feet - approx.)	Pedestrian Operations	
					feet^2/ped	LOS
Powell Street/ New Lots Avenue	Weekday AM	North	31.9	12.6	601.0	A
		East	42.8	13.3	1,135.3	A
		South	32.6	14.2	174.6	A
		West	43.3	13.0	1,321.2	A
	Weekday Midday	North	31.9	12.6	1,004.9	A
		East	42.8	13.3	3,412.5	A
		South	32.6	14.2	568.8	A
		West	43.3	13.0	2,234.7	A
	Weekday PM	North	31.9	12.6	425.2	A
		East	42.8	13.3	349.1	A
		South	32.6	14.2	204.1	A
		West	43.3	13.0	3,291.4	A
Sackman Street/ New Lots Avenue	Weekday AM	North	36.0	10.3	797.8	A
		South	31.8	10.6	303.4	A
	Weekday Midday	North	36.0	10.3	1,358.0	A
		South	31.8	10.6	704.3	A
	Weekday PM	North	36.0	10.3	642.5	A
		South	31.8	10.6	400.3	A
Christopher Avenue/ New Lots Avenue	Weekday AM	North	31.7	12.9	903.7	A
		South	31.7	10.1	324.8	A
	Weekday Midday	North	31.7	12.9	1,499.7	A
		South	31.7	10.1	892.5	A
	Weekday PM	North	31.7	12.9	746.9	A
		South	31.7	10.1	328.8	A
Powell Street/ Hegeman Avenue	Weekday AM	North	29.7	10.0	1,245.5	A
	Weekday Midday	North	29.7	10.0	1,400.8	A
	Weekday PM	North	29.7	10.0	654.3	A
Sackman Street/ Hegeman Avenue	Weekday AM	North	29.8	13.8	5,010.1	A
	Weekday Midday	North	29.8	13.8	4,323.3	A
	Weekday PM	North	29.8	13.8	2,145.8	A
Christopher Avenue/ Hegeman Avenue	Weekday AM	North	29.7	14.7	2,697.3	A
	Weekday Midday	North	29.7	14.7	3,872.5	A
	Weekday PM	North	29.7	14.7	1,440.0	A

Table 2.10-7: Year 2016 Existing Conditions Pedestrian Corner Analyses

Intersection	Peak Hour	Corner	Pedestrian Operations	
			feet^2/ped	LOS
Powell Street/ New Lots Avenue	Weekday AM	Northwest	447.3	A
		Northeast	365.9	A
		Southwest	343.8	A
		Southeast	429.9	A
	Weekday Midday	Northwest	757.9	A
		Northeast	641.2	A
		Southwest	1,035.6	A
		Southeast	1,264.7	A
	Weekday PM	Northwest	373.3	A
		Northeast	198.2	A
		Southwest	413.5	A
		Southeast	414.2	A

Table 2.10-8: Year 2016 Existing Conditions Pedestrian Sidewalk Analyses

Intersection	Peak Hour	Corner	Sidewalk	Pedestrian Operations	
				feet^2/ped	LOS
Powell Street/ New Lots Avenue	Weekday AM	NE	N-S	2,340.0	A
			E-W	552.0	A
		SE	N-S	4,725.0	A
			E-W	294.4	B
		SW	N-S	6,934.5	A
			E-W	357.3	B
		NW	N-S	3,487.5	A
			E-W	352.8	B
	Weekday Midday	NE	N-S	5,896.8	A
			E-W	768.0	A
		SE	N-S	5,859.0	A
			E-W	635.7	A
		SW	N-S	4,140.0	A
			E-W	701.6	A
		NW	N-S	2,301.7	A
			E-W	513.0	B
	Weekday PM	NE	N-S	1,454.1	A
			E-W	515.3	B
		SE	N-S	2,565.0	A
			E-W	340.9	B
		SW	N-S	5,645.5	A
			E-W	411.5	B
		NW	N-S	1,902.3	A
			E-W	402.6	B

Table 2.10-8: Year 2016 Existing Conditions Pedestrian Sidewalk Analyses (continued)

Intersection	Peak Hour	Corner	Sidewalk	Pedestrian Operations	
				feet^2/ped	LOS
Sackman Street/ New Lots Avenue	Weekday AM	NE	N-S	2,925.0	A
			E-W	333.8	B
		SE	N-S	20,025.0	A
			E-W	400.5	B
		SW	N-S	14,512.5	A
			E-W	577.4	A
		NW	N-S	660.0	A
			E-W	378.7	B
	Weekday Midday	NE	N-S	1.485.0	A
			E-W	502.5	B
		SE	N-S	20,025.0	A
			E-W	1,000.3	A
		SW	N-S	14,512.5	A
			E-W	1,495.8	A
		NW	N-S	2,250.0	A
			E-W	661.0	A
	Weekday PM	NE	N-S	4,826.2	A
			E-W	397.4	B
		SE	N-S	7,008.7	A
			E-W	511.3	B
		SW	N-S	8,292.9	A
			E-W	739.8	A
		NW	N-S	771.4	A
			E-W	408.0	B
Christopher Avenue/ New Lots Avenue	Weekday AM	NE	N-S	12,600.0	A
			E-W	320.8	B
		SE	N-S	8,425.8	A
			E-W	409.6	B
		SW	N-S	9,576.0	A
			E-W	453.5	B
		NW	N-S	2,700.0	A
			E-W	331.3	B
	Weekday Midday	NE	N-S	4,233.6	A
			E-W	606.3	A
		SE	N-S	8607.0	A
			E-W	1,188.0	A
		SW	N-S	2,079.0	A
			E-W	1,361.6	A
		NW	N-S	2,700.0	A
			E-W	501.7	B
	Weekday PM	NE	N-S	2,061.8	A
			E-W	300.0	B
		SE	N-S	4,144.9	A
			E-W	441.4	B
		SW	N-S	2,665.9	A
			E-W	532.1	A
		NW	N-S	948.6	A
			E-W	295.4	B

Table 2.10-8: Year 2016 Existing Conditions Pedestrian Sidewalk Analyses (continued)

Intersection	Peak Hour	Corner	Sidewalk	Pedestrian Operations	
				feet²/ped	LOS
Powell Street/ Hegeman Avenue	Weekday AM	NE	N-S	4,335.7	A
			E-W	1,480.8	A
		SW	N-S	1,702.6	A
			E-W	2,047.5	A
		NW	N-S	6,750.0	A
			E-W	3,666.4	A
	Weekday Midday	NE	N-S	6,172.4	A
			E-W	2,981.8	A
		SW	N-S	2,160.0	A
			E-W	4,095.0	A
		NW	N-S	2,700.0	A
			E-W	6,525.0	A
	Weekday PM	NE	N-S	2,181.9	A
			E-W	578.7	A
		SW	N-S	686.1	A
			E-W	1,348.9	A
		NW	N-S	2,160.0	A
			E-W	1,517.4	A
Sackman Street/ Hegeman Avenue	Weekday AM	NE	N-S	NA	NA
			E-W	1,474.5	A
		SE	E-W	1,377.0	A
		SW	E-W	1,377.0	A
		NW	N-S	10,099.8	A
			E-W	4,111.7	A
	Weekday Midday	NE	N-S	NA	NA
			E-W	2,038.1	A
		SE	E-W	1,947.3	A
		SW	E-W	1,947.3	A
		NW	N-S	10,181.2	A
			E-W	5,850.0	A
	Weekday PM	NE	N-S	NA	NA
			E-W	679.3	A
		SE	E-W	663.0	A
		SW	E-W	663.0	A
		NW	N-S	5,744.4	A
			E-W	2,477.6	A

Table 2.10-8: Year 2016 Existing Conditions Pedestrian Sidewalk Analyses (continued)

Intersection	Peak Hour	Corner	Sidewalk	Pedestrian Operations	
				feet²/ped	LOS
Christopher Avenue / Hegeman Avenue	Weekday AM	NE	N-S	32,175.0	A
			E-W	1,402.9	A
		SE	E-W	1,836.0	A
		SW	E-W	1,836.0	A
		NW	N-S	6,528.6	A
			E-W	1,370.6	A
	Weekday Midday	NE	N-S	4,611.7	A
			E-W	1,487.1	A
		SE	E-W	2,596.4	A
		SW	E-W	2,596.4	A
		NW	N-S	6,581.2	A
			E-W	1,950.0	A
	Weekday PM	NE	N-S	4,390.9	A
			E-W	925.1	A
		SE	E-W	884.0	A
		SW	E-W	884.0	A
		NW	N-S	3,713.2	A
			E-W	825.9	A

Future No-Action Pedestrian Conditions

Pedestrian activity in the study area was projected for the Future No-Action condition using existing pedestrian volumes as the baseline. The projected Future No-Action pedestrian volumes include background growth in pedestrian activity that is expected to occur throughout the study area between 2016 and 2027 (i.e., a compounded growth rate of 4.07 percent between 2016 and 2027 for "Other Brooklyn," as per the *CEQR Technical Manual*). Based on discussions with the NYCDOT Traffic Planning staff and staff at the New York City Department of City Planning (NYCDCP), there are no known development projects of significant size and proximity to the six study intersections that warrant an increase in background pedestrian volumes beyond that associated with the aforementioned growth factor.

Therefore, to arrive at the total Future No-Action condition pedestrian volumes for the weekday AM, midday, and PM peak hours—shown in **Figures 2.10-5, 6, and 7**, respectively—the existing baseline pedestrian volumes were increased by the 4.07 percent growth factor, to reflect future pedestrian growth from 2016 to the future analysis year of 2027. In addition, the conflicting traffic volumes through the crosswalks were also increased by 4.07 percent to reflect background vehicular traffic growth between 2016 and 2027.

Future No-Action Levels-of-Service

The crosswalk, corner, and sidewalk LOS analyses at the six study intersections were then repeated for each of the three weekday analysis peak hours using the projected Future No-Action condition pedestrian volumes. **Tables 2.10-9, 2.10-10** and **2.10-11** summarize the results of the Future No-Action conditions pedestrian LOS analyses for crosswalks, corners, and sidewalks, respectively. As shown in **Tables 2.10-9 through 2.10-11**, all crosswalks, corners and sidewalks are projected to continue to operate at LOS "B" or better during the weekday AM, midday, and PM peak hours.

Figure 21-6: Year 2019 No-Action Conditions Pedestrian Volumes, Weekday AM Peak Hour

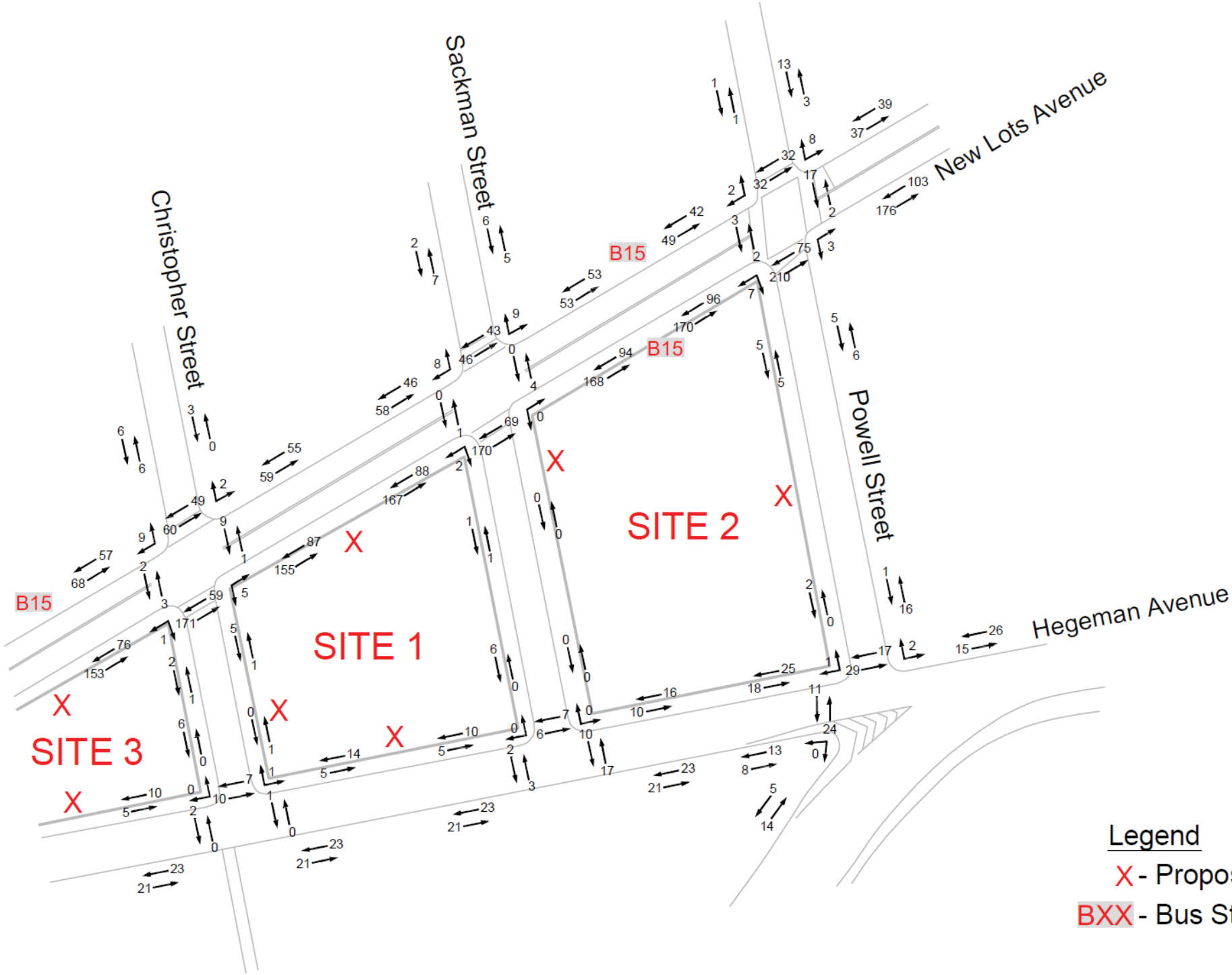


Figure 21-6: Year 2019 No-Action Conditions Pedestrian Volumes, Weekday Midday Peak Hour

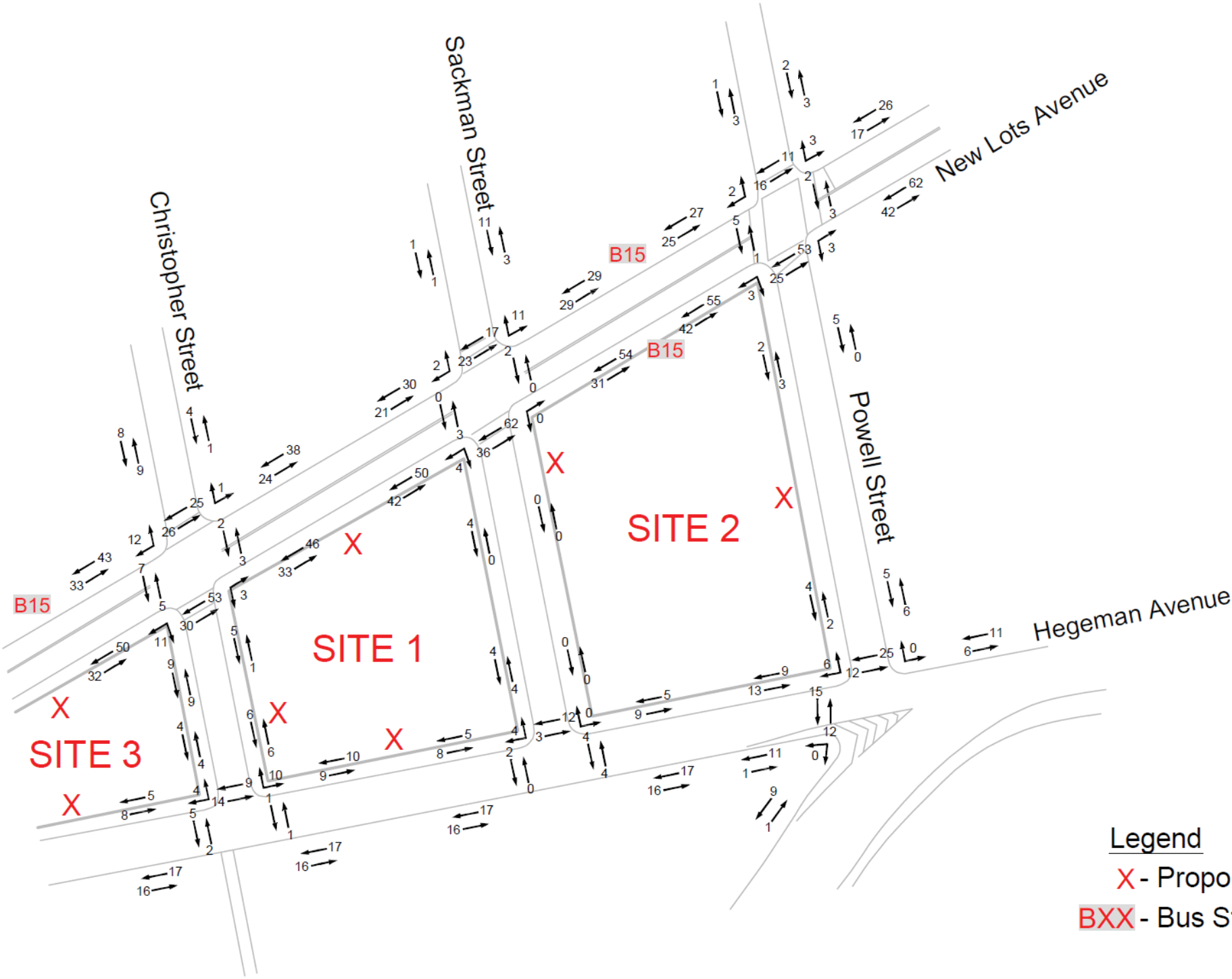


Figure 210-7: Year 2019 No-Action Conditions Pedestrian Volumes, Weekday PM Peak Hour

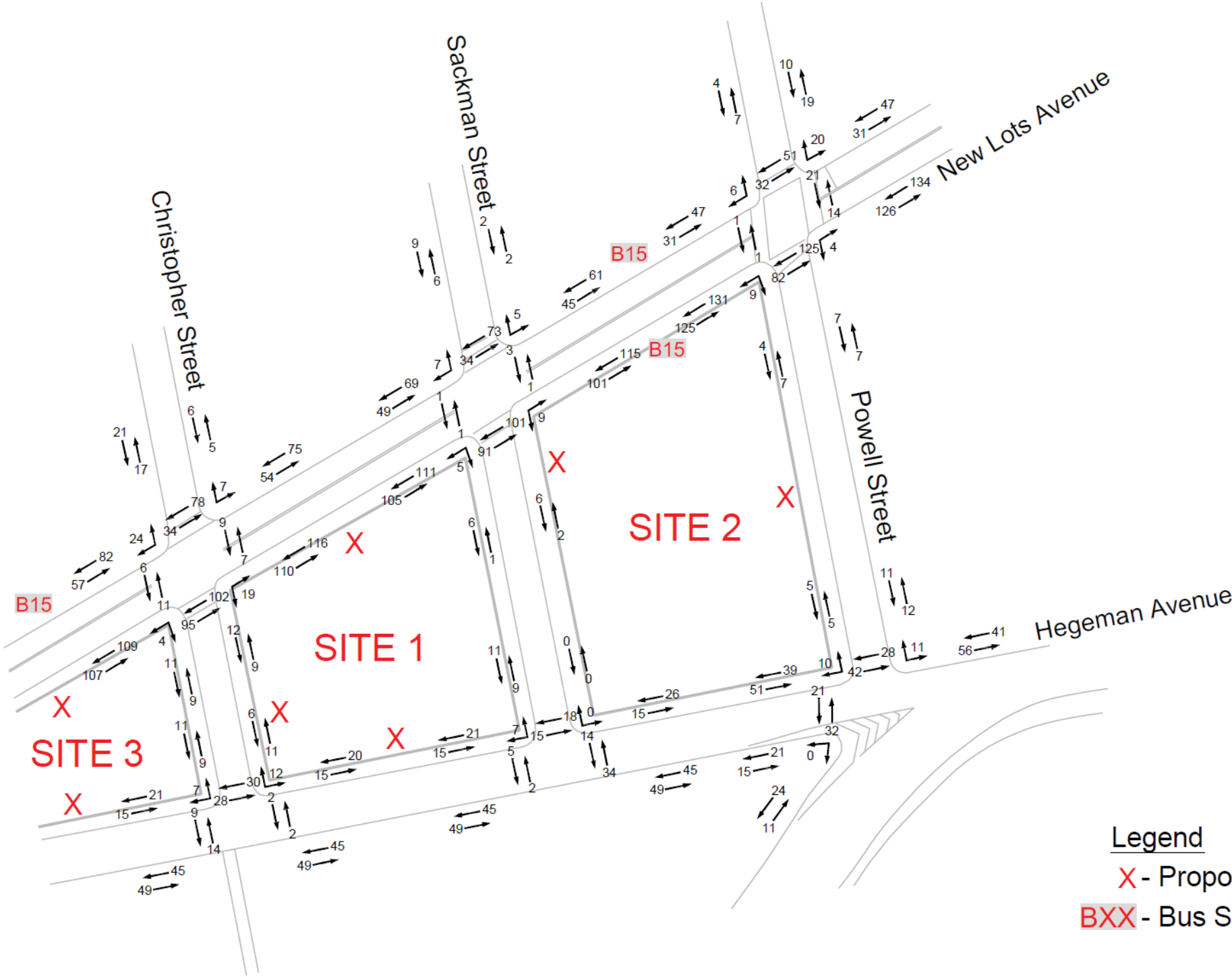


Table 2.10-9: Year 2019 No-Action Conditions Pedestrian Crosswalk Analyses

Intersection	Peak Hour	Crosswalk	Crosswalk Length (Feet - approx.)	Crosswalk Width (Feet - approx.)	Pedestrian Operations	
					feet^2/ped	LOS
Powell Street/ New Lots Avenue	Weekday AM	North	31.9	12.6	508.8	A
		East	42.8	13.3	1,078.9	A
		South	32.6	14.2	167.7	A
		West	43.3	13.0	1,321.2	A
	Weekday Midday	North	31.9	12.6	965.8	A
		East	42.8	13.3	3,412.5	A
		South	32.6	14.2	546.8	A
		West	43.3	13.0	2,234.7	A
	Weekday PM	North	31.9	12.6	409.0	A
		East	42.8	13.3	329.3	A
		South	32.6	14.2	196.2	A
		West	43.3	13.0	3,287.7	A
Sackman Street/ New Lots Avenue	Weekday AM	North	36.0	10.3	762.1	A
		South	31.8	10.6	290.8	A
	Weekday Midday	North	36.0	10.3	1,289.1	A
		South	31.8	10.6	682.4	A
	Weekday PM	North	36.0	10.3	618.5	A
		South	31.8	10.6	383.5	A
Christopher Avenue/ New Lots Avenue	Weekday AM	North	31.7	12.9	870.1	A
		South	31.7	10.1	312.1	A
	Weekday Midday	North	31.7	12.9	1,440.2	A
		South	31.7	10.1	860.6	A
	Weekday PM	North	31.7	12.9	719.8	A
		South	31.7	10.1	315.5	A
Powell Street/ Hegeman Avenue	Weekday AM	North	29.7	10.0	1,188.3	A
	Weekday Midday	North	29.7	10.0	1,364.7	A
	Weekday PM	North	29.7	10.0	625.6	A
Sackman Street/ Hegeman Avenue	Weekday AM	North	29.8	13.8	5,010.1	A
	Weekday Midday	North	29.8	13.8	4,323.3	A
	Weekday PM	North	29.8	13.8	2,016.3	A
Christopher Avenue/ Hegeman Avenue	Weekday AM	North	29.7	14.7	2,688.0	A
	Weekday Midday	North	29.7	14.7	3,690.9	A
	Weekday PM	North	29.7	14.7	1,391.0	A

Table 2.10-10: Year 2019 No-Action Conditions Pedestrian Corner Analyses

Intersection	Peak Hour	Corner	Pedestrian Operations	
			feet^2/ped	LOS
Powell Street/ New Lots Avenue	Weekday AM	Northwest	436.8	A
		Northeast	354.0	A
		Southwest	331.5	A
		Southeast	413.2	A
	Weekday Midday	Northwest	736.2	A
		Northeast	642.2	A
		Southwest	1,002.1	A
		Southeast	1,223.8	A
	Weekday PM	Northwest	361.7	A
		Northeast	189.0	A
		Southwest	396.4	A
		Southeast	397.0	A

Table 2.10-11: Year 2019 No-Action Conditions Pedestrian Sidewalk Analyses

Intersection	Peak Hour	Corner	Sidewalk	Pedestrian Operations	
				feet^2/ped	LOS
Powell Street/ New Lots Avenue	Weekday AM	NE	N-S	2,193.7	A
			E-W	522.9	B
		SE	N-S	3,865.9	A
			E-W	282.8	B
		SW	N-S	5,547.6	A
			E-W	342.5	B
		NW	N-S	3,487.5	A
			E-W	341.1	B
	Weekday Midday	NE	N-S	5,896.8	A
			E-W	750.1	A
		SE	N-S	5,859.0	A
			E-W	605.1	A
		SW	N-S	4,140.0	A
			E-W	672.6	A
		NW	N-S	2,301.7	A
			E-W	493.2	B
	Weekday PM	NE	N-S	1,404.0	A
			E-W	502.1	B
		SE	N-S	2,565.0	A
			E-W	326.5	B
		SW	N-S	5,645.5	A
			E-W	395.4	B
		NW	N-S	1,902.3	A
			E-W	392.2	B

Table 2.10-11: Year 2019 No-Action Conditions Pedestrian Sidewalk Analyses (continued)

Intersection	Peak Hour	Corner	Sidewalk	Pedestrian Operations	
				feet^2/ped	LOS
Sackman Street/ New Lots Avenue	Weekday AM	NE	N-S	2,393.2	A
			E-W	314.9	B
		SE	N-S	-	A
			E-W	383.7	B
		SW	N-S	1,4512.5	A
			E-W	552.5	A
		NW	N-S	660.0	A
			E-W	364.2	B
	Weekday Midday	NE	N-S	1,378.9	A
			E-W	485.2	B
		SE	N-S	-	A
			E-W	965.0	A
		SW	N-S	14,512.5	A
			E-W	1430.8	A
		NW	N-S	2,250.0	A
			E-W	635.1	A
	Weekday PM	NE	N-S	4,826.2	A
			E-W	382.4	B
		SE	N-S	7,008.7	A
			E-W	489.9	B
		SW	N-S	8,292.9	A
			E-W	712.4	A
		NW	N-S	720.0	A
			E-W	390.7	B
Christopher Avenue/ New Lots Avenue	Weekday AM	NE	N-S	12,600.0	A
			E-W	309.5	B
		SE	N-S	7,021.5	A
			E-W	392.7	B
		SW	N-S	9,576.0	A
			E-W	435.7	B
		NW	N-S	2,250.0	A
			E-W	320.7	B
	Weekday Midday	NE	N-S	4,233.6	A
			E-W	577.0	A
		SE	N-S	8,607.0	A
			E-W	1,157.9	A
		SW	N-S	1,848.0	A
			E-W	1,311.8	A
		NW	N-S	2,382.3	A
			E-W	481.9	B
	Weekday PM	NE	N-S	2,061.8	A
			E-W	288.3	B
		SE	N-S	3,947.6	A
			E-W	425.7	B
		SW	N-S	2,532.6	A
			E-W	510.0	B
		NW	N-S	923.7	A
			E-W	284.8	B

Table 2.10-11: Year 2019 No-Action Conditions Pedestrian Sidewalk Analyses (continued)

Intersection	Peak Hour	Corner	Sidewalk	Pedestrian Operations	
				feet^2/ped	LOS
Powell Street/ Hegeman Avenue	Weekday AM	NE	N-S	4,080.7	A
			E-W	1,408.6	A
		SW	N-S	1,523.4	A
			E-W	1,950.0	A
		NW	N-S	6,750.0	A
			E-W	3,581.2	A
	Weekday Midday	NE	N-S	6,172.4	A
			E-W	2,806.4	A
		SW	N-S	1,944.0	A
			E-W	3,753.7	A
		NW	N-S	2,700.0	A
			E-W	5,931.8	A
	Weekday PM	NE	N-S	2,181.9	A
			E-W	560.8	A
		SW	N-S	666.5	A
			E-W	1,274.0	A
		NW	N-S	2,160.0	A
			E-W	1,450.0	A
Sackman Street/ Hegeman Avenue	Weekday AM	NE	N-S	NA	NA
			E-W	1,417.8	A
		SE	E-W	1,314.4	A
		SW	E-W	1,314.4	A
		NW	N-S	8,416.5	A
			E-W	3,837.6	A
	Weekday Midday	NE	N-S	NA	NA
			E-W	1,892.6	A
		SE	E-W	1,947.3	A
		SW	E-W	1,947.3	A
		NW	N-S	10,181.2	A
			E-W	5,400.0	A
	Weekday PM	NE	N-S	NA	NA
			E-W	646.2	A
		SE	E-W	634.7	A
		SW	E-W	634.7	A
		NW	N-S	5,457.1	A
			E-W	2,340.0	A

Table 2.10-11: Year 2019 No-Action Conditions Pedestrian Sidewalk Analyses (continued)

Intersection	Peak Hour	Corner	Sidewalk	Pedestrian Operations	
				feet^2/ped	LOS
Christopher Avenue / Hegeman Avenue	Weekday AM	NE	N-S	32,175.0	A
			E-W	1,255.2	A
		SE	E-W	1,752.5	A
		SW	E-W	1,752.5	A
		NW	N-S	5,440.5	A
			E-W	1,279.2	A
	Weekday Midday	NE	N-S	4,611.7	A
			E-W	1,330.6	A
		SE	E-W	2,596.4	A
		SW	E-W	2,596.4	A
		NW	N-S	6,581.2	A
			E-W	1,800.0	A
	Weekday PM	NE	N-S	4,390.9	A
			E-W	872.2	A
		SE	E-W	846.4	A
		SW	E-W	846.4	A
		NW	N-S	3,527.5	A
			E-W	780.0	A

Future With-Action Pedestrian Conditions

Trip Generation

To determine the pedestrian levels-of-service associated with the proposed Action, the crosswalk, corner, and sidewalk LOS analyses at all study intersections were repeated to include the projected numbers of the new pedestrians generated by the proposed Action, shown previously in **Table 2.10-3**. As shown in **Table 2.10-3**, the proposed Action is projected to generate approximately:

- 598 new pedestrian trips (approximately 248 subway trips, 94 bus trips, and 256 walk trips) during the weekday AM peak hour,
- 1,662 new pedestrian trips (approximately 166 subway trips, 133 bus trips, and 1,363 walk trips) during the weekday midday peak hour, and
- 1,174 new pedestrian trips (approximately 289 subway trips, 136 bus trips, and 749 walk trips) during the weekday PM peak hour.

Trip Distribution and Assignments

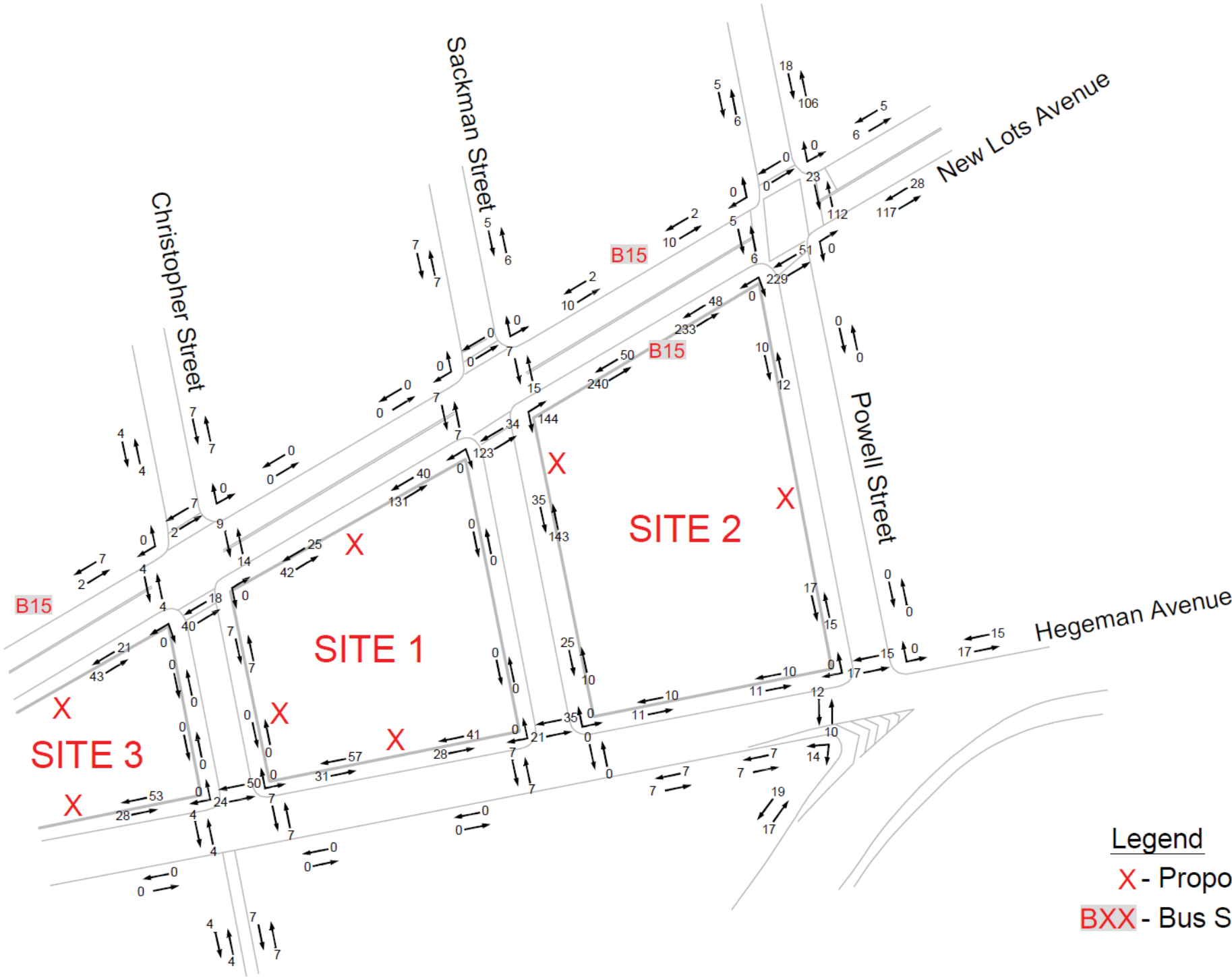
The trip distribution patterns for pedestrians traveling to and from the proposed development sites are different for each mode, as follows:

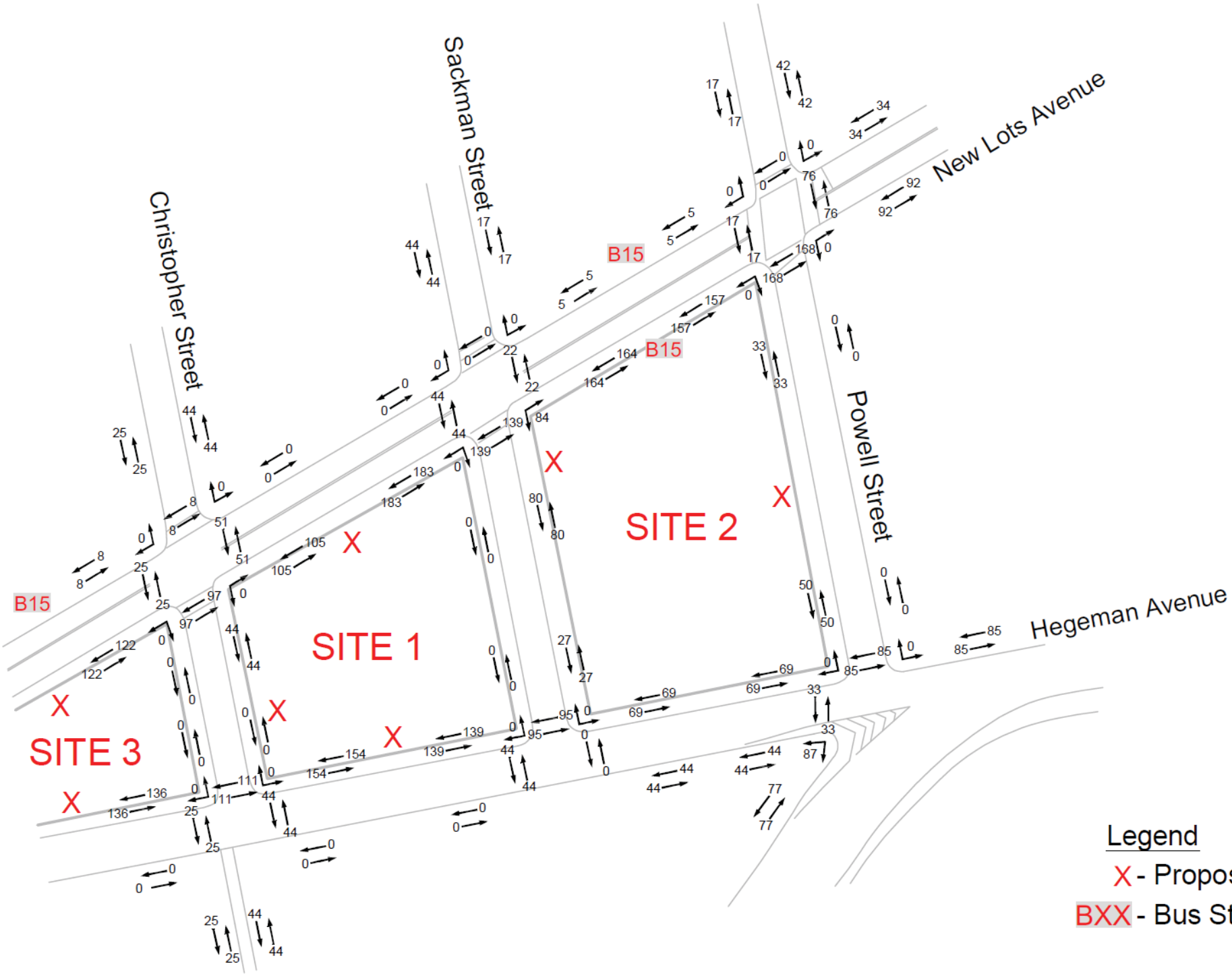
- *Subway trips* – Half of the subway riders were assumed to walk to and from the New Lots Avenue station (on the "L" subway line), located approximately 0.20 mile east of the proposed rezoning sites, and the other half of the subway riders were assumed to walk to and from the Junius Street station on the (on the 3 line), located approximately 0.40 mile north of the proposed rezoning sites.

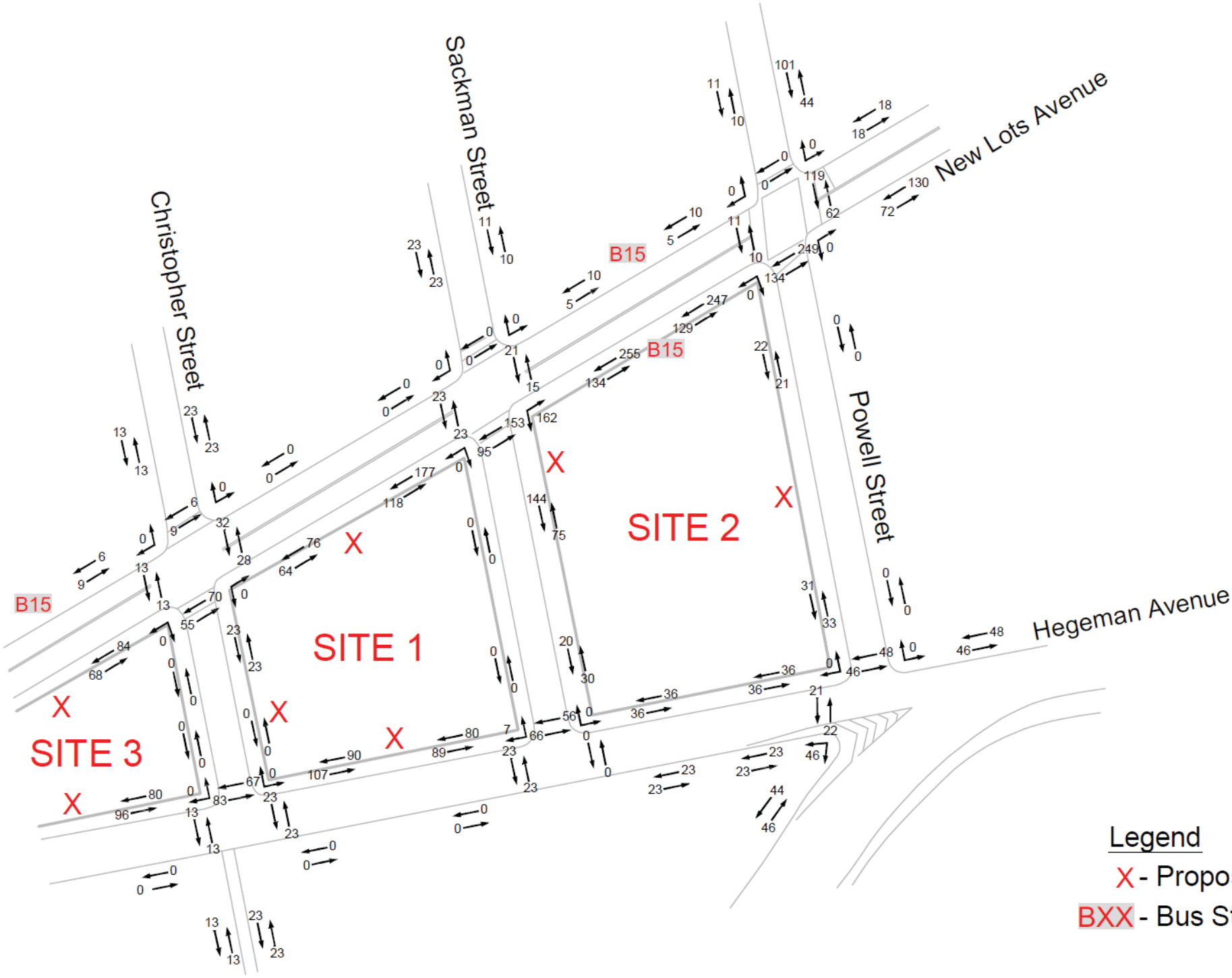
- *Bus trips* – The proposed rezoning sites are served by the B15 line, which is routed past the sites in both directions along New Lots Avenue, as well as the B35 line, which terminates at the New Lots Avenue/Mother Gaston Boulevard intersection within approximately 0.10 mile from the proposed rezoning sites. Bus trips were assigned to and from each of the rezoning sites based on the location of the nearest stops for both bus routes as follows:
  - 50 percent to/from the B15
  - 50 percent to/from the B35

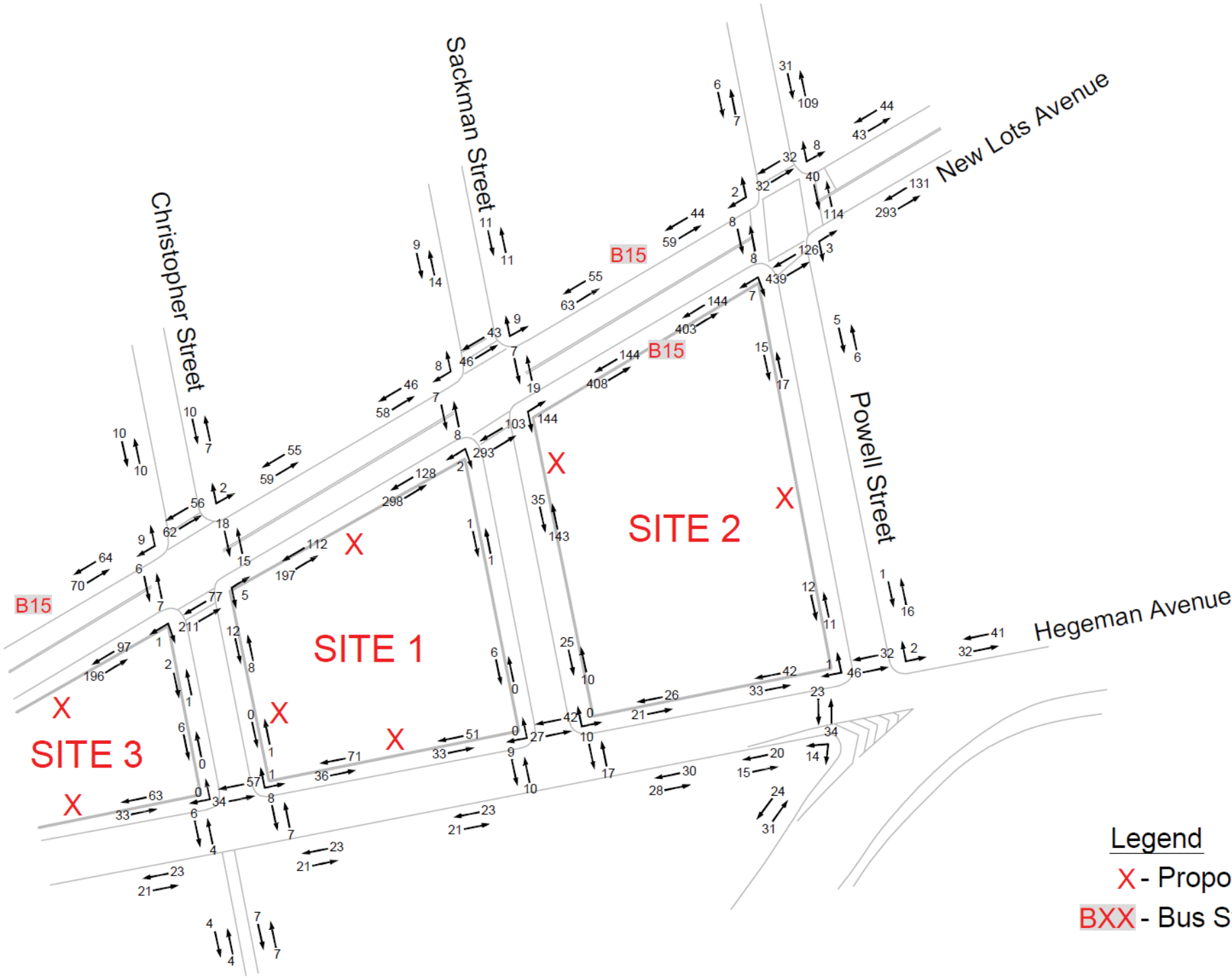
- *Walk trips* – Walk trips were assumed to be distributed approximately equally in the all directions from the proposed site:
  - 25 percent to/from the north
  - 25 percent to/from the south
  - 25 percent to/from the east
  - 25 percent to/from the west

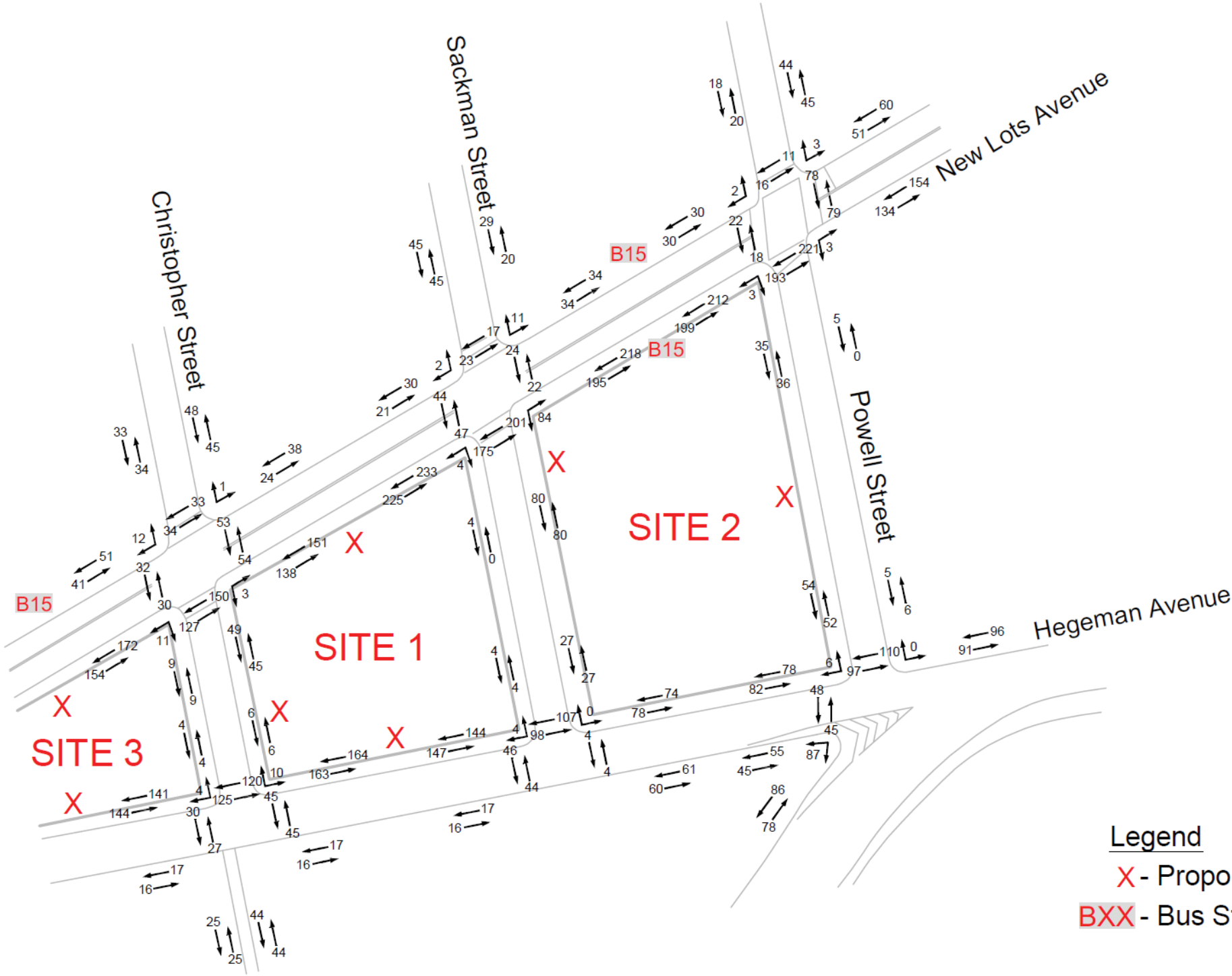
Based on the pedestrian distribution patterns described above for each mode, the projected site-generated pedestrian volume assignments associated with the proposed Action were then estimated for the weekday AM, midday, and PM peak hours, as shown in **Figures 2.10-8, 2.10-9, and 1.9-10**, respectively. These site-generated pedestrian volume assignments were added to the Future No-Action condition pedestrian volumes to arrive at the total projected Future With-Action condition pedestrian volumes, shown in **Figures 2.10-11, 2.10-12, and 2.10-13**, respectively.

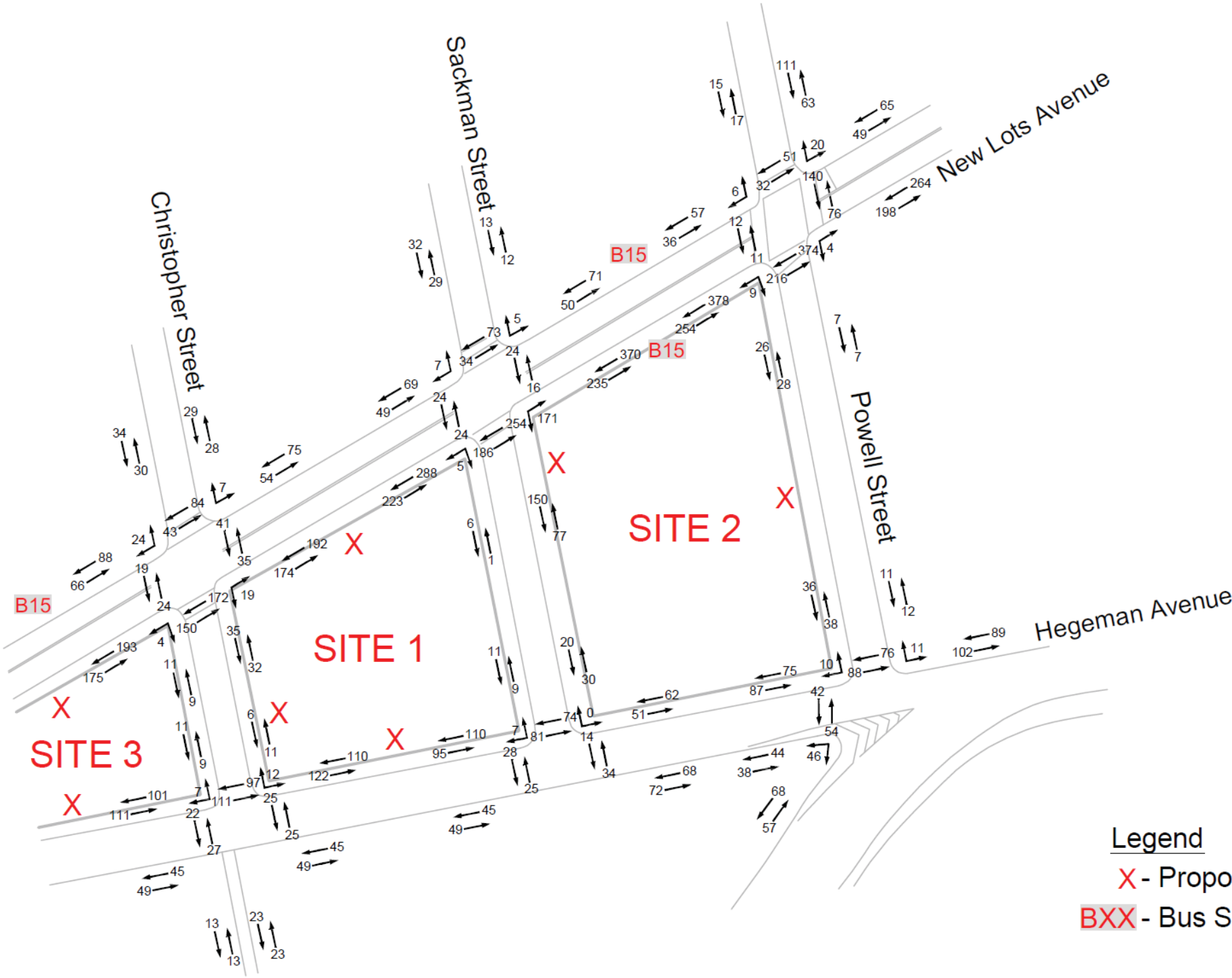

Sackman Street
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New Lots Avenue
Powell Street
Hegeman Avenue
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B15
SITE 1
SITE 2
SITE 3
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BXX - Bus S


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Future With-Action Levels-of-Service

The crosswalk, corner, and sidewalk pedestrian LOS analyses at the study intersections were then repeated using the projected Future With-Action condition pedestrian volumes, and the results are shown in **Tables 2.10-12, 2.10-13 and 2.10-14**. As shown in **Tables 2.10-12 through 2.10-14**, all crosswalks, corners and sidewalks are projected to operate at LOS "C" or better during the weekday AM, midday, and PM peak hours.

Assessment of Projected Pedestrian Impacts

The assessment of projected pedestrian impacts is based in part on whether the pedestrian element being analyzed is part of a Central Business District (CBD) and, for sidewalks, whether the pedestrian flow is platooned or not. This area of Brooklyn is not considered a CBD location. To ensure a conservative analysis, platoon flow conditions were assumed, although it should be recognized that the proposed development sites are not located in the immediate vicinity of any subway stations or major pedestrian generators that could be expected to generate highly platooned pedestrian flows.

For crosswalks and street corners in non-CBD locations: According to the guidelines established in the *CEQR Technical Manual*, average pedestrian space under the Future With-Action condition deteriorating to LOS "C" or better should generally not be considered a significant impact. If the pedestrian space under the Future With-Action condition deteriorates to LOS "D" or worse (i.e., less than 24.0 square feet/ped), then the determination of whether the impact is considered significant is based on a sliding scale that varies with the Future No-Action pedestrian space.

For sidewalks with platoon flow in non-CBD locations: According to the guidelines established in the *CEQR Technical Manual*, average pedestrian space under the Future With-Action condition deteriorating to LOS "C" or better should generally not be considered a significant impact. If the pedestrian space under the Future With-Action condition deteriorates to LOS "D" or worse (i.e., less than 40.0 square feet/ped), then the determination of whether the impact is considered significant is based on a sliding scale that varies with the Future No-Action pedestrian space.

As shown in **Tables 2.10-12 through** 2.10-**14**, under the proposed Future With-Action condition, all of the pedestrian elements are projected to operate at LOS "C" or better (as defined in the paragraphs above for crosswalks, corners, and sidewalks). Therefore, there are not projected to be any significant pedestrian impacts associated with the proposed Action.

Table 2.10-12: Year 2019 With-Action Conditions Pedestrian Crosswalk Analyses

Intersection	Peak Hour	Crosswalk	Crosswalk Length (Feet - approx.)	Crosswalk Width (Feet - approx.)	Pedestrian Operations	
					feet²/ped	LOS
Powell Street/ New Lots Avenue	Weekday AM	North	31.9	12.6	581.2	A
		East	42.8	13.3	93.0	A
		South	32.6	14.2	82.7	A
		West	43.3	13.0	411.5	A
	Weekday Midday	North	31.9	12.6	965.8	A
		East	42.8	13.3	102.9	A
		South	32.6	14.2	103.3	A
		West	43.3	13.0	247.5	A
	Weekday PM	North	31.9	12.6	409.0	A
		East	42.8	13.3	50.9	B
		South	32.6	14.2	67.2	A
		West	43.3	13.0	284.1	A
Sackman Street/ New Lots Avenue	Weekday AM	North	36.0	10.3	762.1	A
		South	31.8	10.6	176.8	A
	Weekday Midday	North	36.0	10.3	1,289.1	A
		South	31.8	10.6	181.5	A
	Weekday PM	North	36.0	10.3	618.5	A
		South	31.8	10.6	167.1	A
Christopher Avenue/ New Lots Avenue	Weekday AM	North	31.7	12.9	805.9	A
		South	31.7	10.1	249.7	A
	Weekday Midday	North	31.7	12.9	1,095.6	A
		South	31.7	10.1	250.5	A
	Weekday PM	North	31.7	12.9	639.4	A
		South	31.7	10.1	193.4	A
Powell Street/ Hegeman Avenue	Weekday AM	North	29.7	10.0	709.3	A
	Weekday Midday	North	29.7	10.0	234.5	A
	Weekday PM	North	29.7	10.0	262.5	A
Sackman Street/ Hegeman Avenue	Weekday AM	North	29.8	13.8	954.7	A
	Weekday Midday	North	29.8	13.8	277.4	A
	Weekday PM	North	29.8	13.8	432.7	A
Christopher Avenue/ Hegeman Avenue	Weekday AM	North	29.7	14.7	527.0	A
	Weekday Midday	North	29.7	14.7	351.9	A
	Weekday PM	North	29.7	14.7	383.1	A

Table 2.10-13: Year 2019 With-Action Conditions Pedestrian Corner Analyses

Intersection	Peak Hour	Corner	Pedestrian Operations	
			feet^2/ped	LOS
Powell Street/ New Lots Avenue	Weekday AM	Northwest	309.1	A
		Northeast	113.0	A
		Southwest	193.0	A
		Southeast	154.3	A
	Weekday Midday	Northwest	296.9	A
		Northeast	124.2	A
		Southwest	221.3	A
		Southeast	181.5	A
	Weekday PM	Northwest	217.2	A
		Northeast	53.9	B
		Southwest	156.2	A
		Southeast	108.5	A

Table 2.10-14: Year 2019 With-Action Conditions Pedestrian Sidewalk Analyses

Intersection	Peak Hour	Corner	Sidewalk	Pedestrian Operations	
				feet^2/ped	LOS
Powell Street/ New Lots Avenue	Weekday AM	NE	N-S	250.6	B
			E-W	456.8	B
		SE	N-S	3,865.9	A
			E-W	186.0	B
		SW	N-S	1,914.5	A
			E-W	181.9	B
		NW	N-S	536.5	A
			E-W	301.4	B
	Weekday Midday	NE	N-S	331.2	B
			E-W	290.5	B
		SE	N-S	5,859.0	A
			E-W	218.4	B
		SW	N-S	321.9	B
			E-W	173.3	B
		NW	N-S	242.2	B
			E-W	413.6	B
	Weekday PM	NE	N-S	233.9	B
			E-W	343.5	B
		SE	N-S	2,565.0	A
			E-W	183.7	B
		SW	N-S	1,270.0	A
			E-W	174.9	B
		NW	N-S	653.9	A
			E-W	329.0	B

Table 2.10-14: Year 2019 With-Action Conditions Pedestrian Sidewalk Analyses (continued)

Intersection	Peak Hour	Corner	Sidewalk	Pedestrian Operations	
				feet^2/ped	LOS
Sackman Street/ New Lots Avenue	Weekday AM	NE	N-S	1,196.6	A
			E-W	282.9	B
		SE	N-S	398.6	B
			E-W	185.2	B
		SW	N-S	12,150.0	A
			E-W	146.9	B
		NW	N-S	258.2	B
			E-W	364.2	B
	Weekday Midday	NE	N-S	402.1	B
			E-W	413.8	B
		SE	N-S	502.6	B
			E-W	202.0	B
		SW	N-S	12,150.0	A
			E-W	127.6	B
		NW	N-S	49.5	C
			E-W	635.1	A
	Weekday PM	NE	N-S	772.2	A
			E-W	335.0	B
		SE	N-S	243.0	B
			E-W	177.9	B
		SW	N-S	6,942.9	A
			E-W	133.7	B
		NW	N-S	176.9	B
			E-W	390.7	B
Christopher Avenue/ New Lots Avenue	Weekday AM	NE	N-S	2,223.5	A
			E-W	309.5	B
		SE	N-S	2,190.1	A
			E-W	324.3	B
		SW	N-S	9,576.0	A
			E-W	340.5	B
		NW	N-S	1,350.0	A
			E-W	299.1	B
	Weekday Midday	NE	N-S	227.5	B
			E-W	577.0	A
		SE	N-S	571.2	A
			E-W	333.7	B
		SW	N-S	1,848.0	A
			E-W	329.9	B
		NW	N-S	604.4	A
			E-W	398.1	B
	Weekday PM	NE	N-S	397.8	B
			E-W	288.3	B
		SE	N-S	1,286.4	A
			E-W	277.2	B
		SW	N-S	2,532.6	A
			E-W	299.3	B
		NW	N-S	548.4	A
			E-W	257.0	B

Table 2.10-14: Year 2019 With-Action Conditions Pedestrian Sidewalk Analyses (continued)

Intersection	Peak Hour	Corner	Sidewalk	Pedestrian Operations	
				feet²/ped	LOS
Powell Street/ Hegeman Avenue	Weekday AM	NE	N-S	4,080.7	A
			E-W	791.1	A
		SW	N-S	526.2	B
			E-W	1,170.0	A
		NW	N-S	639.7	A
			E-W	1,139.9	A
	Weekday Midday	NE	N-S	6,172.4	A
			E-W	255.0	B
		SW	N-S	118.3	B
			E-W	450.4	B
		NW	N-S	166.4	B
			E-W	452.8	B
	Weekday PM	NE	N-S	2,181.9	A
			E-W	284.8	B
		SW	N-S	186.5	B
			E-W	559.3	A
		NW	N-S	318.1	B
			E-W	447.2	B
Sackman Street/ Hegeman Avenue	Weekday AM	NE	N-S	2,050.1	A
			E-W	1,225.5	A
		SE	E-W	997.1	A
		SW	E-W	1,314.4	A
		NW	N-S	8,593.2	A
			E-W	694.0	A
	Weekday Midday	NE	N-S	1,325.4	A
			E-W	272.3	B
		SE	E-W	531.0	A
		SW	E-W	1,947.3	A
		NW	N-S	10,395.0	A
			E-W	244.2	B
	Weekday PM	NE	N-S	1,553.2	A
			E-W	366.3	B
		SE	E-W	426.2	B
		SW	E-W	634.7	A
		NW	N-S	5,571.7	A
			E-W	416.1	B

Table 2.10-14: Year 2019 With-Action Conditions Pedestrian Sidewalk Analyses (continued)

Intersection	Peak Hour	Corner	Sidewalk	Pedestrian Operations	
				feet²/ped	LOS
Christopher Avenue / Hegeman Avenue	Weekday AM	NE	N-S	32,625.0	A
			E-W	222.8	B
		SE	E-W	1,752.5	A
		SW	E-W	1,752.5	A
		NW	N-S	5,440.5	A
			E-W	199.7	B
	Weekday Midday	NE	N-S	4,676.2	A
			E-W	77.0	C
		SE	E-W	2,596.4	A
		SW	E-W	2,596.4	A
		NW	N-S	6,581.2	A
			E-W	81.8	C
	Weekday PM	NE	N-S	4,452.3	A
			E-W	131.4	B
		SE	E-W	846.4	A
		SW	E-W	846.4	A
		NW	N-S	3,527.5	A
			E-W	132.3	B

2.10.4 Safety Assessment

The *CEQR Technical Manual* defines a "high crash location" as any location with 48 or more total reportable and non-reportable crashes, or five or more pedestrian/bicyclist injury crashes, in any consecutive 12 months of the most recent three-year period for which data is available. Crash data compiled by the NYCDOT for the most recent available three-year period (i.e., 2012 to 2014) was reviewed to identify the crash history at each of the study intersections. **Table 1.10-15** summarizes the total number of crashes at each of the study intersections by year, as well as the total number of pedestrian and bicycle crashes by year.

Table 2.10-15: Summary of NYCDOT Crash Data for 2012 to 2014

Intersection	Pedestrian Injury Crashes			Bicycle Injury Crashes			Total Pedestrian/ Bicycle Injury Crashes			Total Crashes (Reportable + Non-Reportable)		
	2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013	2014
Powell Street/New Lots Avenue	0	1	0	0	0	0	0	1	0	0	2	0
Sackman Street/New Lots Avenue	0	0	0	0	0	0	0	0	0	0	0	1
Christopher Street/New Lots Avenue	1	0	0	0	0	0	1	0	0	4	4	2
Powell Street/Hegeman Avenue	1	0	1	0	0	0	1	0	1	11	3	5
Sackman Street/Hegeman Avenue	0	0	0	0	0	0	0	0	0	1	0	0
Christopher Avenue/Hegeman Avenue*	0	0	0	0	0	0	0	0	0	0	0	0
Total =	**2**	**1**	**1**	**0**	**0**	**0**	**2**	**1**	**1**	**16**	**9**	**8**

* = No crashes were reported at this intersection during the three year study period of 2012-2014.

Source: New York City Department of Transportation (2012-2014).

As shown in **Table 2.10-15**, the NYCDOT data indicates that the total number of crashes for the three-year period between 2012 and 2014 (inclusive) at each intersection are well below the *CEQR* thresholds (i.e., 48 total crashes, or five pedestrian/bicyclist injury crashes, in any 12 months over the most recent three years). There were no crashes at the Christopher Avenue/Hegeman Avenue intersection during the 2012 to 2014 period. There were also no fatal crashes at any of the study intersections during the 2012 to 2014 period.

2.10.5 Parking

A parking analysis was conducted to determine the extent to which the projected parking demand associated with the applicant's proposed project could be accommodated by available on-street and public garage parking within a walkable distance from the Proposed Development Site. Although the With-Action Scenario, as shown in Section 2.10.2 above does not generate more than 50 vehicular trips at any study area intersection during peak hour - which normally triggers an associated study of parking, it is recognized based on the size and types of uses contemplated to occur under the Proposed Action – that an evaluation of projected parking demand from the With-Action Project – compared to the Future No-Action would be warranted.

Required Parking

It should be noted that the Proposed Development, is planned and contemplated as being funded as a 100% affordable housing project through NYC HPD, as such, since the Affected Area is within a Transit Zone, parking requirements would be eliminated for new affordable units under

ZQA, with affordable units defined as being affordable to households at 80% AMI and below. Further, as the neither the Proposed Development nor Projected Development Sites not under applicant control are proposed to provide commercial uses requiring more than 40 parking spaces that parking requirement is waived. Finally, the Projected Development Site not under applicant control on Block 3860, referred to as Site C in this EAS, was proposed – under the Reasonable Worst Case Scenario to have 70% market rate units and 30% affordable units, as such Site C, which was projected to have 68,62 SF of residential floor area – would have 48 market rate units and 21 affordable units or a total of 69 residential units. Per the Reasonable Worst Case Development Scenario, the Projected Development Site 3 was proposed to have 24 cars of accessory parking to satisfy the 1 car for every 2 units requirement under the proposed rezoning.

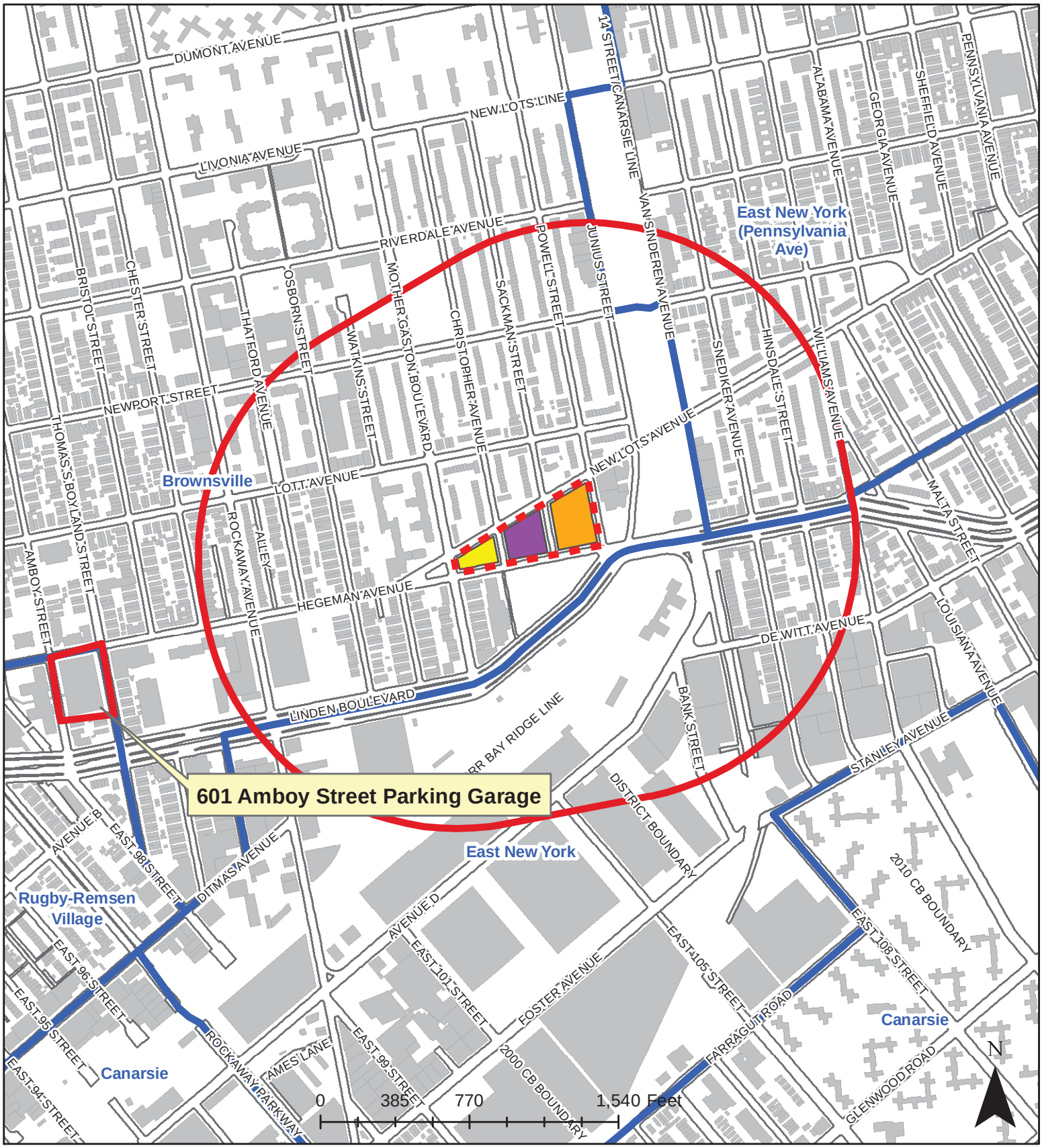
Methodology

To provide the most conservative parking demand analysis, that best represents the actual parking demand resulting from the magnitude of the net new land uses as proposed under the With-Action Scenario, this study will evaluate all potential demand based off the Reasonable Worst Case Development Scenario for both Applicant owned and non-applicant owned Projected Development Sites. Further, this analysis, rather than considering the proposed Applicants Proposed 100% affordable project, this analysis will utilize the Reasonable Worst Case Development Scenario of 70% market rate and 30% affordable for the entire Affected Area. As such, this parking study, will evaluate the incremental net parking demand between the Future No-Action Affected Area and the Future With-Action Affected Area and compare that to the projected combined On-Street Parking availability within ¼ mile and available off-street garage parking provided at a public 24-hour parking garage at 601 Amboy Street, about 1500 feet from the Affected Area.

The projected parking demand for each existing and proposed land use—in the Affected Area—was estimated on a PM overnight basis. The study area, which is predominately one- and two-family residential has significantly more parking capacity available on-street during the daytime hours, and the demand resulting from the proposed action would have the greatest impact on available on parking demand during overnight hours when available supply on-street is more restricted. Further, it should be noted that all on-street parking directly within the Affected Area as well as that across the street from the Affected Area uniformly is posted as no-parking overnight between the hours of 10PM and 6AM. Presumably, when the proposed action is completed, on-street parking adjacent to the Affected Area will become available for overnight parking for both the Affected Area and the surrounding area – effectively creating approximately 210 available parking spaces. However, for the purposes of this study – these spaces were not considered part of the raw parking supply. Parking occupancy and supply counts for both the public 24-hour garage at 601 Amboy Street and the ¼ mile Study area around the Affected Area (see **Figure 2.10-14**) were performed from 10PM to 12AM on November 10th, 2016.

The estimate of No-Action and With-Action demand was based on the sizes and types of land uses proposed for the applicant's site, the associated transportation planning assumptions used in the trip generation estimates – which were taken from the recently completed FEIS East New York Rezoning[23]. The individual parking generation profiles for all land uses were then aggregated to arrive at the combined total parking demand profile under the Future With-Action condition. The parking generation profile for the overnight weekday was then compared to the proposed on-site parking supply to estimate the propensity, if any, for possible overflow of parked vehicles onto surrounding public streets and then to determine whether available supply exists to accommodate this overflow on public streets or the public garage within the study area.

[23] https://www1.nyc.gov/assets/planning/download/pdf/applicants/env-review/east-new-york/13_feis.pdf



Legend

- 1/4 Mile On-Street Parking Study Area
- Affected Area
- Neighborhood Boundary
- Site A - Block 3862
- Site B - Block 3861
- Site C - Block 3860

equity environmental engineering

Ebenezer Plaza Environmental Assessment

Figure 2.9-14: Parking Demand Study Area

Existing Supply and No-Action Parking Supply, Demand and Utilization

Table 2.10-16 summarizes the results of the overnight on-street and 601 Amboy Parking Garage counts performed on November 10th, 2016 from 10PM to 12AM. The total available parking supply of both the ¼ study area on street parking and available off-street garage parking within walking distance to the With-Action Affected Area is 2,512 parking spaces or 1,512 on-street parking spaces and 950le garage spaces. Of these spaces, 1202 on-street spaces were occupied during the over-night survey period and 163 garage spaces were occupied during the same survey period, while 63 additional spaces of demand are projected to be needed by 2019 due to forecasted population growth within the previously used ½ mile study area for population forecasting. Given these totals it is estimated that the Total No-Action Demand for 2019 with be 1625 spaces within the study area, leaving a surplus of 984 spaces for on and off-street parking.

Table 2.10-16: Existing Supply and No-Action Demand and Utilization

Parking Analysis Study Area (1/4 Mile Radius from the Rezoning Area)	Weekday Overnight
Capacity	
Existing On-Street Capacity (minus all restricted overnight parking)	1462
Existing Garage Capacity (601 Amboy Street)	950
Net Change in No-Action On-Street Parking Supply	0
Total No-Action Capacity	**2412**
Demand –	
Existing On-Street PM overnight Utilization	1202
Existing Garage PM overnight Utilization (601 Amboy Street)	163
Demand From Background Growth	63
No-Action Demand From Projected Development Sites	0
Demand From other No-Action Developments	0
Off-Street Public Parking (Deficit)/ Surplus – No-Action	+197
Garage Parking (Deficit)/Surplus – No-Action	+787
Total No-Action Demand	**1428**
Utilization	
No-Action Utilization	59.2%
No-Action On-Street Parking Surplus/(Deficit)	**984**

Net 2019 Parking Demand Identification

Affected Area No-Action Parking Demand for Overnight Parking Period

Utilizing demand factors defined in the East New York Rezoning FEIS, the demand for both the No-Action and With-Action Scenarios were derived for each specific land use composition under each scenario. As **Table 2.10-17** shows, The Future No-Action parking demand for the Affected Area during the PM – extrapolated to overnight period is only 6 cars. The demand is a result of an Affected Area currently occupied by almost exclusively daytime oriented uses. This demand is forecasted to remain as the existing condition in the Future No-Action Scenario.

Table 2.10-17: Future No-Action Parking Demand PM - Overnight – Affected Area

No-Action Land Uses	Multiplier by land use		PM Share	mode split auto	In/out splits	Total Demand
auto repair	1 trip per 1000 sf		14.20%	85%	50/50	
63,880	64		9.07	7.7	4	4
auto dealership	1 trip per 1000 sf		9.00%	100%	15/85	
4,556	5		0.41	0.4	0	0
local retail	1 trip per 205 SF		10.00%	5%	50/50	
3,690	18		1.80	0.09	0	0
light industrial	2.2 per 1000 SF		14.20%	43%	12/88	
12,788	28		4	2	0	0
residential market rate	.58 cars per household					
2 units	2 units				2	2
house of worship	19.18 per 1000		7.20%	5%	52/48	
2,846	55		4	0.2	0	0
Total Demand						6

Affected Area With-Action Parking Demand for Overnight Parking Period

As **Table 2.10-18** shows, The Future With-Action parking demand for the Affected Area during the PM – extrapolated to overnight period is 281 cars – all of it generated by the Proposed Development on Sites A and B and the Projected Development Site on Site C. The demand assumes 70% market rate and 30% affordable housing development scenario.

Table 2.10-18: Future With-Action Parking Demand PM - Overnight – Affected Area

With-Action Land Uses	Multiplier by land use		PM Share	mode split auto	In/out splits	Total Demand
local retail	1 trip per 205 SF		10.00%	5%	50/50	
46,240	226		22.56	1.127	1	0
residential - affordable	.22 cars per household					39
179	39					0
residential market rate	.58 cars per household					
417	242					242
house of worship	19.18 per 1000		7.20%	5%	52/48	
35,928	689		50	2.5	1	0
Total Demand						281

The net With-Action 2019 parking demand for the Affected Area would be 275 cars when removing the anticipated no-action demand from the forecasted With-Action total.

Future With-Action evaluation of Parking Demand vs Supply

As noted above, 197 spaces are forecasted to be available on-street under the No-Action scenario and 787 garage spaces are forecasted to be available within walking distance of the Affected Area under the No-Action Scenario. The net With-Action Demand is forecasted to be 275 spaces from the Affected Area. In addition, per the Reasonable Worst Case Development Scenario, Site C – the Non-Applicant Site would provide 24 accessory parking spaces – reducing the overflow amount from the With-Action Scenario to 251 spaces. Assuming the 197 available on-street spaces were to be utilized first – 54 spaces of demand would remain after the With-Action Scenario utilized all available on-street spaces…it is assumed that the 787 garage spaces would provide ready supply for this remaining projected overflow from the With-Action Proposed and Projected Development. Further, removing overnight parking restrictions from the 210 spaces directly adjacent to the Affected Area would remove any need to use the nearby parking garage for overflow parking. Therefore, since the projected overflow demand from the With-Action Scenario can readily be accommodated by available public parking within a reasonable walking distance from the Affected Area…no significant adverse impact is anticipated for the area from parking.

2.10.6 Conclusions

This chapter presented an analysis of the effects of additional peak hour trips projected to be generated by the proposed Action on the transportation system in the vicinity of the proposed development sites. The following conclusions are drawn from this analysis:

- The proposed Action would not lead to an increase of 50 or more vehicle-trips at any one intersection in the vicinity of the proposed development sites. Therefore, the proposed Action would not lead to any significant adverse traffic impacts.

- The proposed Action would not lead to an increase of 200 or more public bus trips, and the nearby New Lots Avenue and Junius Avenue subway stations are not projected to experience increases of 200 or more subway trips. Therefore, the proposed Action would not lead to any significant adverse bus or subway impacts.

- The results of the pedestrian LOS analyses indicate that no significant adverse pedestrian impacts are projected to occur at any of the crosswalks, street corners, or sidewalks at any the six study intersections as a result of the proposed Action.

- None of the six study intersections are classified as “high crash locations” based on *CEQR Technical Manual* criteria.

- The overflow parking forecasted under the With-Action scenario can readily be accommodated by projected available public parking supply within walking distance of the Affected Area, therefore no significant impact would result from the Proposed Action.

2.11 AIR QUALITY

When assessing the potential for air quality significant impacts, the *CEQR Technical Manual* seeks to determine a proposed action's effect on ambient air quality, or the quality of the surrounding air. Ambient air can be affected by motor vehicles, referred to as "mobile sources," or by fixed facilities, referred to as "stationary sources." This can occur during operation and/or construction of a project being proposed. The pollutants of most concern are carbon monoxide, lead, nitrogen dioxide, ozone, relatively coarse inhalable particulates (PM_{10}), fine particulate matter ($PM_{2.5}$), and sulfur dioxide.

The *CEQR Technical Manual* generally recommends an assessment of the potential impact of mobile sources on air quality when an action increases traffic or causes a redistribution of traffic flows, creates any other mobile sources of pollutants (such as diesel train usage), or adds new uses near mobile sources (e.g., roadways, parking lots, garages). The *CEQR Technical Manual* generally recommends assessments when new stationary sources of pollutants are created, when a new use might be affected by existing stationary sources, or when stationary sources are added near existing sources and the combined dispersion of emissions would impact surrounding areas.

2.11.1 Mobile Sources

According to the *CEQR Technical Manual*, projects, whether site- specific or generic, may result in significant mobile source air quality impacts when they increase or cause a redistribution of traffic; create any other mobile sources of pollutants (such as diesel trains, helicopters etc.); or add new uses near mobile sources (roadways, garages, parking lots, etc.). Projects requiring further assessment include:

- Projects that would result in placement of operable windows, balconies, air intakes or intake vents generally within 200 feet of an atypical source of vehicular pollutants.
- Projects that would result in the creation of a fully or partially covered roadway, would exacerbate traffic conditions on such a roadway, or would add new uses near such a roadway.
- Projects that would generate peak hour auto traffic or divert existing peak hour traffic of 170 or more auto trips in this area of the City.
- Projects that would generate peak hour heavy- duty diesel vehicle traffic or its equivalent in vehicular emissions resulting from 12 or more heavy-duty diesel vehicles (HDDVs) for paved roads with average daily traffic of fewer than 5,000 vehicles, 19 or more HDDVs for collector roads, 23 or more HDDVs for principal and minor arterials, or 23 or more HDDVs for expressways and limited-access roads.
- Projects that would result in new sensitive uses (e.g., schools or hospitals) adjacent to large existing parking facilities or parking garage exhaust vents.
- Projects that would result in parking facilities or applications requesting the grant of a special permit or authorization for parking facilities; or projects that would result in a sizable number of other mobile sources of pollution (e.g., a heliport or a new railroad terminal).
- Projects that would substantially increase the vehicle miles traveled in a large area.

The proposed action would not result in any of the above thresholds being crossed and would not require further mobile source assessment. The proposed action would not result in the placement of new operable windows within 200 feet of any atypical vehicular source of pollutants, nor would it result in the creation of a fully or partially covered roadway, generate over 170 or more net new increment auto trips at any specific intersection within the project area or notable heavy-duty diesel vehicle traffic, place new sensitive uses adjacent to a large parking facility, result in other mobile sources of pollution, or substantially increase vehicle miles traveled.

2.11.2 Stationary Sources

According to the *CEQR Technical Manual*, projects may result in stationary source air quality impacts when one or more of the following occurs:

- New stationary sources of pollutants are created (e.g., emission stacks for industrial plants, hospitals, other large institutional uses).
- Certain new uses near existing (or planned future) emissions stacks are introduced that may affect the use.
- Structures near such stacks are introduced so that the structures may change the dispersion of emissions from the stacks so that surrounding uses are affected.
- Fossil fuels (fuel oil or natural gas) for heating/hot water, ventilation, and air conditioning systems are used.
- Large emission sources are created (e.g., solid waste or medical-waste incinerators, cogeneration facilities, asphalt/concrete plants, or power-generating plants, etc.).
- New sensitive uses are located near a large emission source.
- Medical, chemical, or research labs are created or result in new uses being located near them.
- Operation of manufacturing or processing facilities is created.
- New sensitive uses created within 400 feet of manufacturing or processing facilities.
- New uses created within 400 feet of a stack associated with commercial, institutional, or residential developments (and the height of the new structures would be similar to or greater than the height of the emission stack).
- Potentially significant odors are created.
- New uses near an odor-producing facility are created.
- “Non-point” sources that could result in fugitive dust are created.
- New uses near nonpoint sources are created.
- A generic or programmatic action is introduced that would change or create a stationary source or that would expose new populations to such a statio**n**

The proposed action would not result in any of the above thresholds being crossed and would not require further stationary source assessment on the residents generated at the projected development site.

Impacts from boiler emissions at the Projected Development Sites are a function of fuel oil type, stack height, minimum distance from the source to the nearest building, and square footage of the development. Per the project sponsor, the projected development will likely utilize natural gas. For Projected Development Sites 1 & 2, each site under the proposed development is composed of two buildings on each Block – these sites were screened based on project site stack height and development size plotted on the graph for residential developments provided in the air quality appendices in the *CEQR Technical Manual*, as shown in **Figure 2.11-2**. In addition, Site 3 was analyzed as a single building and its height and gross square feet plotted on the same graph to determine required setback of stack from adjacent buildings. This graph indicates the minimum distance between the projected development and buildings of a similar or greater height to avoid a potential air quality impact. No buildings of similar or greater height than the proposed development exist in the study area or broader context of the site. The proposed development and projected development sites are of similar height however and NYC Building Department regulations will require that the building locate their emissions stacks at the required distance to avoid a potential impact. **Table 2.11-1** indicates the building scenarios per the RWCDS that were

analyzed using the Residential Natural Gas Boiler Screen below. **Figure 2.11-1** shows a key to evaluating the campus of buildings present under the Build Condition.

Table 2.11-1 RWCDS Air Quality Boiler Screen Inputs

Development Site	Building	GSF	max height	actual development height	Analyzed Nomograph Stack height
Projected Site 1 - Lot 3862	Building 1a	129,883	95	95	98
	Building 1b	190,657	115	113-8	118
		320,540			
Projected Site 2 - Lot 3861	Building 2a	87,838	95	74-8	98
	Buidling 2b	124,887	115	113-8	118
		212,725			
Projected Site 3 - Lot 3860	Building 3	85,289	95	na	98

Figure 2.11-1 Build Condition Conceptual Building Site Plan



Figure 2.11-2 Site 1 Block 3862 Air Quality Graph

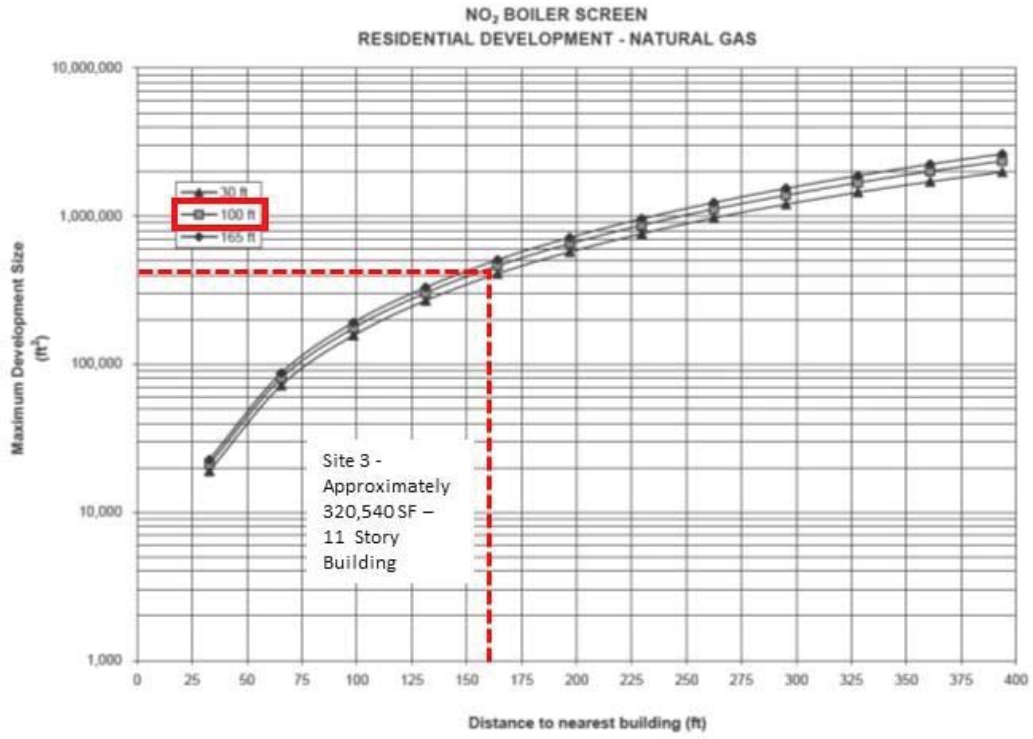


Figure 2.11-3 Site 2 Block 3862 Air Quality Graph

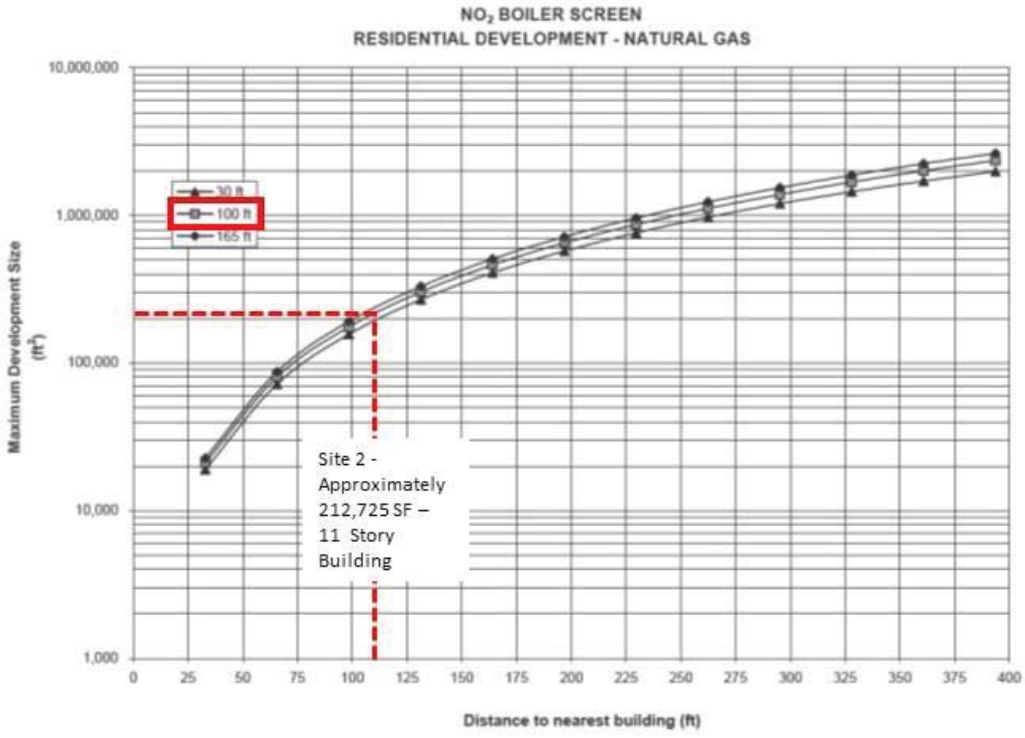
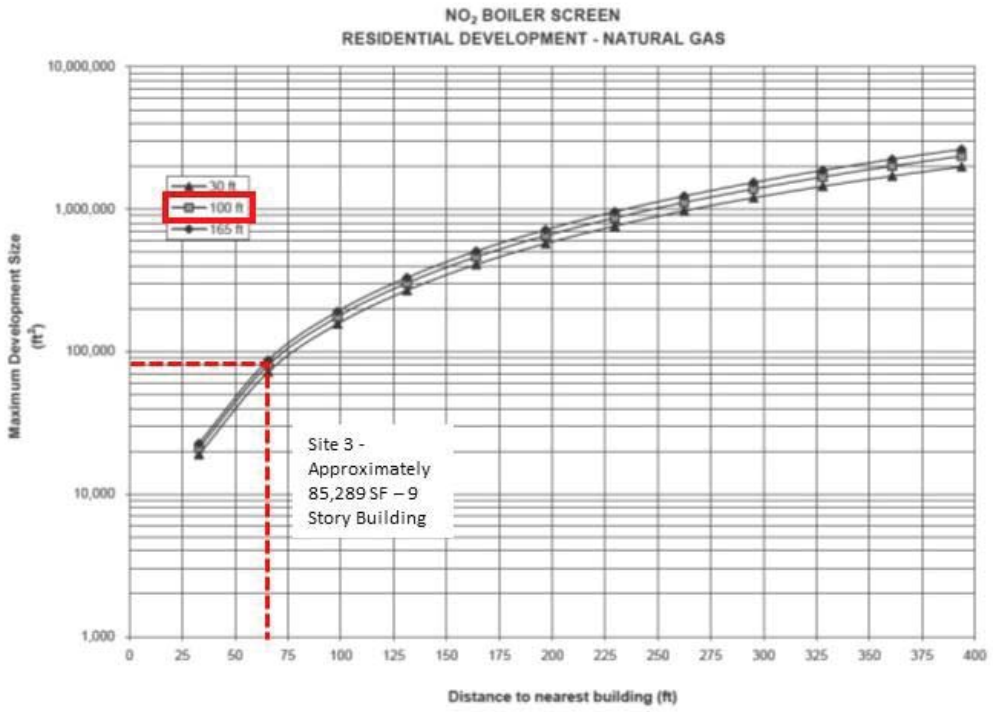


Figure 2.11-4 Site 3 Block 3860 Air Quality Graph



Based on **Figures 2.11-2 through 2.11-4 –** the following minimum setbacks – identified in **Table 2.11-2** would be required from each building stack to the façade of the nearest similar height building. These setbacks would be subject to modification based on a cumulative impact assessment to follow this section.

Table 2.11-2 Minimum Natural Gas (17-7 Screen) Stack Setback Requirements by Project Site

Development Site	17-7 minimum Stack Setback
Projected Site 1 - Lot 3862	160'-0"
Projected Site 2 - Lot 3861	110'-0"
Projected Site 3 - Lot 3860	75'-0"

Interpreting the initial screening results the following parameters for Stack locations will be required for each building in the Build condition;

- Site 1 has a maximum building height of 115 feet (118 with stack) and must have emissions stack located at least 160 feet from the façade of the buildings on Site 2
- Site 2 – a building with a maximum height of 115 feet must have its emissions stacks located at least 110 feet away from the façade of buildings on Site 3 and Site 1.

- Site 3, a Building of a maximum height of 95 feet must have its emissions stack located at least 75 feet away from buildings on Site 2. As a setback is required of 15 feet on a narrow street on an R7A and Christopher Avenue and sidewalk to lot line is 60 feet wide – a 75 foot distance from any stack placed on Site 3 would be present under any future build condition excepting a possible variance for setback.

Given the above findings for minimum required setbacks from building stacks to adjacent buildings, it was determined that a cumulative impact must be provided as the distance between the individual sites 1-3 and the presence of two structures each on Sites 1 and 2 and the lower height of site three compared to the 115-foot tower portion of Site 2 – leads collectively to a potential a cumulative impact from the shorter buildings on Sites 1,2 and 3 on the taller structures facing New Lots Avenue on both Site 1 and Site 2.

Cumulative Air Quality Analysis

Because of the complex structure configuration on Projected Sites 1 and 2, which is each comprised of two buildings on one block with different heights and also separated by low-level buildings (such as a church or retail structures), these buildings need to be analyzed as separate individual buildings that would have independent heating, ventilation, and air conditioning (HVAC) systems.

The HVAC emissions from the shorter buildings could potentially impact air quality levels on the nearby the taller buildings (or taller portions of the same structure) on the same block or taller buildings on nearby blocks. As such, a project-on-project dispersion analysis was conducted to determine whether the potential impacts of the HVAC emissions from the shorter buildings would significantly impact the taller buildings.

The New York Department of Planning (DCP) requested that a cumulative analysis be conducted to determine whether the combined impacts of the HVAC emissions from the shorter portion of the Building 1 (on Projected Site 1), the shorter of the Building 2 (on Projected Site 2), and the HVAC emissions from the building on Projected Site 3 would significantly impact the taller portions of Buildings 1 and 2 (see **Figure 2-11-1**). Therefore, a cumulative analysis of these HVAC emissions was conducted.

The potential air quality impacts were estimated following the procedures and methodologies prescribed in the *New York City Environmental Quality Review 2014 Technical Manual (CEQR TM)*.

The program used for the cumulative analysis follows that utilized in the RWCDS and for previous anlaysis. The applicant proposes to construct two buildings – one on Block 3862 (Projected Site 1) and one on Block 3861 (Projected Site 2). The proposed building Site 1 would be C-shaped building with frontage on New Lots Avenue, Sackman Street, and Hegeman Avenue. It would contain ground floor retail on the New Lots Avenue frontage and a community facility (church) on the Hegeman Avenue frontage. The R7D portion of the building, fronting on Hegeman Avenue, would be 11-stories tall and the R7A portion, fronting on New Lots Avenue, would be nine stories. The maximum building envelope height would be 115 feet. Building A would contain 279,594 gsf of residential floor area, 8,400 gsf of commercial retail floor area, and 35,928 gsf of community space for church (for a total of 323,922 gsf floor area).

The Projected Site 2 development would also be C-shaped, with an eight-story section on the area proposed to be zoned R7A/C2-4 and an eleven-story section on the area proposed to be rezoned

as R7D/C2-4. The building would contain 195,914 gross square feet (gsf) of residential floor area and 21,153 gsf of retail floor area (for a total of 217,594 gsf floor area). The maximum building height would be 115 feet.

In addition to the proposed developments, the proposed action would include an affected area property, identified as Project Site 3 on Block 3860 Lots 1, 3, 4, 5, and 6) that is not under applicant control. This site would be developed as a 95-foot tall mixed-use building that would contain 68,602 gsf of residential floor area and 16,687 gsf of local retail area (for a total of 85,289 gsf floor area).

Analysis

Relevant Air Pollutants

The EPA has identified several pollutants, which are known as criteria pollutants, as being of concern nationwide. As the proposed development buildings would be heated by natural gas, the two criteria pollutants associated with natural gas combustion – nitrogen dioxide (NO_2) and particulate matter smaller than 2.5 microns ($PM_{2.5}$) – were considered for analysis.

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 TM* 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 (NYCDEP) 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 2.11-3**.

Table 2.11-3 Applicable National Ambient Air Quality Standards and CEQR Threshold Values

Pollutant	Averaging Period	NAAQS	CEQR
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	6.0
	Annual	12 µg/m^3	0.3

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 standard 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, AERMOD generates 8th highest daily maximum 1-hour NO_2 concentrations or total 1-hour NO_2 concentrations if hourly NO_2 background concentrations are added within the model, and averages these values over the numbers of the years modeled. Total estimated concentrations are generated in the statistical form of the 1-hour NO_2 NAAQS format and can be directly compared with the 1-hour NO_2 NAAQS standard.

Based on New York City Department of Planning (NYCDCP) guidance, Tier 1, 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 Tier 3 approach was 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 NYCDEP for an annual NO_2 analysis, was applied.

$PM_{2.5}$ CEQR Significant Impact Criteria
CEQR TM 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 23.0 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 2013-2015. As the applicable background value is 23.0 ug/m^3, half of the difference between the 24-hour $PM_{2.5}$ NAAQS and this background value is 6.0 ug/m^3. As such, a significant impact criterion of 6.0 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.

Detailed 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 12.1 (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 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 AERMOD Building Profile Input Program (BPIP) algorithm and both results are reported.

Emission rates were calculated based on the floor size of each building which are provided in Table 2. The following emission factors were used in the cumulative analysis:

- 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), EPA AP-42 emission factors for firing natural gas combustion in small boilers, and gross heating value of natural gas;
- $PM_{2.5}$ 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 2.11-4 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 2.11-4 Estimated Pollutant Short-term and Annual Emission Rates

Building ID Block	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
Projected Development Site 1 (Block 3862)						
Building 1a	98	129,883	3.06E-	8.39E-04	4.03E-02	1.10E-02
Building 1b	118	190,657	4.50E-	1.23E-03	5.92E-02	1.62E-02
Projected Development Site 2 (Block 3861)						
Building 2a	98	87,838	2.07E-	5.67E-04	2.73E-02	7.47E-03
Building 2b	118	124,887	2.94E-	8.07E-04	3.87E-02	1.06E-02
Projected Site 3 (Block	98	85,289	2.01E-	5.51E-04	2.65E-02	7.25E-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 (2011-2015). Surface data was obtained from La Guardia Airport and upper air data was obtained from

Brookhaven station, New York. The data were processed by Trinity Consultants, Inc. using the 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 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 Brooklyn JHS-126 does not collect hourly ozone and NO_2 background data, in order to conduct the 1-hour NO_2 Tier 3 analysis, hourly NO_2 and hourly ozone background concentrations were developed from available monitoring data collected by the New York State Department of Environmental Conservation (NYSDEC) at the Queens College II monitoring station for the 5 consecutive years (2011-2015), and compiled into AERMOD's required hourly emission (NO_2) and concentration (ozone) data format.

The maximum 1-hour NO_2 background concentration at Queens College monitoring station of 60.2 ppb or 114 ug/m^3, which is 3-year average of the 98th percentile of daily maximum 1-hour concentrations for 2013-2015, and the annual NO_2 background concentration of 17.14 ppb or 32.3 ug/m^3, which is the maximum annual average for latest 3 years from Queens College monitoring station, were also used.

Stack and Receptor Locations for HVAC Analysis

Stacks on Building 1a, Building 2a, and Projected Site 3 were assumed to be located at the same locations as they were determined in the stationary source analysis provided in Section 2.11.2 in the Supplemental Study to the EAS for the Ebenezer Plaza Rezoning & Text Amendment. Stack heights were assumed to be 3 feet above the roof of each building. If exceedances of the CEQR significant threshold values or NAAQS were predicted, stack were gradually setback until no exceedances of the CEQR thresholds or NAAQS were predicted.

Receptors were placed around all faces of the Buildings 1b and 2b in 10 foot increments on all floor levels, starting 10 feet above the ground and extending up to the level of the upper windows at 110 feet (which were assumed to be 5 feet below roof level). More than 1,500 receptors were considered to assure that the maximum impacts are estimated.

Modeling parameters used in the analysis are provided in **Table 2.11-5**.

Table 2.11-5 Modeling Parameters for HVAC Analysis

Model	AERMOD (EPA Version 16216r)
Source Type	Point Source
Number of emission points (stacks)	Three (3)
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 2011-2015 concatenated into single multiyear file for $PM_{2.5}$ modeling, as EPA recommended
Surface Meteorological Data	LaGuardia 2011-2015
Profile Meteorological Data	Brookhaven Station 2011-2015
Pollutant Background Concentrations	Brooklyn JHS-126 and Queens College 2 monitoring stations data for 2011-2015
$PM_{2.5}$ 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

Findings

$PM_{2.5}$ Results

Results of the $PM_{2.5}$ and 1-hr NO_2 cumulative analysis show that if stacks were located at those locations that were determined based on CEQR screening analysis (as they presented in Section 2.11.2 in Supplemental Study of the EAS for the Ebenezer Plaza Rezoning & Text Amendment), impacts had the potential to be significant because these the results obtained at these locations exceed the applicable standards/guideline values. The 24-hr $PM_{2.5}$ impacts would exceed the CEQR significant impact thresholds of 6.0 ug/m^3 and the 1-hour NO_2 total concentration would exceed 1-hour NO_2 NAAQS.

The cumulative analysis of the impacts from the emissions from Projected Sites 1 and 2 and Projected Site 3 indicated that the emissions from these three buildings proportionally contribute to the total concentrations at Buildings 1b and 2b. As such, the roof-top stacks on Building 1a and Building 2a should be setback from Building 1b and 2b as much as possible – to the opposite sides of the roofs from the taller buildings or 10 feet from New Lots Avenue. The stack on Site 3 should also be setback at least 35 feet from Christopher Avenue (or 90 feet from the building line facing Building 2b). With these setbacks, the combined $PM_{2.5}$ emissions from Buildings 1a, 2a, and Site 3 would not significantly impact receptors on Buildings 1b or 2b.

Table 2.11-6: Cumulative $PM_{2.5}$ Analysis Results

Building ID	Receptor Buildings	Maximum 24-hr PM2.5 Impacts	Maximum Annual PM2.5	CEQR Significant Impact Criteria
		µg/m^3	µg/m^3	µg/m^3
Buildings 1a, 2a, Site 3	1b and 2b	5.22	0.13	6.0/0.3

Figure 2.11-5: 3-D Top View of Proposed Development Buildings on Ebenezer Plaza



NO_2 Results

The NO_2 analysis was conducted using the same stack locations on Buildings 1a, 2a, and Site 3 as determined in the $PM_{2.5}$ analysis. For the 1-hour NO_2 analysis, a Tier 1 analysis was not sufficient to demonstrate the compliance with 1-hour NO_2 NAAQS of 188 ug/m^3 and therefore, Tier 3 analysis was conducted.

With the Tier 3 analysis, 1-hour NO_2 background concentrations is added internally within the model and total 1-hour concentrations could be compared directly to the 1-hour NO_2 NAAQS. As shown in **Table 2.11-7**, estimated 1-hour NO_2 cumulative concentration is less than the 1-hour NO_2 NAAQS of 188 ug/m^3. The estimated annual average cumulative NO_2 total concentrations, which include impacts and the NO_2 annual background concentration, is also less than the annual NO_2 NAAQS of 100 ug/m^3.

Therefore, NO_2 emissions would not cause significant impacts with the required stack setbacks and proposed E-designations.

Table 2.11-7: Cumulative NO_2 Analysis Results

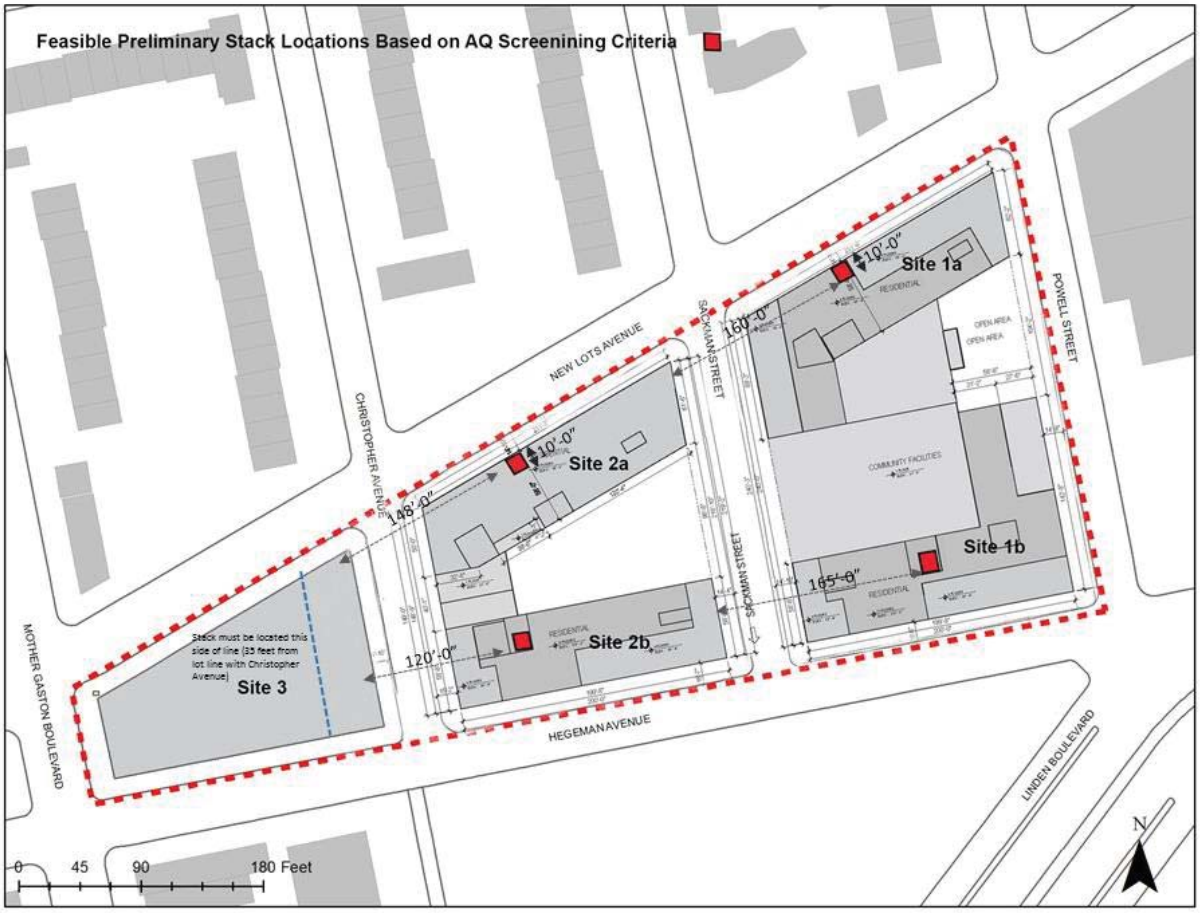
Building ID	**Receptor Buildings**	1-hr NO2 Total Conc.	Annual NO2 Total Conc.(1)	NAAQS 1-hr/Annual
		µg/m^3	**µg/m^3**	**µg/m^3**
Buildings 1a, 2a, Site 3	1b and 2b	183.8	33.6	188/100

Notes:

(1) Total annual NO_2 concentrations include background value of 32.3 ug/m^3.

Based on both the Site on Site 17-7 Boiler Screen for Natural Gas and the Cumulative Analysis, a roof plan with conceptual setback locations based on current planned locations for boiler rooms or the Applicants Proposed development is shown in **Figure 2.11-6.** As this Figure shows, all above required setbacks are met by the proposed Stack Location Plan[24].

Figure 2.11-6 Applicant Controlled Site Roof Plan Showing Proposed Stack Locations and Setbacks



Air Toxics

In addition to evaluating the impact of the proposed rezoning on existing neighborhood land uses, a determination must be made whether the Affected Area might be impacted by existing or planned toxic emissions from nearby adjacent industrial or manufacturing uses. Because the Affected Area rests in an area with a mix of industrial and residential uses directly adjacent to one another and the Project Site itself, an assessment of industrial uses near the subject properties was conducted. A search of potential industrial sites was performed to identify any NYC DEP Air Quality Permits issued within 500 feet of the Affected Area. This Study Area and the uses contained with it are identified in **Figure 2.11-7.** This figure identifies the specific type of

[24] Distances and stack locations are approximate and the locations are conceptual assumption, subject to change as the design for the buildings is developed in detail and coordinated with engineering in the next design phases. Any future changes will conform with the E-designations identified at the end of this chapter.

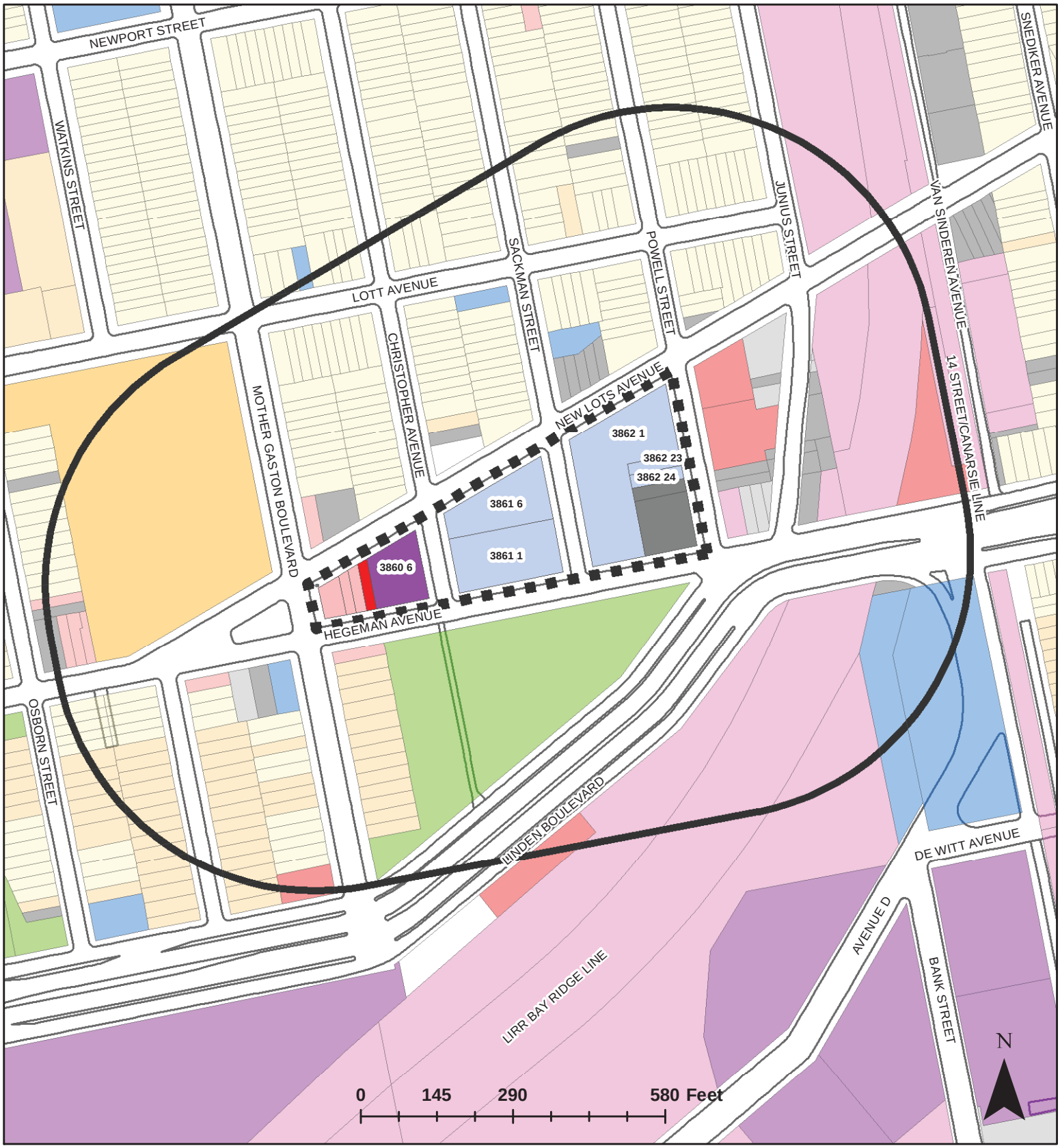
manufacturing or industrial use present within the affected Area. No industrial or manufacturing use was identified outside of the Affected Area or between this area and the 500-foot Study Area boundary. This search was performed to determine if hazardous air toxics would have the potential to impact the proposed development. **Table 2.11-8** shows the following industrial or manufacturing sites were identified and reviewed for permit activity.

Table 2.11-8 Industrial Sites within 500 feet of Affected Area

Block	Lot	Address
3860	6	52 New Lots Avenue, Brooklyn NY
3862	1	94-106 New Lots Avenue, Brooklyn NY 799 Sackman Street, Brooklyn NY
3861	1	792-804 Sackman Street, Brooklyn NY 68 New Lots Avenue, Brooklyn NY 78 New Lots Avenue, Brooklyn NY 90 New Lots Avenue, Brooklyn NY
3861	6	808 Sackman Street, Brooklyn NY 259 Hedgeman Avenue, Brooklyn NY 593 Christopher Avenue, Brooklyn NY 585 Christopher Avenue, Brooklyn NY

Only three permits were identified – two which were expired and one which was current. At 257 Hegeman Avenue on Block 3861 Lot 1 an industrial permit for spray painting is expired. The Owner Immaculate Auto Clinic is no longer present on the site – which is located on one of the proposed development sites and therefore poses no impact to the future development at the site. At 585 Christopher Avenue, also on Block 3861 Lot 1 an industrial permit for a paint spray area is also expired. This site is one of the Sites Proposed for Development by the Applicant and therefore poses no potential for possible impact. A final permit issued to Carl's Auto Sales Body and Fender Repair also for pain spray area – is also no longer an operating business and would poses no possibility of risk to the future development.

Although no evidence is present to conclude there are illegal unpermitted air emissions present in the study area, there may be illegal air emissions activities occurring within any one of the identified industrial or manufacturing sites, however these manufacturing and industrial uses identified within 500 feet of the Affected Area – have all been determined to be located within the Affected Area itself – and all will be demolished as the Proposed Development is constructed. As no existing or planned area emissions have the potential to impact the Affected Area and the Proposed and Projected Development Sites within the Affected Area will not impact surrounding land uses due to natural gas stack emissions from future buildings at these sites…no further A/Q study is required.



Legend

Affected Area

500 Foot Buffer Area

Affected Area Detailed Land Use

- Autorepair_Collision Repair
- Commercial_Retail
- Manufacturing_Awnings/Steel Work
- Mixed Use_Commercial-Residential
- Vacant_Demolished

Land Uses Outside Affected Area

- Residential - One and Two Family
- Residential - Multi-Famly (Walk-up)
- Resdiential - Multi-Family (Elevator)
- Mixed Residential and Commercial
- Commercial Use
- Industrial/ Manufacturing
- Transportation/Utility
- Public Facilities & Institutions
- Open Space & Recreation
- Parking
- Vacant Land

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Figure 2-10-4: Industrial & Manufacturing Uses within the Project Study Area

E-Designation

To preclude the potential for significant adverse impacts related to air quality, an (E) designation would be incorporated into the rezoning proposal for Blocks 3860,3861, and 3862 – all Lots. The text for the (E) designation is as follows:

The (E) designation text related to air quality is as follows:

E-designation for the proposed development buildings will require that each building on Projected Site 1 and 2 and Projected Site 3 will have an independent HVAC system, use exclusively natural gas in the HVAC systems, and conform with the required stack location and setbacks. With E-designation in place, emissions from each proposed building individually or cumulatively would not significantly impact any of the other buildings.

Block 3862, Lots 1, 23, 24, 25 and 26 (Projected Development Site 1)
South Building A1
Any residential and/or commercial development on the above-referenced property must utilize only natural gas in any fossil fuel-fired HVAC equipment, and HVAC exhaust stack must be located at least 113 feet above grade.

North Building A2
Any residential and/or commercial development on the above-referenced property must utilize only natural gas in any fossil fuel-fired HVAC equipment, and HVAC exhaust stack is located at least 98 feet above grade. HVAC stacks must be located at least 125 feet away from the lot line facing Powell Street, and at least 295 feet away from the lot line facing Hegeman Avenue.

Block 3861, Lots 1 and 6 (Projected Development Site 2)
North Building B1
Any residential and/or commercial development on the above-referenced property must utilize only natural gas in any fossil fuel-fired HVAC equipment, and HVAC exhaust stack must be located at most 78 feet above grade. HVAC stacks must be located at least 75 feet away from the lot line facing Sackman Street, and at least 172 feet away from the lot line facing Hegeman Avenue.

South Building B2
Any residential and/or commercial development on the above-referenced property must utilize only natural gas in any fossil fuel-fired HVAC equipment, and HVAC exhaust stack must be located at least 113 feet above grade.

Block 3860, Lots 1, 3, 4, 5 and 6 (Projected Development Site 3)
Any residential and/or commercial development on the above-referenced property must utilize only natural gas in any fossil fuel-fired HVAC equipment, and HVAC exhaust stack must be located at least 98 feet above grade. HVAC stacks must be located at least 33 feet away from the lot line facing Christopher Street, and at least 25 feet away from the lot line facing Hegeman Avenue.

CONCLUSION

The result of the air quality analyses are as follows:

- No significant adverse air quality impacts from the cumulative HVAC emissions of Building 1a on Projected Site 1, Building 2a on Projected Site 2, and Site 3 on Building 1b on Projected Site 1 and Building 2b on Projected Site 2 are predicted if stacks would conform to the required setbacks; and
- All development buildings on Projected Sites 1 and 2 and Projected Site 3 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 proposed developments' HVAC emissions.

2.12 NOISE

Noise is defined as any unwanted sound, and sound is defined as any air pressure variation that the human ear can detect. Human beings can detect a large range of sound pressures ranging from 20 to 20 million micropascals, but only those air-pressure variations occurring within a set of frequencies are experienced as sound. Air-pressure changes that occur between 20 and 20,000 times a second, stated as units of Hertz (Hz), are registered as sound.

In terms of hearing, humans are less sensitive to low frequencies (<250 Hz) than mid-frequencies (500-1,000 Hz). Humans are most sensitive to frequencies in the 1,000 to 5,000 Hz range. Since ambient noise contains many different frequencies all mixed together, measures of human response to noise assign more weight to frequencies in this range. This is known as the A-weighted sound level.

Noise is measured in sound pressure level (SPL), which is converted to a decibel scale. The decibel is a relative measure of the sound level pressure with respect to a standardized reference quantity. Decibels on the A-weighted scale are termed “dB(A).” The A-weighted scale is used for evaluating the effects of noise in the environment because it most closely approximates the response of the human ear. On this scale, the threshold of discomfort is 120 dB(A), and the threshold of pain is about 140 dB(A). **Table 2.12-1** shows the range of noise levels for a variety of indoor and outdoor noise levels.

Because the scale is logarithmic, a relative increase of 10 decibels represents a sound pressure level that is 10 times higher. However, humans do not perceive a 10 dB(A) increase as 10 times louder; they perceive it as twice as loud. The following are typical human perceptions of dB(A) relative to changes in noise level:

- 3 dB(A) change is the threshold of change detectable by the human ear;
- 5 dB(A) change is readily noticeable; and
- 10 dB(A) increase is perceived as a doubling of the noise level.

The *CEQR Technical Manual* recommends an analysis of two principal types of noise sources: mobile sources; and stationary sources. Both types of noise sources are examined in the following sections.

2.12.1 Mobile Sources

Mobile noise sources are those which move in relation to receptors. The mobile source screening analysis addresses potential noise impacts associated with vehicular traffic generated by the proposed action.

Per the *CEQR Technical Manual*, if existing passenger car equivalent (PCE) values are increased by 100 percent or more due to a proposed action, a detailed analysis is generally performed. Vehicular traffic studies are not warranted, as the proposed action is not expected to generate a magnitude of trips through any local intersection during peak periods that would trigger the need for detailed analysis. Within the Affected Area, on Blocks 3860, 3861 and 3862 no significant adverse mobile source noise impacts due to vehicular traffic are anticipated because of the proposed action.

As discussed in the *CEQR Technical Manual*, if the proposed project is located in areas with high ambient noise levels, which typically include those near heavily-traveled thoroughfares, airports, exposed rail, or other loud activities, further noise analysis may be warranted to determine the

attenuation measures for the project. The Affected Area is located in Brownsville near both Linden Blvd and the Elevated L Train as well as Long Island Railroad Bay Ridge Freight Line. Although the project would not generate sufficient traffic volumes to warrant a mobile source analysis, ambient noise levels may be affected by the site's adjacency to these uses. As such, ambient noise levels were measured to provide an assessment of the potential for traffic noise to have a significant adverse effect on future residents.

The *CEQR Technical Manual* provides noise exposure guidelines in terms of L_{eq} and L_{10} for the maximum amount of allowable noise under existing regulations. L_{eq} is the continuous equivalent sound level. The sound energy from the fluctuating sound pressure levels is averaged over time to create a single number to describe the mean energy or intensity level. High noise levels during a measurement period will have greater effect on the L_{eq} than low noise levels. The L_{eq} has an advantage over other descriptors because L_{eq} values from different noise sources can be added and subtracted to determine cumulative noise levels. In comparison, L_{10} is the SPL exceeded 10 percent of the time. Similar descriptors include the L_{50}, L_{01}, and L_{90} values.

Table 2.12-1 Sound Pressure Level & Loudness of Typical Noises in Indoor & Outdoor Environments

Noise Level dB(A)	Subjective Impression	Typical Sources		Relative Loudness (Human Response)
		Outdoor	Indoor	
120-130	Uncomfortably Loud	Air raid siren at 50 feet (threshold of pain)	Oxygen torch	32 times as loud
110-120	Uncomfortably Loud	Turbo-fan aircraft at take-off power at 200 feet	Riveting machine Rock band	16 times as loud
100-110	Uncomfortably Loud	Jackhammer at 3 feet		8 times as loud
90-100	Very Loud	Gas lawn mower at 3 feet Subway train at 30 feet Train whistle at crossing Wood chipper shredding trees Chain saw cutting trees at 10 feet	Newspaper press	4 times as loud
80-90	Very Loud	Passing freight train at 30 feet Steamroller at 30 feet Leaf blower at 5 feet Power lawn mower at 5 feet	Food blender Milling machine Garbage disposal Crowd noise at sports event	2 times as loud
70-80	Moderately Loud	NJ Turnpike at 50 feet Truck idling at 30 feet Traffic in downtown urban area	Loud stereo Vacuum cleaner Food blender	Reference loudness (70 dB(A))
60-70	Moderately Loud	Residential air conditioner at 100 feet Gas lawn mower at 100 feet Waves breaking on beach at 65 feet	Cash register Dishwasher Theater lobby Normal speech at 3 feet	2 times as loud
50-60	Quiet	Large transformers at 100 feet Traffic in suburban area	Living room with TV on Classroom Business office Dehumidifier Normal speech at 10 feet	1/4 as loud

40-50	Quiet	Bird calls Trees rustling Crickets Water flowing in brook	Folding clothes Using computer	1/8 as loud
30-40	Very quiet		Walking on carpet Clock ticking in adjacent room	1/16 as loud
20-30	Very quiet		Bedroom at night	1/32 as loud
10-20	Extremely quiet		Broadcast and recording studio	
0-10	Threshold of Hearing			

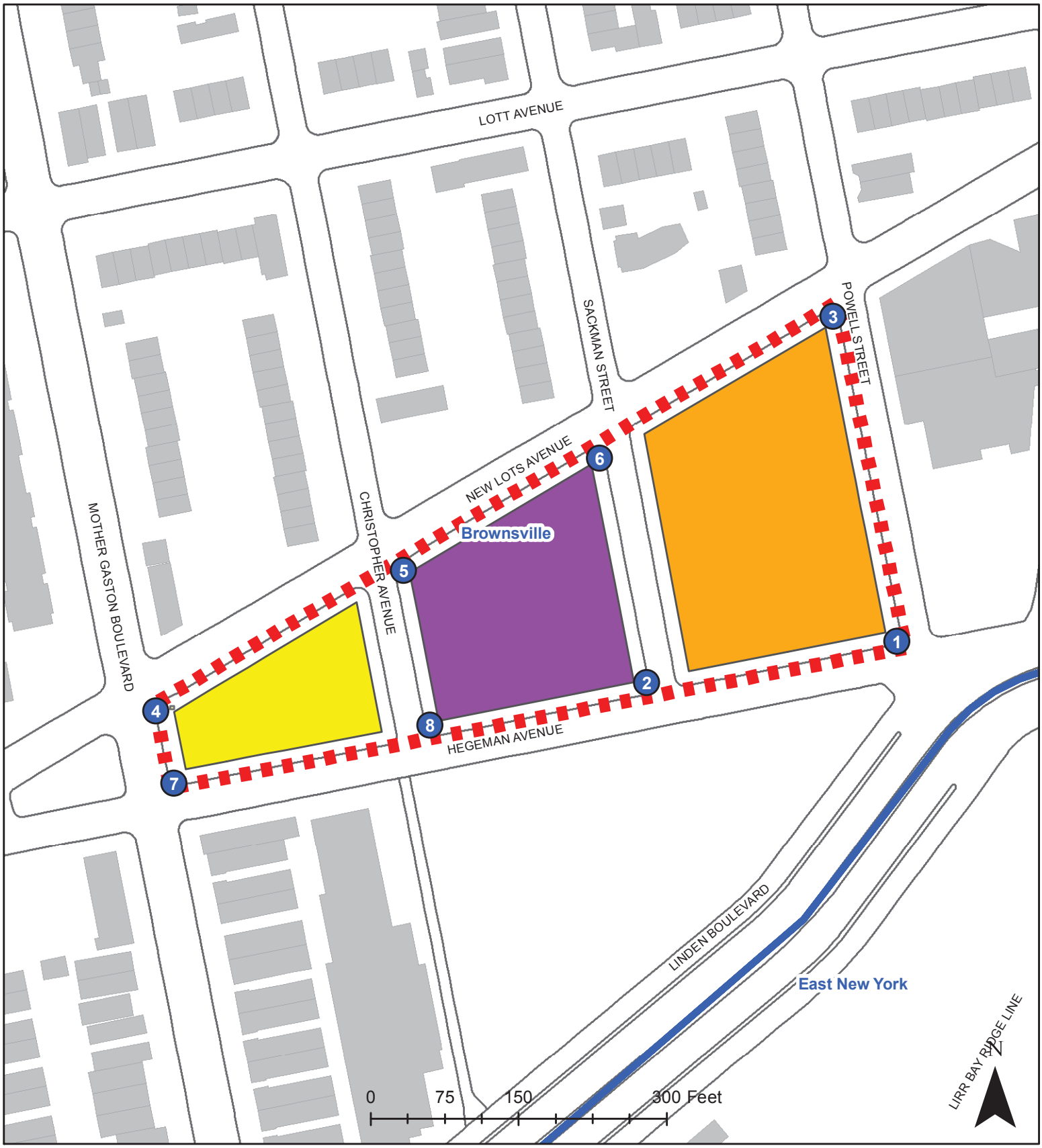
Sources: Noise Assessment Guidelines Technical Background, by Theodore J. Schultz, Bolt Beranek and Newman, Inc., prepared for the US Department of Housing and Urban Development, Office of Research and Technology, Washington, D.C., undated; Sandstone Environmental Associates, Inc.; Highway Noise Fundamentals, prepared by the Federal Highway Administration, US Department of Transportation, September 1980; Handbook of Environmental Acoustics, by James P. Cowan, Van Nostrand Reinhold, 1994.

Measurement Conditions

Because the predominant noise source Affected Area is vehicular traffic, noise monitoring was conducted during peak vehicular travel periods, 7:30-9:00 am, 12:00 pm-1:30 pm, and 4:30-6:00 pm. Noise monitoring was conducted using a Type 2 Larson-Davis LxT2 sound meter, with wind screen, and a Type 1 Casella CEL 633C sound meter, with wind screen. The monitors were placed on a tripod at a height of approximately three feet above the ground, away from any other surfaces. Pursuant to CEQR Technical Manual methodology, readings were conducted for 20 minute periods during each peak hour at the at the Affected Area comprising the Proposed Development and Projected Development Sites – including all Lots within Blocks 3861 and 3862 as well as 3860 at 8 locations on Thursday October 13, 2016, Wednesday October 19th, 2016, and on Thursday October 20, 2016. The sound level meters were placed at the following locations

1. corner of Powell Street and Hegeman Avenue
2. corner of Hegeman Avenue and Sackman Street
3. corner of Powell Street and New Lots Avenue
4. corner of Mother Gaston Blvd. and New Lots Avenue
5. corner of Christopher Avenue and New Lots Avenue
6. Sackman Street and New Lots Avenue
7. Mother Gaston Blvd. and Hegeman Avenue
8. corner of Christopher Avenue and Hegeman Avenue

Levels at the site were measured during the weekday peak hours of 7:30 a.m. to 9:30 a.m. and 4:30 p.m. to 5:30 p.m. An off-peak measurement was also taken between 12:00 p.m. and 1:00 p.m. Weather was dry, and wind speeds were moderate throughout the day during all three monitoring dates. Local industrial business activity, heavy pedestrian chatter, and loud music playing from uses present on the project site all contributed to very high ambient noise profile are therefore considered in this cumulative noise assessment. The measurement locations are shown in **Figure 2.12-1.** The results of the noise measurements taken at the Affected Area are summarized in **Tables 2.12-2 - 2.12-10**.



Legend

- Noise Data Point
- Affected Area
- Neighborhood Boundary
- Site 1 - Block 3862
- Site 2 - Block 3861
- Site 3 - Block 3860

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Figure 2.12-1: Noise Measurement Locations

Table 2.12-2 Noise-2 (1 of 8): Noise Levels at corner of Powell Street and Hegeman Avenue

	Thursday, October 13, 2016		
	7:33 - 7:53 am	12:04 - 12:24 pm	4:30 - 4:51 pm
L_{max}	87.2	80.7	85.0
L_5	77.0	71.5	73.5
L_{10}	**74.0**	**69.5**	**71.0**
L_{eq}	71.9	66.2	67.9
L_{50}	68.0	63.5	65.0
L_{90}	63.5	58.5	59.5
L_{min}	58.3	54.7	57.1

Table 2.12-3 Noise-2 (2 of 8): Noise Levels at corner of Hegeman Avenue and Sackman Street

	Thursday, October 13, 2016		
	7:54 - 8:15 pm	12:25 – 12:47 pm	4:53 – 5:14 pm
L_{max}	80.3	77.1	80.1
L_5	73.8	70.1	69.7
L_{10}	**72.7**	**68.7**	**68.1**
L_{eq}	68.6	64.3	64.3
L_{50}	65.7	60.5	60.6
L_{90}	58.8	54.5	56.7
L_{min}	52.6	51.2	53.9

Table 2.12-4 Noise-2 (3 of 8): Noise Levels at corner of Powell Street and New Lots Avenue

	Thursday, October 13, 2016		
	8:18– 8:39 am	12:49 - 1:10 pm	5:16 – 5:36 pm
L_{max}	78.8	79.3	95.9
L_5	71.7	71.9	72.4
L_{10}	**69.9**	**69.0**	**69.2**
L_{eq}	66.6	66.0	71.0
L_{50}	64.2	62.4	64.0
L_{90}	57.9	55.4	59.7
L_{min}	53.4	50.8	54.5

Table 2.12-5 Noise-2 (4 of 8): Noise Levels at corner of Mother Gaston Blvd. and New Lots Avenue

	Wednesday, October 19, 2016		
	8:09– 8:29 am	12:00 - 12:20 pm	4:59 – 5:19 pm
L_{max}	87.2	80.7	85.0
L_5	77.0	71.5	73.5
L_{10}	**74.0**	**69.5**	**71.0**
L_{eq}	71.9	66.2	67.9
L_{50}	68.0	63.5	65.0
L_{90}	63.5	58.5	60.0
L_{min}	58.3	54.7	57.1

Table 2.12-6 Noise-2 (5 of 8): Noise Levels at corner of Christopher Avenue and New Lots Avenue

	Wednesday, October 19, 2016		
	8:31– 8:51 am	12:28 - 12:48 pm	5:23 – 5:43 pm
L_{max}	82.4	79.6	80.1
L_5		70.5	69.5
L_{10}	**68.7**	**67.5**	**67.5**
L_{eq}	66.2	64.3	64.2
L_{50}		59.0	61.0
L_{90}		53.0	56.0
L_{min}	51.6	49.2	52.8

Table 2.12-7 Noise-2 (6 of 8): Noise Levels at corner of Sackman Street and New Lots Avenue

	Wednesday, October 19, 2016		
	8:31– 8:51 am	12:50 - 1:10 pm	5:46 – 6:06 pm
L_{max}	82.4	85.0	102.5
L_5	70.5		70.5
L_{10}	**68.5**	**66.5**	**67.5**
L_{eq}	66.2	64.1	74.1
L_{50}	76.0	60.0	61.0
L_{90}	59.5	54.0	55.0
L_{min}	51.6	49.2	49.8

Table 2.12-8 Noise-2 (7 of 8): Noise Levels at corner of Mother Gaston Blvd. and Hegeman Avenue

	Thursday, October 20, 2016		
	8:41– 9:01 am	12:47 - 1:07 pm	5:38 – 5:58 pm
L_{max}	92.0	78.8	78.8
L_5	74.5	71.5	70.5
L_{10}	**72.0**	**69.0**	**69.0**
L_{eq}	70.6	65.9	65.8
L_{50}	65.0	63.0	63.5
L_{90}	61.5	59.5	60.0
L_{min}	58.0	56.0	57.5

Table 2.12-9 Noise-2 (8 of 8): Noise Levels at corner of Christopher Avenue and Hegeman Avenue

	Thursday, October 20, 2016		
	8:18– 8:39 am	12:26 - 12:46 pm	5:01 – 5:21 pm
L_{max}	82.9	76.5	74.9
L_5	73.0	68.5	69.5
L_{10}	**70.5**	**66.5**	**68.0**
L_{eq}	67.4	63.1	64.3
L_{50}	64.5	60.5	62.0
L_{90}	59.5	56.5	57.5
L_{min}	56.0	55.1	54.3

Corresponding Traffic Volumes and Vehicle Classifications (20-Minute counts for duration of each morning session) were compiled while monitoring occurred to assess the relationship of ambient traffic to data collection periods – these findings are presented in **Table 2.12-10** below.

Table 2.12-10 Existing Traffic Counts at Monitoring Intersections

Thursday, 10-13-16	Corner of Powell Street and Hegeman Avenue		
	AM	MD	PM
Car/Taxi	106	47	66
Van/Lt. Truck/SUV	113	56	65
Heavy Truck	14	13	4
Bus	9	2	3
Motorcycle	0	0	1
Plane	0	0	0
Thursday, 10-13-16	Corner of Hegeman Avenue and Sackman Street		
	AM	MD	PM
Car/Taxi	71	33	45
Van/Lt. Truck/SUV	65	37	48
Heavy Truck	3	3	2

Bus	1	1	1
Motorcycle	0	0	0
Plane	0	0	0
Thursday, 10-13-16	Corner of Powell Street and New Lots Avenue		
	AM	MD	PM
Car/Taxi	85	64	89
Van/Lt. Truck/SUV	85	63	91
Heavy Truck	6	8	5
Bus	14	12	13
Motorcycle	0	0	0
Plane	0	0	0
Thursday, 10-20-16	Corner of Christopher Avenue and Hegeman Avenue		
	AM	MD	PM
Car/Taxi	77	31	63
Van/Lt. Truck/SUV	104	57	55
Heavy Truck	8	2	5
Bus	0	0	0
Mini Bus	3	3	3
Motorcycle	0	0	1
Thursday, 10-20-16	Corner of Mother Gaston Blvd. and Hegeman Avenue		
	AM	MD	PM
Car/Taxi	77	39	67
Van/Lt. Truck/SUV	130	63	100
Heavy Truck	6	1	2
Bus	0	0	0
Mini Bus	5	2	4
Motorcycle	1	0	2
Thursday, 10-20-16	Corner of Mother Gaston Blvd. and Hegeman Avenue		
	AM	MD	PM
Car/Taxi	77	39	67
Van/Lt. Truck/SUV	130	63	100
Heavy Truck	6	1	2
Bus	0	0	0
Mini Bus	5	2	4
Motorcycle	1	0	2
Wednesday, 10-19-16	Corner of Sackman Street and New Lots Avenue		
	AM	MD	PM
Car/Taxi	35	55	40
Van/Lt. Truck/SUV	24	40	43
Heavy Truck	0	13	2
Bus	3	15	0
Mini Bus	3	5	10
Motorcycle	0	0	1
Wednesday, 10-19-16	Corner of Christopher Avenue and New Lots Avenue		
	AM	MD	PM

Car/Taxi	45	63	30
Van/Lt. Truck/SUV	40	53	30
Heavy Truck	0	10	0
Bus	4	5	4
Mini Bus	3	0	2
Motorcycle	0	0	0
Wednesday, 10-19-16	Corner of Mother Gaston Blvd. and New Lots Avenue		
	AM	MD	PM
Car/Taxi	60	80	60
Van/Lt. Truck/SUV	62	55	55
Heavy Truck	3	0	6
Bus	6	8	6
Mini Bus	4	2	11
Motorcycle	0	0	1

Additional Specialized Noise Monitoring

As additional sources of noise were identified beyond the general traffic oriented ambient noise described in the above section, additional noise monitoring was performed for two types of noise generators – i.e. noise generated by the nearby L Line – approximately 500 feet to the east of the Affected Area as well as noise generated at peak activity at Brownsville Playground – directly across from the Affected Area on Hegeman Avenue.

Train Generated Noise Monitoring of the L Line

In order to capture the potential frequency of train activity and noise generated on the L line near the Affected Area, at the request of NYCDCP, additional 1 hour monitoring was conducted using a Type 2 Larson-Davis LxT2 sound meter, with wind screen, and a Type 1 Casella CEL 633C sound meter, with wind screen. The monitors were placed on a tripod at a height of approximately three feet above the ground, away from any other surfaces. The monitoring was conducted at Site 1 as identified on **Figure 2.12-11** at the corner of Powell and Hegeman Avenue. Monitoring for 1 hour was held at Peak AM and PM as well as during midday at this location. During monitoring at this location during the AM and afternoon periods – cars that were related an existing auto service store was heavily revving their engines and peeling out causing distortions in the air monitoring. However, even given these distortions – monitoring findings were highly consistent with the 20 minute readings at the site – reaching a maximum L10 reading of 74 at the same location for both 20 and 1 hour readings.

Figure 2.12-11 1 hour noise monitoring at Powell and Hegeman Avenue

	Tuesday, February 28, 1017		
	8:00 - 9:00 AM	12:00 - 1:00 PM	4:56 - 5:56 PM
Lmax	96.8	109.1	82.5
Lmin	56.8	50.7	50.7
Leq	72.8	78.6	65.9
L5	75.5	75.5	70
L10	**74**	**74**	**68.5**
L50	70	68.5	64
L90	65	60	59
L95	63	58.5	58

Playground Generated Noise Monitoring of Brownsville Playground

In order to capture a sample of peak noise experience adjacent to Brownsville Playground, a 2:30 to 3:30 midweek day 20-minute noise sample was taken directly across the street from Brownsville Playground at Site 2 from **Figure 2.12-1** near Sackman Street and Hegeman Avenue. Monitoring was conducted using a Type 2 Larson-Davis LxT2 sound meter, with wind screen, and a Type 1 Casella CEL 633C sound meter, with wind screen. The monitors were placed on a tripod at a height of approximately three feet above the ground, away from any other surfaces. The results of this monitoring is shown in **Table 2.12-12.** As this Table shows, monitoring at this area was similar to samples taken at the same location in the midday and afternoon periods.

Table 2.12-12 20 Minute noise monitoring of Brownsville Playground at Peak

Tuesday, February 28, 1017 2:43-3:30 PM	
L_{max}	85.7
L_{min}	54.3
L_{eq}	66
L_5	70.5
L_{10}	**68.5**
L_{50}	63
L_{90}	58.5
L_{95}	57

2.12.2 Stationary Sources

The *CEQR Technical Manual* states that based upon previous studies, unless existing ambient noise levels are very low and/or stationary source levels are very high (and there are no structures that provide shielding), it is unusual for stationary sources to have significant impacts at distances beyond 1,500 feet. A detailed analysis may be appropriate if the proposed project would: cause a substantial stationary source (i.e., unenclosed mechanical equipment for manufacturing or building ventilation purposes, playground, etc.) to be operating within 1,500 feet of a receptor, with a direct line of sight to that receptor; or introduce a receptor in an area with high ambient noise levels resulting from stationary sources, such as unenclosed manufacturing activities or other loud uses. Machinery, mechanical equipment, heating, ventilating and air-conditioning units, loudspeakers, new loading docks, and other noise associated with building structures may also be considered in a stationary source noise analysis. Impacts may occur when a stationary noise source is near a sensitive receptor, and is unenclosed.

Even though the proposed rezoning area is in an existing M1-1 district, no unenclosed specific stationary noise sources of concern were observed during field inspection. As the project site is not subject to high ambient noise levels from any nearby stationary source, no stationary source noise impacts from surrounding uses are anticipated. Further all the existing uses in this section of the M1-1 will be replaced by residential, commercial, and community facility uses. Additionally, as the proposed project would not introduce a new stationary noise source, no significant adverse stationary source impacts are anticipated because of the proposed action, and no further analysis is warranted.

In 1983, the New York City Department of Environmental Protection (NYCDEP) adopted the City Environmental Protection Order-City Environmental Quality Review (CEPO-CEQR) noise standards at the exterior façade to achieve interior noise levels of 45 dB(A) or below. CEPO-CEQR Noise Standards classify noise exposure into four categories: Acceptable, Marginally Acceptable, Marginally Unacceptable and Clearly Unacceptable. As noted in the *CEQR Technical Manual*, these standards

are the basis for classifying noise exposure into the following categories based on the L_{10} measured directly outside the projected development site:

Table 2.12-13 Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Unacceptable				Clearly Unacceptable
Noise Level with Proposed Project	$70 < L_{10} \leq 73$	$73 < L_{10} \leq 76$	$76 < L_{10} \leq 78$	$78 < L_{10} \leq 80$	$80 < L_{10}$
Attenuation[1]	(I) 28 dB(A)	(II) 31 dB(A)	(III) 33 dB(A)	(IV) 35 dB(A)	$36 + (L_{10} - 80)^2$ dB(A)

Source: *CEQR Technical Manual*
Notes:
[1] The above composite window-wall attenuation values are for residential dwellings. Commercial and office spaces/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.
[2] Required attenuation values increase by 1 dB(A) increments for L_{10} values greater than 80 dBA.

As the Affected Area and Proposed Development is spread over multiple blocks and the surrounding land uses and exposure to various ambient sources – differs significantly from one location in the Affected Area to another, the evaluation of whether noise levels are acceptable should be evaluated on a block by block and building face by building face approach. The measured ambient noise levels indicate that the project-induced sensitive receptors would be in an area that is marginally unacceptable *Noise Exposure Guidelines* summarized in CEQR Table 19-2. Therefore, an impact would occur unless the building design as proposed provides a composite building attenuation that would be sufficient to reduce these levels to an acceptable interior noise level. These values are shown in **Table 2.12-13**

Site 1 is Located on Block 3861 – Noise Receptor Locations 1 and 3 identify noise for this Site on Powell and New Lots Avenue and Powell and Hegeman Avenue, while noise monitoring locations 2 and 6 on Sackman Street corners at New Lots Avenue and Hegeman Avenue facing the façade of the Proposed Development on Sackman Street. Receptor 1 has an AM max L10 of 74 dB – which effectively would require Type II 31 dB Attenuation for the façades facing Powell Street and Hegeman Avenue on Site 1. Receptor Location 2, at the corner of Hegeman Avenue and Sackman Street has an AM max L10 of 72.7 and would require Type I 28 dB Attenuation for façade facing Sackman Street for Site 1. Receptor Location 3, monitored noise likely to be heard at the corner of Powell Street and New Lots Avenue and the facades at the development proposed for Site 1. This receptor identified a maximum dB reading of 69.9 in the AM period – requiring no specific attenuation. Receptor Location 6, monitored noise likely be received by Site 1 facades on the corner of Sackman Street and New Lots Avenue and identified a max L10 dB reading of 68.5 – requiring no attenuations.

Site 2 is Located on Block 3862 and had related monitoring locations 5,8, 6 and 2 identifying potential noise impacts to the future development on Site 2. As noted above monitoring sites 6 and 2 identified respective maximum dB readings of 68.5 and 72.7 – which would indicate a potential need for Type 1 28 dB Attenuation for the Hegeman Aveue and Sackman Street facades of the Proposed Development on Site 2. The noise receptor site 5 on the corner of Christopher Street and New Lots Avenue identified a maximum reading of 68.7 dB in the AM monitoring period and receptor 8 on the corner of Christopher and Hegeman Avenue has a maximum reading of 70.5 also during the AM monitoring period. These readings indicate that the façade facing Christoper would also need Type 1 28 dB Attenuation while new Lots Avenue façade of Site 2 development would likely not require attenuation.

Based on the results of the noise monitoring program and the CEQR Technical Manual guidelines for acceptable interior noise levels, the proposed buildings on Site A and Site B would require

some level of window-wall attenuation as identified above and as recommended shown in **Figure 2.12-2**. Therefore, noise impacts are not expected to occur because of the proposed action, and further noise assessments are not warranted.

Figure 2.12-2 Noise Attenuation Recommendations



To preclude the potential for significant adverse impacts related to noise, an (E) designation would be incorporated into the rezoning proposal for Block 3861 and 3862. The text for the (E) designation is as follows:

Block 3862, Lots 1, 23, 24, 25 and 26 (Projected Development Site 1)
To ensure an acceptable interior noise environment, future residential/commercial uses must provide a closed-window condition with a minimum of 35 dBA window/wall attenuation on all southern façade facing Hegeman Avenue and western façade facing Powell Street within 100 feet from Hegeman Avenue and 28 dBA of attenuation on all other façade 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.

Block 3861, Lots 1 and 6 (Projected Development Site 2)
To ensure an acceptable interior noise environment, future residential/commercial uses must provide a closed-window condition with a minimum of 28 dBA window/wall attenuation on all facades 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.

Block 3860, Lots 1, 3, 4, 5 and 6 (Projected Development Site 3)
To ensure an acceptable interior noise environment, future residential/commercial uses must provide a closed-window condition with a minimum of 31 dBA window/wall attenuation on all facades facing Mother Gaston Boulevard and New Lots Avenue and 28 dBA of attenuation on all other facades 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.

With these (E) designations in place, no significant adverse noise impacts related to noise are expected, and no further analysis is warranted.

2.13 PUBLIC HEALTH

According to the 2014 *CEQR Technical Manual*, Public health is the organized effort of society to protect and improve the health and well-being of the population through monitoring; assessment and surveillance; health promotion; prevention of disease, injury, disorder, disability and premature death; and reducing inequalities in health status. The goal of CEQR with respect to public health is to determine whether adverse impacts on public health may occur as a result of a proposed project, and if so, to identify measures to mitigate such effects.

Pursuant to 2014 CEQR Technical Manual methodology, for most proposed projects, a public health analysis is not necessary. Where no significant unmitigated adverse impact is found in other CEQR analysis areas, such as air quality, water quality, hazardous materials, or noise, no public health analysis is warranted. If, however, an unmitigated significant adverse impact is identified in other CEQR analysis areas, such as air quality, water quality, hazardous materials, or noise, the lead agency may determine that a public health assessment is warranted for that specific technical area.

Based on the analyses presented in this report, the proposed action does not have the potential for significant unmitigated impacts to any of the constituent elements of public health. Therefore, no further analysis of public health is warranted.

2.14 NEIGHBORHOOD CHARACTER

As defined by the CEQR Technical Manual, neighborhood character is a blend of the various elements that give a neighborhood its distinct personality. The elements, when applicable, typically include: land use, zoning and public policy; socioeconomic conditions; open space; historic and cultural resources; urban design and visual resources; shadows; transportation; and noise.

If a project has the potential to result in any significant adverse impacts on any of the above technical areas, a preliminary assessment of neighborhood character may be appropriate. In addition, depending on the project, a combination of moderate changes in several of these technical areas may potentially have a significant effect on neighborhood character. As stated in the *CEQR Technical Manual*, a "moderate" effect is generally defined as an effect considered reasonably close to the significant adverse impact threshold for a particular technical analysis area. When considered together, there are elements that may have the potential to significantly affect neighborhood character. Moderate effects on several elements may affect defining features of a neighborhood and, in turn, a pedestrian's overall experience. If it is determined that two or more categories may have potential "moderate effects" on the environment, CEQR states that the following question should be answered: "Would the proposed project result in a combination of moderate effects to several elements that cumulatively may affect neighborhood character?"

The proposed action would not exceed any of the thresholds in the technical areas listed above, which would typically warrant a detailed assessment of the potential for neighborhood character impacts, and thus significant adverse impacts are not expected. In addition, the proposed action is not expected to result in any notable impacts or changes in studied technical areas, and as such, would not have a significant effect on neighborhood character. A key to the photographs of the Project Site and surrounding project study area were previously shown with photographs of the site and surrounding study area displayed previously at the end of Section 1.

The project site and rezoning area is composed of Blocks 3861 and 3862 and the non-applicant controlled 3860 within a triangular shaped area bound by New Lots Avenue to the North, Powell Street to the east, Hegeman Avenue to the south, and Mother Gaston Blvd to the west. The Study Area is generally composed of two-story one- and two-family residential uses, while Plaza residences, a large complex of 6 story apartment buildings with affordable housing is directly west of the affected area on Mother Gaston Blvd and new Lots Avenue. South of the project site sits Brownsville Playground and Recreation Center, while Linden Blvd and the MTA L Canarsie Line form the southern and eastern boundary of the Study Area.

The Affected Area is located within an M1-1 district which is almost exclusively occupied by a variety of auto repair and sale uses. These uses present a blighted face to an otherwise pleasant and unified residential neighborhood. The buildings themselves and the way they are used are a source of neighborhood deterioration – the replacement of which with the Proposed Action would be a great contributor to improving and unifying the residential character of the neighborhood. Many of the auto body repair businesses perform their activities on the sidewalk, leaving partially rebuilt cars on the sidewalks, leaving customer cars parked in on-street spaces and generally crowding sidewalks with business uses that prevent easy access to and from Brownsville Playground. The proposed redevelopment will reinforce the residential transitioning of the area – providing a strong buffer between the low scale residential developments to the north of the affected area and the busy Linden Boulevard. The provision of addition local retail an community facilities planned for the Affected Area will help enhance the area with uses that unify the area and serve the needs of neighborhood residents. Therefore, no significant are expected to community character because of the proposed action, and further assessment is not warranted.

2.15 CONSTRUCTION

Construction impacts, although temporary in duration, can have disruptive and noticeable effects on the area that surrounds a project site. The potential for construction impacts to become significant could occur when construction activity results in a significant adverse effect on such technical areas as transportation, air quality, noise, historic and cultural resources, hazardous materials, natural resources, open space, socioeconomic conditions, community facilities, land use and public policy, neighborhood character or infrastructure. The determination of significance and need for related mitigation is generally based on the duration and magnitude of the potential construction impacts. A project's construction activities may affect a number of technical areas analyzed for the operational period, such as air quality, noise, and traffic; therefore, a construction assessment relies to a significant extent on the methodologies and resulting information gathered in the analyses of these technical areas.

The following considerations are used to determine whether further analysis of a project's construction activities is needed for any technical area.

TRANSPORTATION
A transportation analysis of construction activities is predicated upon the duration, intensity, complexity, and/or location of construction activity. Analysis of the effects of construction activities on transportation is often not required, as many projects do not generate enough construction traffic to warrant such analysis. An analysis should consider a number of factors before determining whether a preliminary assessment of the effect of construction on transportation is needed. These factors include whether the construction would be located in a Central Business District or along an arterial or major thoroughfare, whether any closures or narrowing of moving or parking lanes or pedestrian facilities would be located in an area with high pedestrian activity or near sensitive land uses such as schools, hospitals, or parks, and whether the project would involve construction on multiple development sites in the same geographic area such that there is the potential for several construction timelines to overlap, and last for more than two years overall.

The proposed development would affect two blocks 3862 and 3861 or Projected Development Site 1 and Site 2 as they have been referred to throughout this document. In addition, the Projected Development Site – referred to as Site C would be constructed on Block 3860 and is not controlled by the Applicant. The three site sit between Hegeman Avenue and New Lots Avenue, which is a local truck route. There would be no construction activity within a Central Business District or on an arterial or major thoroughfare. The proposed development would occur in an area that experiences moderate pedestrian activity and traffic. While the two development sites and one projected development site has been identified, cumulative development on these sites is not expected to overlap and – while the two proposed development sites are expected to be completed by 2019 – with construction to start in 2017 and not last for more than 24 months. Meanwhile, the development of Site C is anticipated to be constructed before 2025.

AIR QUALITY AND NOISE
Per the CEQR Technical Manual, an assessment of air quality and noise for construction activities is likely not warranted if the project's construction activities:
• Are considered short-term (less than two years);
• Are not located near sensitive receptors; and
• Do not involve construction of multiple buildings where there is a potential for on-site receptors on buildings to be completed before the final build-out.

The proposed action would not result in construction activities lasting longer than two years, and would not result in construction near sensitive receptors. Build out and occupancy of development sites is expected to occur in such a way that occupancy of on-site receptors would not occur prior to final build out of a site.

HISTORIC AND CULTURAL RESOURCES

As discussed elsewhere in this document, the Landmarks Preservation Commission has determined that the Affected Area does not possess architectural or archaeological resources. Therefore, construction activity does not have the potential for adverse impacts.

HAZARDOUS MATERIALS

As discussed elsewhere in this document, a Phase I Environmental Site Assessment has been prepared for the Applicant Development Site and the site is in the NYS Brownfield Program. The site will require significant remediation and further investigation would be provided to ensure that construction and occupancy of action-induced development does not result in significant adverse impacts related to hazardous materials. Compliance with the E-Designation specified under Hazardous Materials Section would avoid the potential for adverse impacts.

NATURAL RESOURCES

The proposed action would result in redevelopment within a fully urbanized area that does not provide habitat for any rare or endangered plant or animal species. Construction activities would not have the potential for adverse impacts to natural resources.

OPEN SPACE, SOCIOECONOMIC CONDITIONS, COMMUNITY FACILITIES, LAND USE AND PUBLIC POLICY, NEIGHBORHOOD CHARACTER, AND INFRASTRUCTURE

According to the CEQR Technical Manual, a preliminary construction assessment is generally not needed for these technical areas unless the following are true:

• The construction activities are considered “long-term” (more than 2 years); or

• Short-term construction activities would directly affect a technical area, such as impeding the operation of a community facility (e.g., result in the closing of a community health clinic for a period of a month(s)).

Since none of these situations would occur, the proposed action does not have the potential for significant adverse impacts related to construction activity.

equity environmental engineering

Ebenezer Plaza
Rezoning & Text Amendments

Appendicies to the Environmental Assessment Statement

February, 2017

Ebenezer Plaza
Block: 3861, Lots: 1, and 6; Block: 3862, Lots: 1, 23, 24, 25, and 26
Brooklyn, NY

Other Sites Affected by Requested Action:
Block: 3860, Lots 1, 3, 4, 5 and 6
Brooklyn, NY

Prepared for:
Brownsville Linden Plaza LLC
4546 East 173RD St.
Bronx, NY 10457

Prepared by:
Equity Environmental Engineering
500 International Drive, Suite 150
Mount Olive, NJ 07828

APPENDICIES TO EBENEZER PLAZA ENVIRONMENTAL ASSESSMENT

1. ARCHITECTURE

ER LLC
N GROUP LLC

NAGER
T GROUP LLC



Block A
Block B
ng Map
sis - Block A
sis - Block B
ning Lot Overall Site Plan
ning Lot Site Plan
ning Lot Site Plan
Plan (*Roof Plan)
ock A (*Roof Plan)
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Key Plan

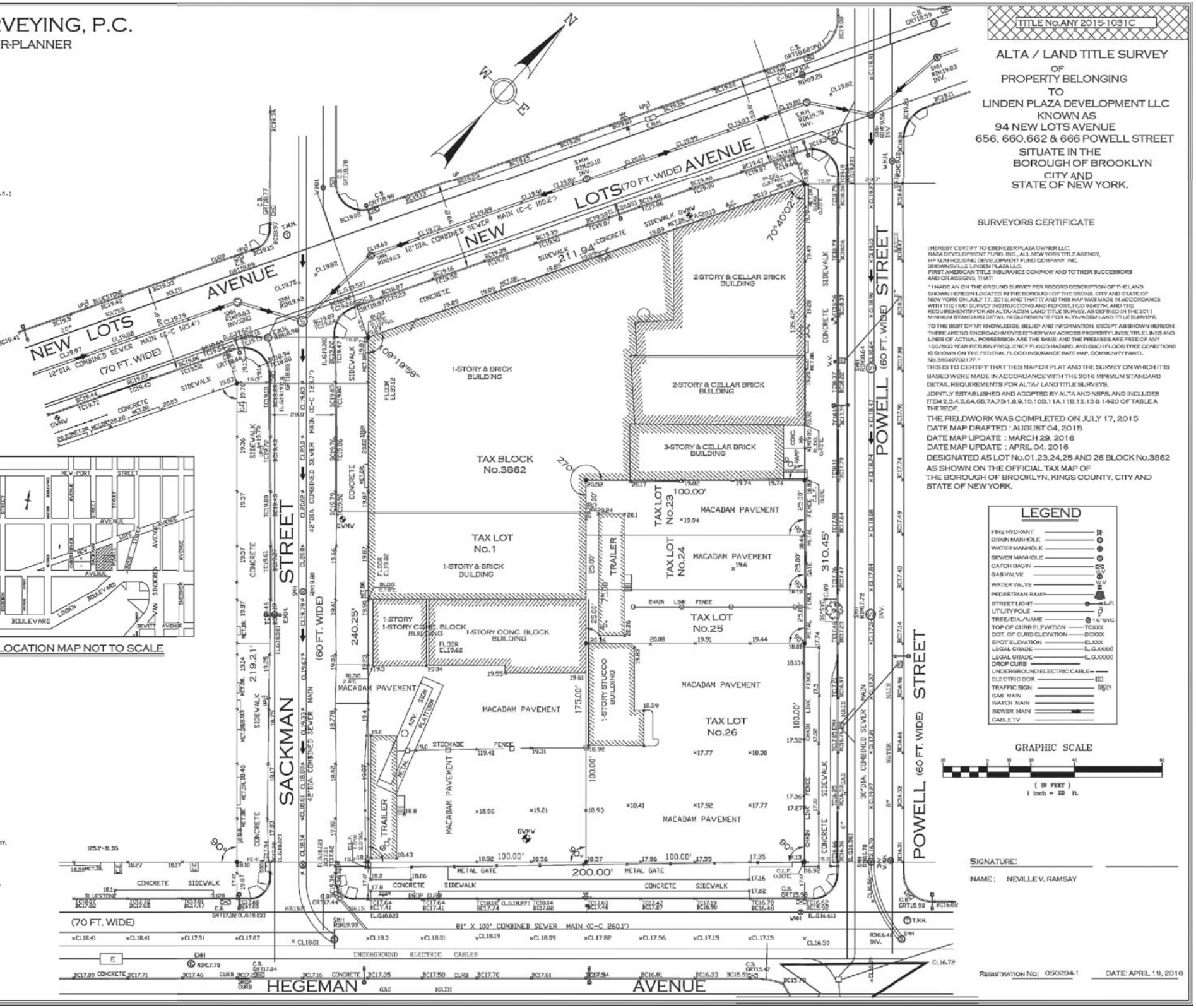
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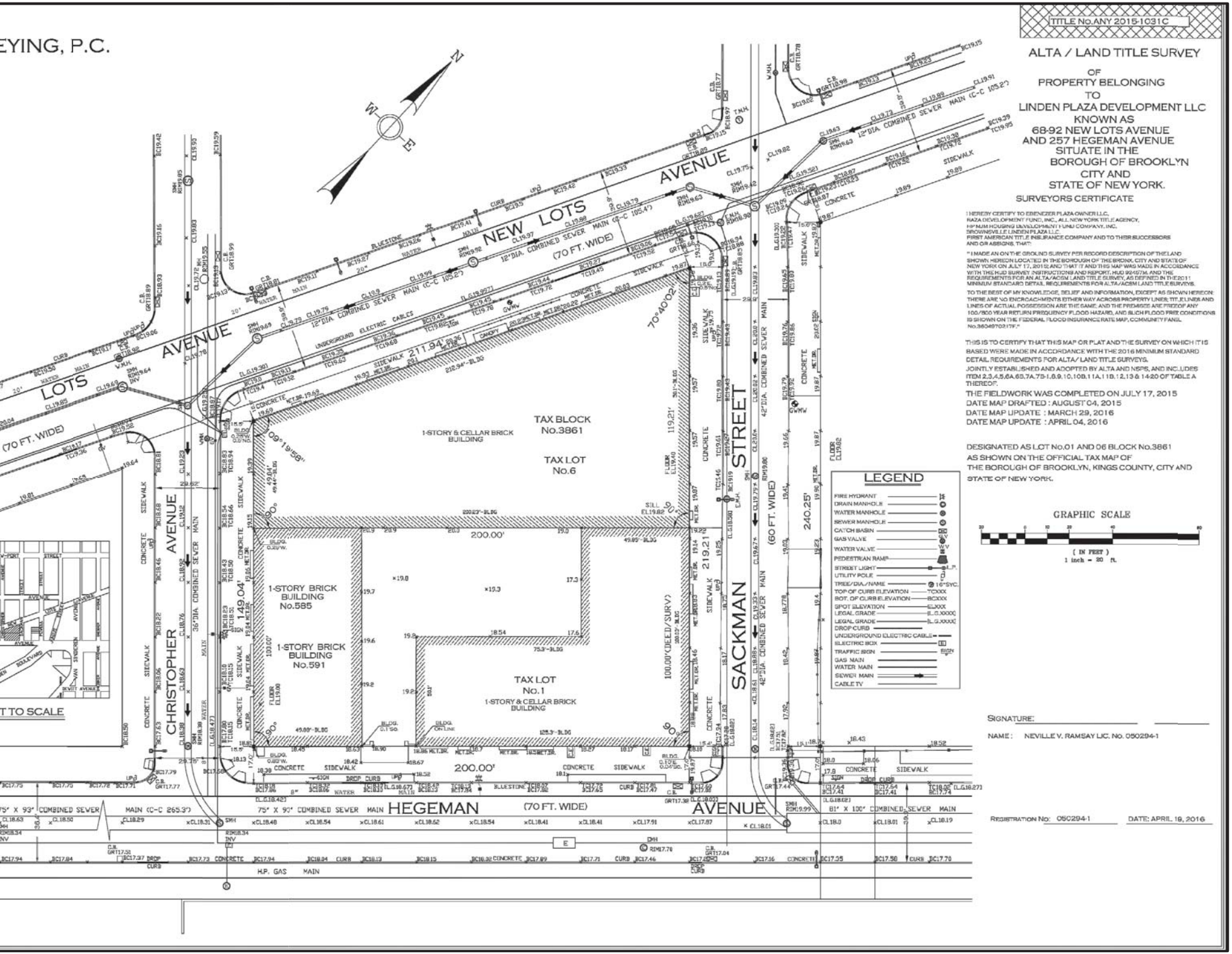
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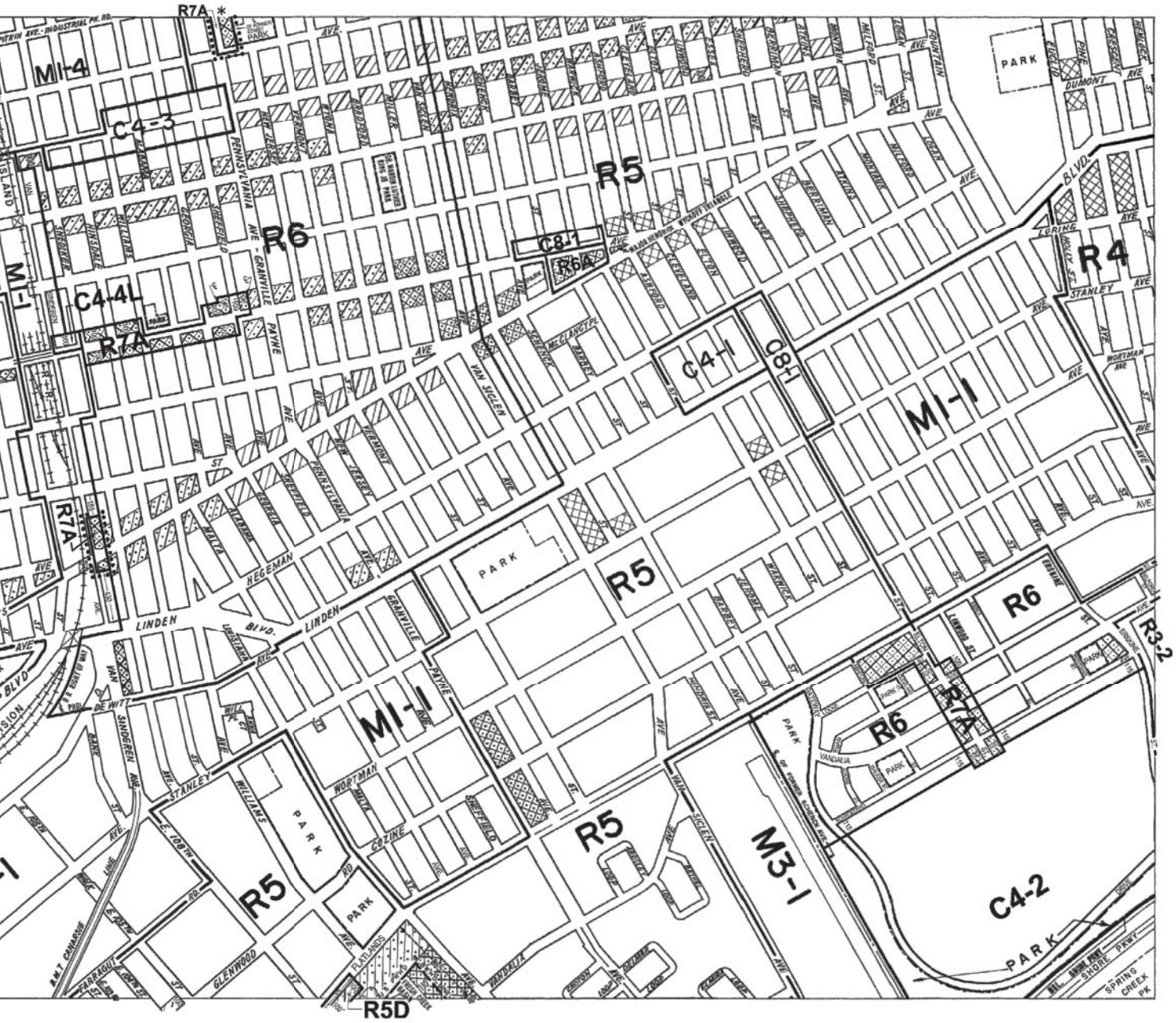
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TITLE No.ANY 2015-1031C
ALTA / LAND TITLE SURVEY
OF
PROPERTY BELONGING
TO
LINDEN PLAZA DEVELOPMENT LLC
KNOWN AS
68-92 NEW LOTS AVENUE
AND 257 HEGEMAN AVENUE
SITUATE IN THE
BOROUGH OF BROOKLYN
CITY AND
STATE OF NEW YORK.
SURVEYORS CERTIFICATE
I HEREBY CERTIFY TO EBENEZER PLAZA OWNER LLC, RAZA DEVELOPMENT FUND, INC., ALL NEW YORK TITLE AGENCY, HP NUM HOUSING UNYLLOHMUNT FUND COMPANY, INC., BROWNSVILLE LINDEN PLAZA LLC FIRST AMERICAN TITLE INSURANCE COMPANY AND TO THEIR SUCCESSORS AND OR ABBIGNS, THAT:
" I MADE AN ON THE GROUND SURVEY PER RECORD DESCRIPTION OF THE LAND SHOWN HEREON LOCATED IN THE BOROUGH OF THE BRONX, CITY AND STATE OF NEW YORK ON JULY 17, 2015; AND THAT IT AND THIS MAP WAS MADE IN ACCORDANCE WITH THE HUD SURVEY INSTRUCTIONS AND REPORT, HUD 92457M, AND THE REQUIREMENTS FOR AN ALTA/ACSM LAND TITLE SURVEY, AS DEFINED IN THE 2011 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS.
TO THE BEST OF MY KNOWLEDGE, BELIEF AND INFORMATION, EXCEPT AS SHOWN HEREON: THERE ARE NO ENCROACHMENTS EITHER WAY ACROSS PROPERTY LINES; TIT JE LINES AND LINES OF ACTUAL POSSESSION ARE THE SAME; AND THE PREMISES ARE FREEOF ANY 100/800 YEAR RETURN FREQUENCY FLOOD HAZARD, AND SUCH FLOOD FREE CONDITIONS IS SHOWN ON THE FEDERAL FLOOD INSURANCE RATE MAP, COMMUNITY PANEL No.3604970217F."
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ LAND TITLE SURVEYS.
JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEM 2,3,4,5,6A,6B,7A,7B-1,8,9,10,10B,11A,11B,12,13 & 14-20 OF TABLE A THEREOF.
THE FIELDWORK WAS COMPLETED ON JULY 17, 2015
DATE MAP DRAFTED : AUGUST 04, 2015
DATE MAP UPDATE : MARCH 29, 2016
DATE MAP UPDATE : APRIL 04, 2016
DESIGNATED AS LOT No.01 AND 06 BLOCK No.3861 AS SHOWN ON THE OFFICIAL TAX MAP OF THE BOROUGH OF BROOKLYN, KINGS COUNTY, CITY AND STATE OF NEW YORK.
LEGEND
FIRE HYDRANT
DRAIN MANHOLE
WATER MANHOLE
SEWER MANHOLE
CATCH BASIN
GAS VALVE
WATER VALVE
PEDESTRIAN RAMP
STREET LIGHT
UTILITY POLE
TREE/DIA./NAME
TOP OF CURB ELEVATION
BOT. OF CURB ELEVATION
SPOT ELEVATION
LEGAL GRADE
LEGAL GRADE
DROP CURB
UNDERGROUND ELECTRIC CABLE
ELECTRIC BOX
TRAFFIC SIGN
GAS MAIN
WATER MAIN
SEWER MAIN
CABLE TV
GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft.
SIGNATURE:
NAME : NEVILLE V. RAMSAY LIC. No. 050294-1
REGISTRATION No: 050294-1
DATE: APRIL 19, 2016
NEW LOTS AVENUE
(70 FT. WIDE)
12"DIA. COMBINED SEWER MAIN (C-C 105.2')
HEGEMAN AVENUE
(70 FT. WIDE)
SACKMAN STREET
(60 FT. WIDE)
CHRISTOPHER AVENUE
TAX BLOCK No.3861
TAX LOT No.6
TAX LOT No.1
1-STORY & CELLAR BRICK BUILDING
1-STORY BRICK BUILDING No.585
1-STORY BRICK BUILDING No.591
200.00'
219.21'
240.25'
149.04'
211.94'
100.00'(DEED/SURV)
42"DIA. COMBINED SEWER MAIN
36"DIA COMBINED SEWER MAIN
75" X 93" COMBINED SEWER MAIN (C-C 265.3')
75" X 90" COMBINED SEWER MAIN
81" X 100" COMBINED SEWER MAIN
H.P. GAS MAIN
SIDEWALK
CONCRETE
BLUESTONE
CURB
DROP CURB
UNDERGROUND ELECTRIC CABLES
T TO SCALE



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.

ZONING MAP

THE NEW YORK CITY PLANNING COMMISSION

Major Zoning Classifications:

The number(s) and/or letter(s) that follows an **R**, **C** or **M** District designation indicates use, bulk and other controls as described in the text of the Zoning Resolution.

R – RESIDENTIAL DISTRICT

C – COMMERCIAL DISTRICT

M – MANUFACTURING DISTRICT

SPECIAL PURPOSE DISTRICT
The letter(s) within the shaded area designates the special purpose district as described in the text of the Zoning Resolution.

AREA(S) REZONED

Effective Date(s) of Rezoning:

*04-20-2016 C 160035 ZMK
01-19-2016 C 160002 ZMK

Special Requirements:

For a list of lots subject to CEQR environmental requirements, see APPENDIX C.

For a list of lots subject to "D" restrictive declarations, see APPENDIX D.

For Inclusionary Housing designated areas and Mandatory Inclusionary Housing areas on this map, see APPENDIX F.

N

MAP KEY

17a	17c	18a
17b	**17d**	18b
23a	23c	24a

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ZONING MAP **17d**

NOTE: Zoning information as shown on this map is subject to change. For the most up-to-date zoning information for this map, visit the Zoning section of the Department of City Planning website: **www.nyc.gov/planning** or contact the Zoning Information Desk at (212) 720-3291.

Bro
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	n/a	UG 6A	UG 6A	OK
	UG 2	UG 2	UG 2	OK
upy first story	Commercial only occupy first story.		UG 6 on first level.	OK
s except for Type I	Non-Residential Uses except for Type I Lobbies		Provided	OK
4.60	5.60	5.14	4.37	OK
4.00	4.20	4.11	0.63	OK
2.00	2.00	2.00	0.14	OK
4.60	5.60	5.14	5.13	OK
115,311	168,000	283,311	240,408	OK
100,270	126,000	226,270	34,481	OK
50,135	60,000	50,135	7,498	OK
115,311	168,000	283,311	282,387	OK
	100% 20,000 SF 65% 9,647 SF			
		R7A: 60% 14,868 SF R7D: 57% 17,115 SF	Complies Complies	OK OK
	247	417	305	OK
occupying full block	None required None Required for lot occupying full block 40' Wall to Wall 50' Wall to Window 60' Window to Window		None Provided None Provided 40' Wall to Wall 50' Wall to Window 60' Window to Window	OK OK OK OK OK
	60' 95' n/a 15'		n/a R7A: 74'-8" R7D: 93'-4" n/a 26'-6"	OK OK OK OK OK
	115'or 11 Stories		R7A: 95'-0" 9 Stories R7D 113'-8" 11 Stories	OK OK
ntage	1 per 25' of street frontage		Provided	OK
d 25% of street wall or 30 v street	Lobbies not to exceed 25% of street wall or 30 linear feet on a narrow street		Provided	OK
12 CF	2.9 CF per 1 DU = 539 CF		Provided	OK
m of 12 SF Min	A refuse disposal room of 12 SF Min		Provided	OK
hers rs FA – 3,286 SF	1 per 20 DU = 9 Washers 1 per 40 DU = 5 Dryers 3 30% of Residential FA – 4 620 SF		Provided Provided Provided	OK OK OK
al	Applicable commercial		Provided	OK
se of Worship	Not applicable to House of Worship		n/a	OK
: min. depth of 30' d 25% of street wall or 30 or street wall between a	Non-Residential Uses: min. depth of 30' Lobbies not to exceed 25% of street wall or 50% of the ground floor street wall between a height of 2' and 12'		Provided Provided Provided	OK OK OK
or Ceiling or Max Height	Not above Ground Floor Ceiling or Max Height		12'-0"	OK
to exceed 150 SF on	3X street frontage not to exceed 150 SF on		Provided	OK
	0 when in transit zone	0 when in transit zone	0 provided	OK
spaces Waived if less than 40	None Required n/a	None Required 0 < 40	None Provided 0 provided	OK OK
d if Commercial less than	n/a	7,498 SF < 25,000 SF	0 provided	OK
	1 per 2 DU None Required n/a	1 per 2 units None Required 7,498/10,000 = 1	1 per 2 units provided None Provided 1 Provided	OK OK OK

ZONING DATA		Notes
Block and Lot	Block 3662, Lots 1, 23, 24, 25, 26	
Address	NA	
Existing Zoning District	M1-1	
Proposed Zoning District	R7A with C2-4 Overlay R7D with C2-4 Overlay	See 1
Zoning Map	17c	
Community Board	16 Brooklyn	
Wide Streets	None	
Narrow Streets	New Lots Avenue Powell Street Hegeman Avenue Sackman Street	
Block Frontage	211.94' Along New Lots Avenue 310.45' Along Powell Street 200.00' Along Hegeman Avenue 240.25' Along Sackman Street	
Frontage R7A / C2-4	211.94' Along New Lots Avenue 160.45' Along Powell Street 90.25' Along Sackman Street	See 1
Frontage R7D / C2-4	150.00' Along Powell Street 200.00' Along Hegeman Avenue 150.00' Along Sackman Street	See 1
Lot Type	Lot Occupies Entire Block, Lot Divided by Zoning Boundry	
Zoning lot Areas	R7A: 25,067.5 SF R7D: 30,000.0 SF	

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cupy first story	Commercial only occupy first story		UG 6 on first level	OK
s except for Type 1	Non-Residential Uses except for Type 1 Lobbies		Provided	OK
4 60	5.60	5 14	4.52	OK
4 00	4 20	4 11	-	OK
2 00	2 00	2 00	0 53	OK
4 60	5 60	5 14	5 06	OK
77,391	112 000	189,391	166,510	OK
67,297	84,000	151,297	-	OK
33,648	40,000	33,648	19,687	OK
77,391	112,000	189,391	186,197	OK
	100% 20,000 SF			
	65% n/a			
		R7A 72% 12,180 SF R7D 70% 13,941 SF	Complies Complies	OK OK
	165	279	206	OK
	None required		None Provided	OK
occupying full block	None Required for lot occupying full block 40' Wall to Wall 50' Wall to Window 60' Window to Window		None Provided 40' Wall to Wall 50' Wall to Window 60' Window to Window	OK OK OK OK
	60' 95'		n/a R7A 74' 8" R7D 93'-4"	OK OK OK
	n/a		n/a	OK
	15'		25'-6"	OK
	115'or 11 Stories		R7A 74'-8" 7 Stories R7D 113'-8" 11 stories	OK OK
ntage	1 per 25' of street frontage		Provided	OK
d 25% of street wall or 30 w street	Lobbies not to exceed 25% of street wall or 30 linear feet on a narrow street		Provided	OK
38 CF	2 9 CF per 1 DU = 360 CF		Provided	OK
om of 12 SF Min.	A refuse disposal room of 12 SF Min		Provided	OK
shers	1 per 20 DU = 6 Washers		Provided	OK
ers FA = 3 286 SF	1 per 40 DU = 3 Dryers 3 30% of Residential FA = 4,620 SF		Provided Provided	OK OK
al	Applicable commercial		Provided	OK
use of Worship s min depth of 30' d 25% of street wall or 30 oor street wall between a	Not applicable to House of Worship Non-Residential Uses min depth of 30' Lobbies not to exceed 25% of street wall or 50% of the ground floor street wall between a		n/a Provided Provided Provided	OK OK OK OK
oor Ceiling or Max height	Not above Ground Floor Ceiling or Max height 20'		12' 0"	OK
l to exceed 150 SF on r	3X street frontage not to exceed 150 SF on Trough or Corner Lots		Provided	OK
e	0 when in transit zone	0 when in transit zone	0 provided	OK
Spaces Waived if less than 40	None Required 1 per 1,000 SF = 10 Spaces Commercial Parking Waived if less than 40 spaces required	None Required 21 < 40	None Provided 0 provided	OK OK
d if Commercial less than	Loading Berth Waived if Commercial less than 25,000 SF	19,687 SF < 25,000 SF	0 provided	OK
	1 per 2 DU	1 per 2 units	1 per 2 units provided	OK
	None Required	None Required	None Provided	OK
	1 per 10,000 sf	19,687/10,000 = 2	1 Provided	OK

ZONING DATA		Notes
Block and Lot	Block 3881, Lots 1 6	
Address	NA	
Existing Zoning District	M1-1	
Proposed Zoning District	R7A with C2-4 Overlay R7D with C2-4 Overlay	See 1
Zoning Map	17d	
Community Board	16 Brooklyn	
Wide Streets	None	
Narrow Streets	New lots Avenue Christopher Street Hegeman Avenue Sackman Street	
Block Frontage	211 94' Along New Lots Avenue 149 04' Along Christopher Street 200.00' Along Hegeman Avenue 219.21' Along Sackman Street	
Frontage R7A C2-4	211 94' Along New Lots Avenue 45 04' Along Christopher Street 119.21' Along Sackman Street	See 1
Frontage R7D C2-4	100.00' Along Christopher Street 200 00' Along Hegeman Avenue 100 00' Along Sackman Street	See 1
Lot Type	Lot Occupies Entire Block, Lot Owned by Zoning Boundry	
Zoning lot Areas	R7A 16,824.19 SF R7D 20,000 0 SF	

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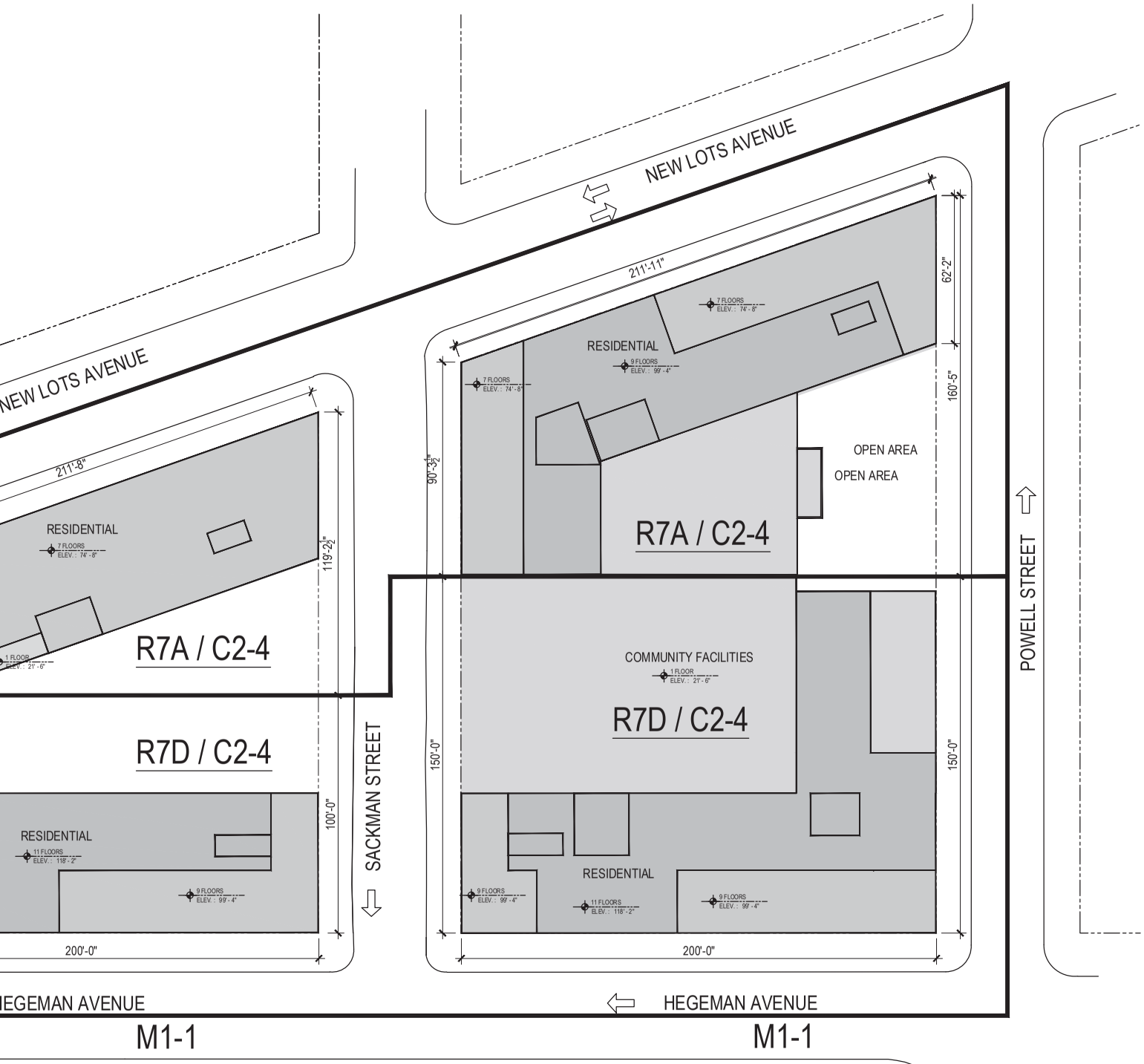
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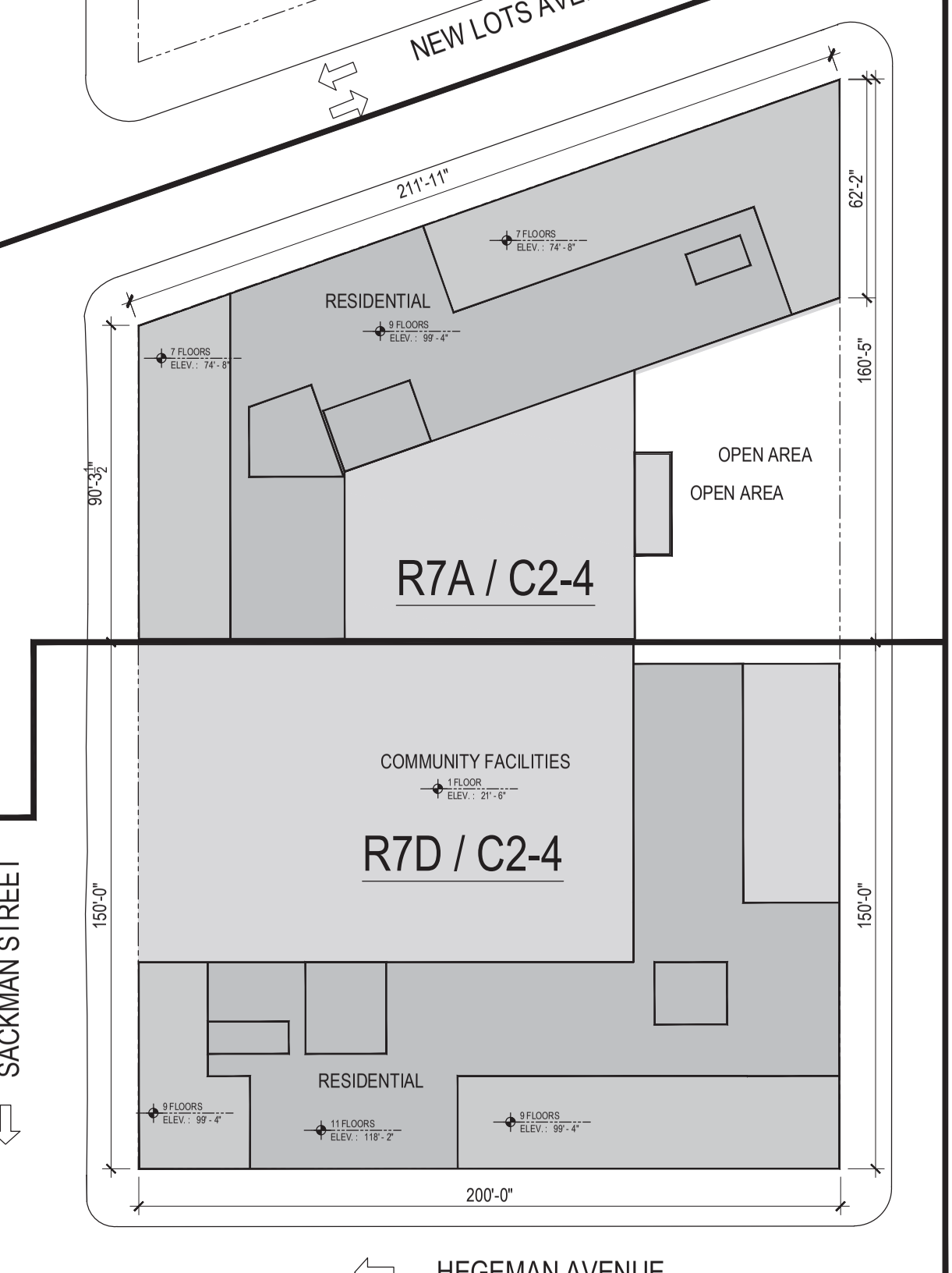


Legend

- STREET LINE IN ELEVATION
- ZONING DISTRICT BOUNDARY
- ZONING LOT LINE BOUNDARY
- 1.00' SPOT ELEVATION TAG
- BUILDING FOOTPRINT
- BUILDING ENTRANCE
- DIRECTION OF TRAFFIC

Notes

1. INFORMATION OUTSIDE OF THE BOUNDARIES OF THE ZONING LOT IS FOR ILLUSTRATIVE PURPOSES ONLY, AND MAY NOT BE EXACT.THE ARCHITECT BEARS NO RESPONSIBILITY FOR INEXACT INFORMATION ON SURROUNDING PROPERTIES.
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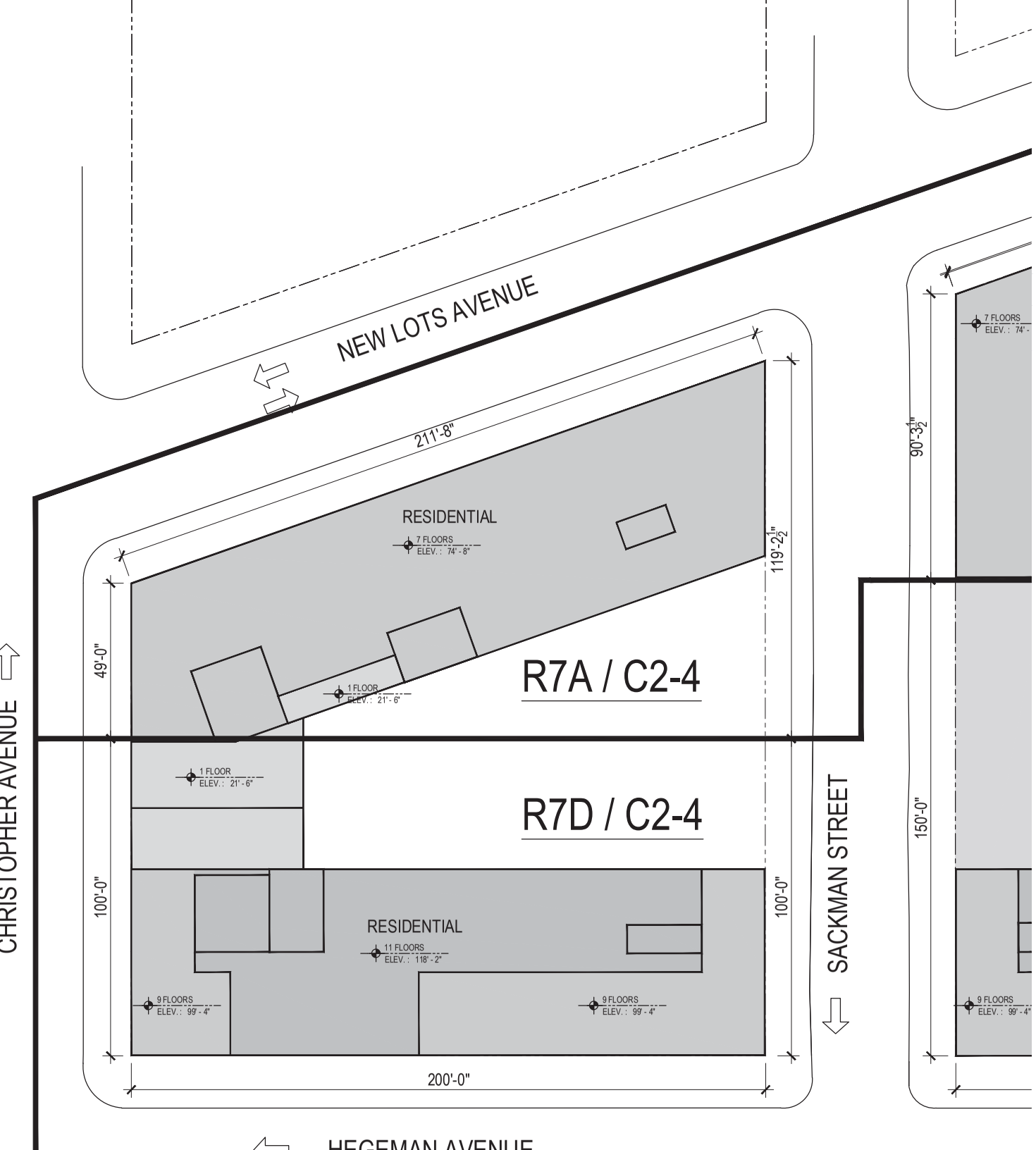


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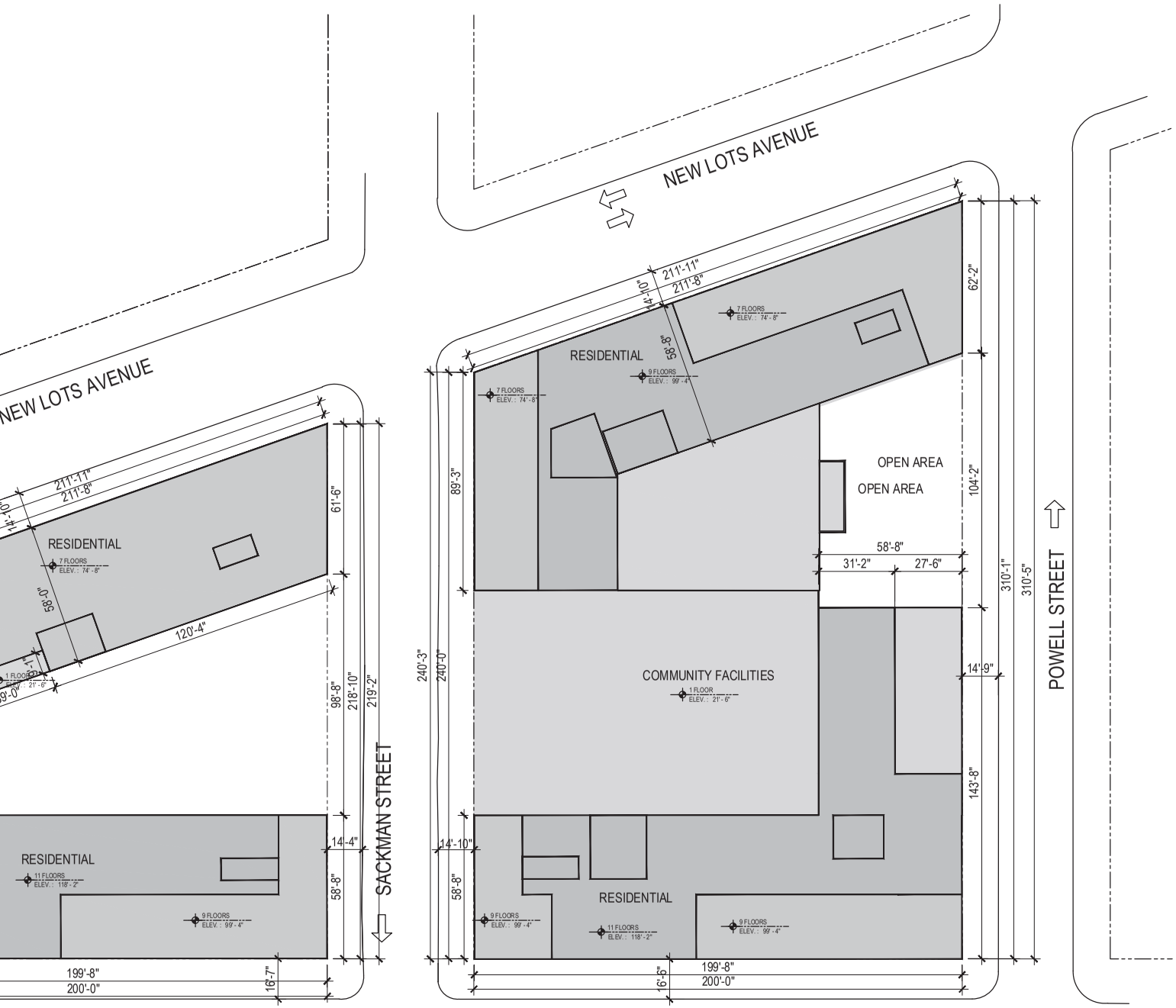
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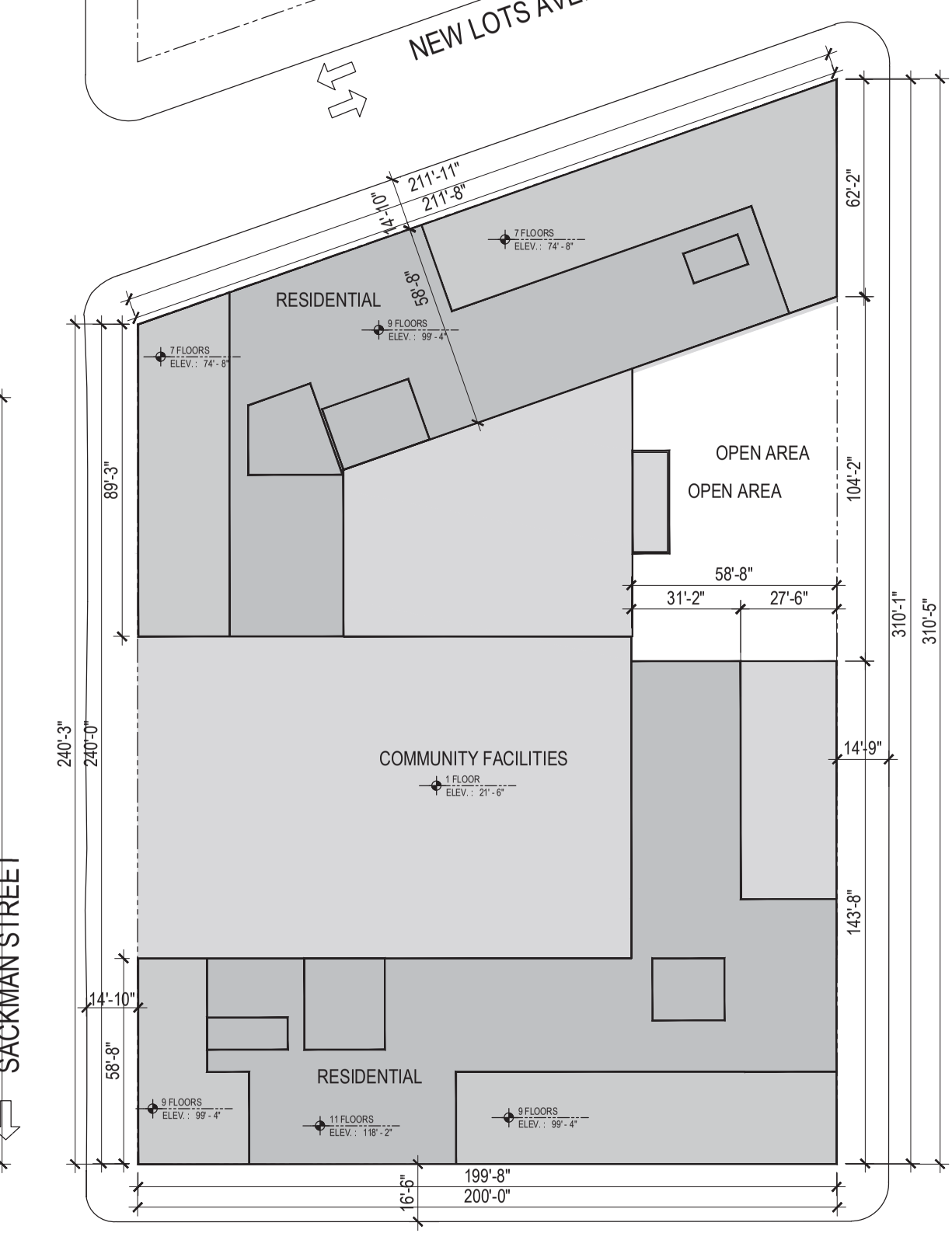


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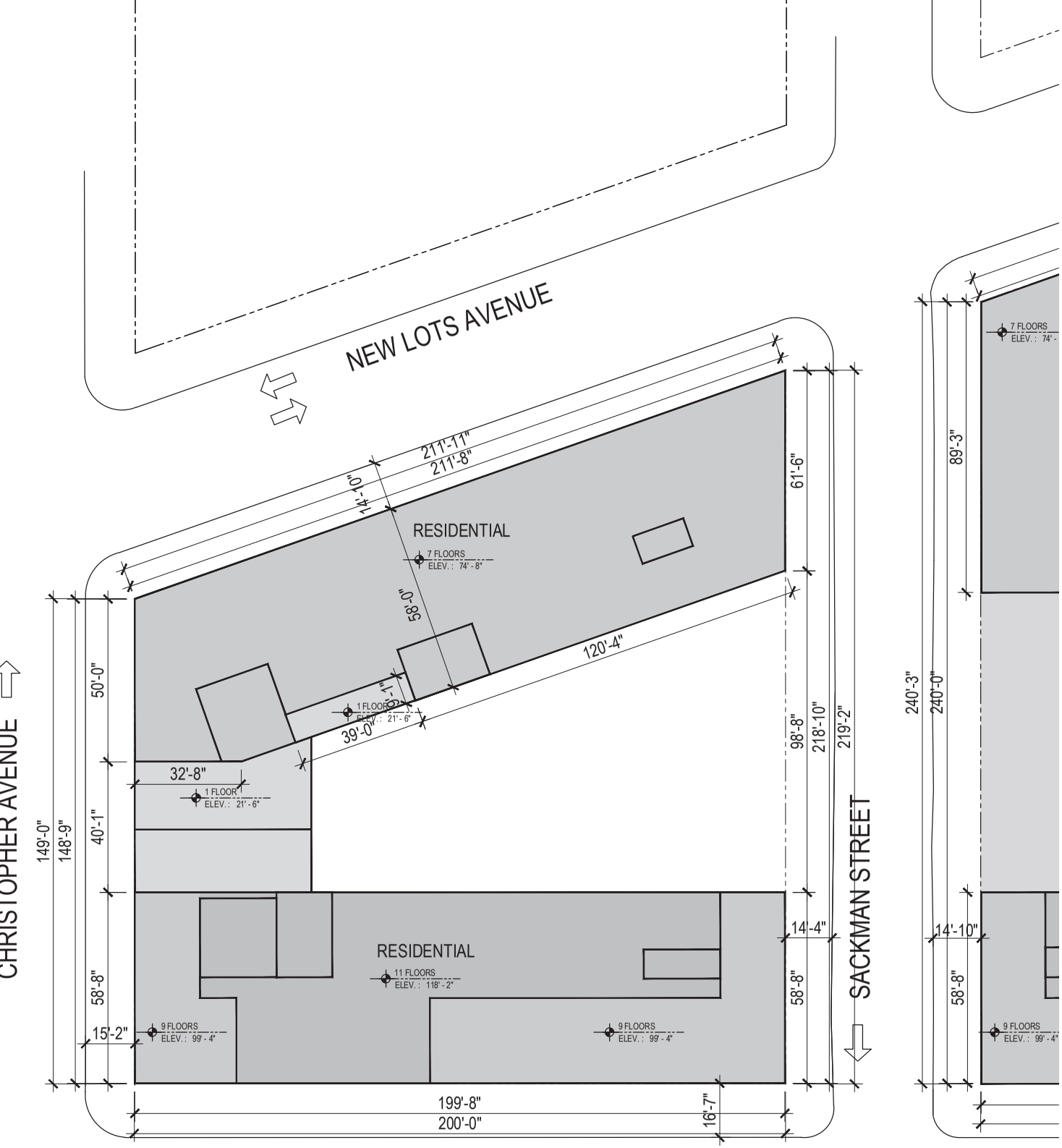


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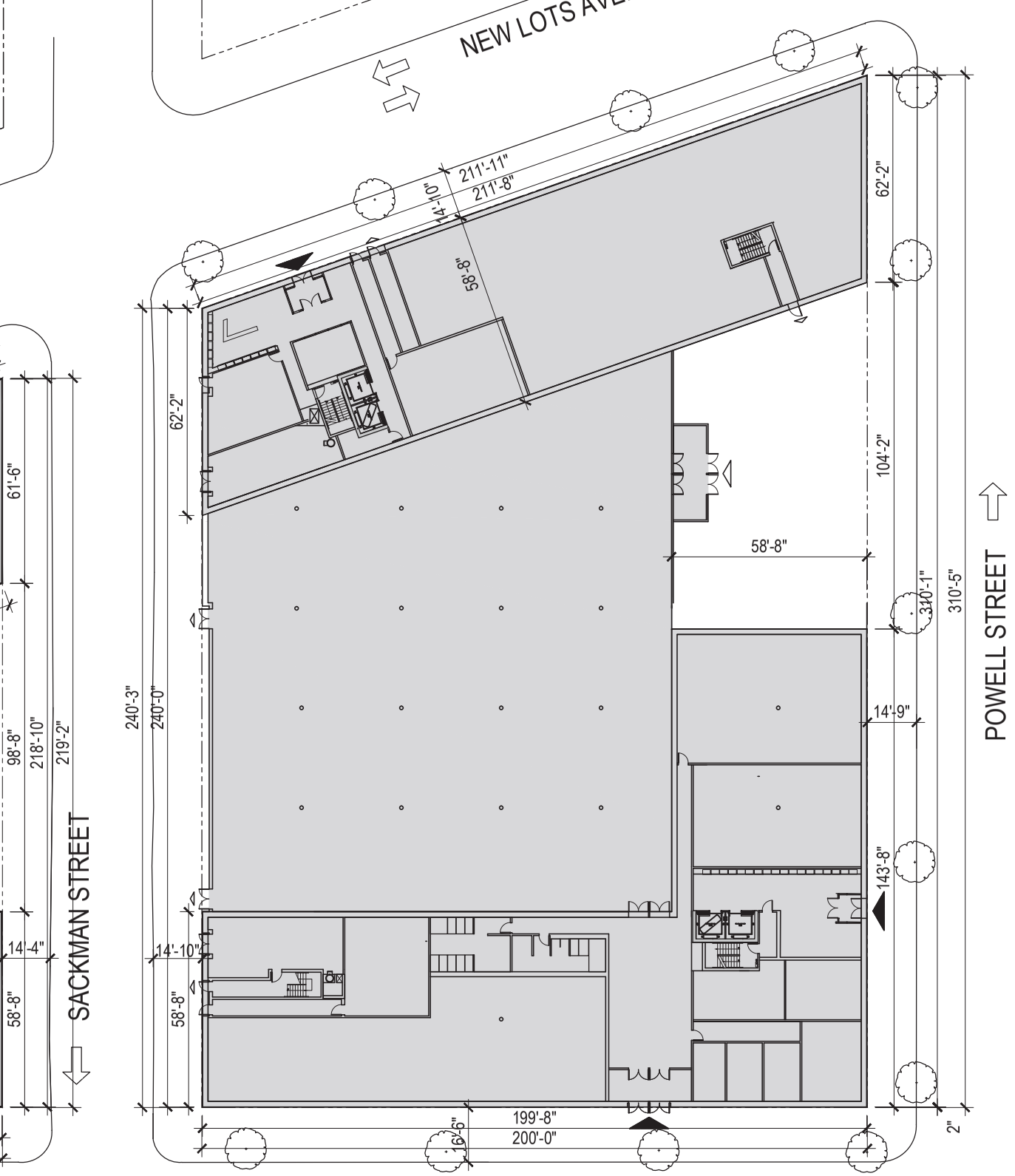
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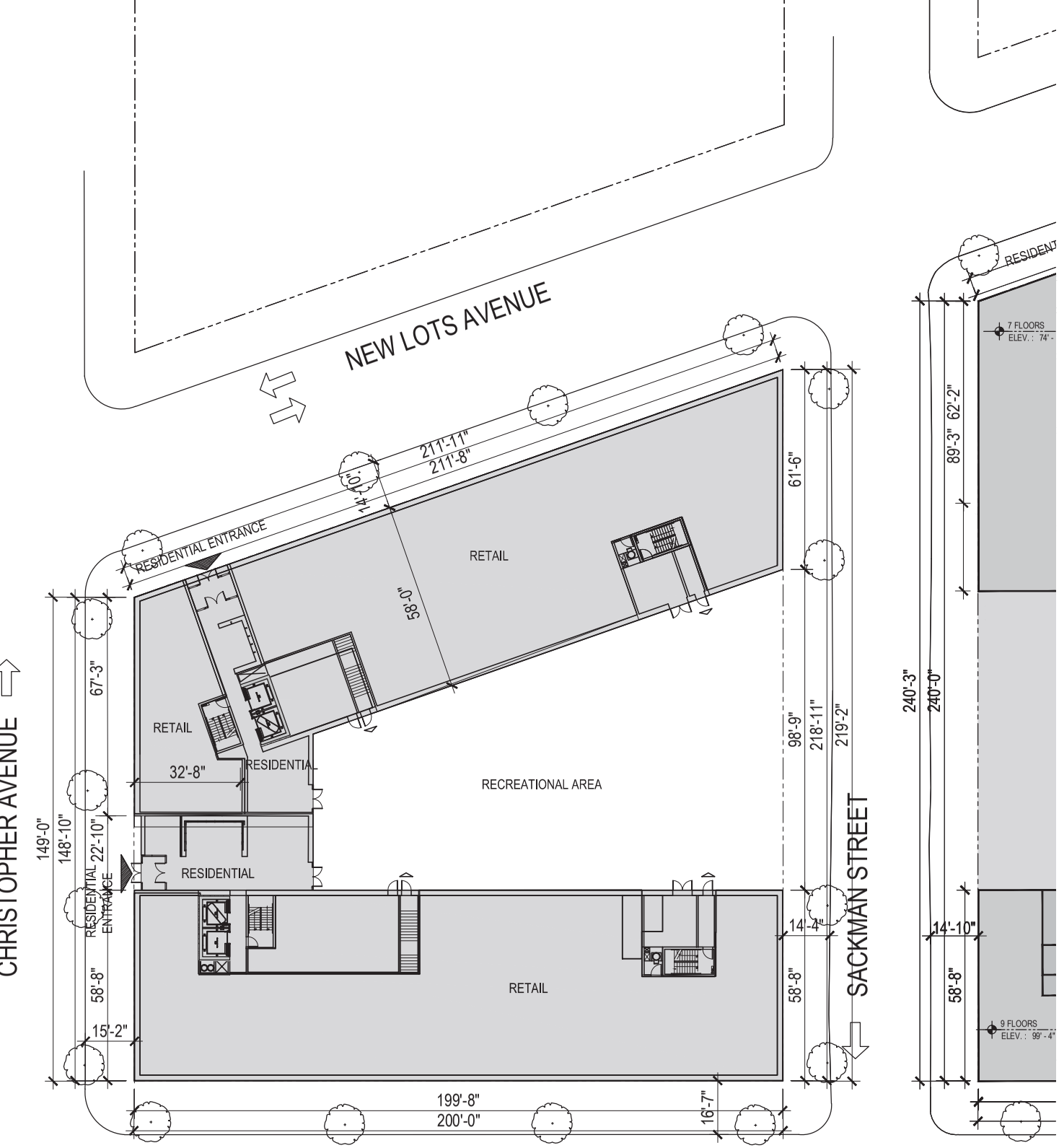


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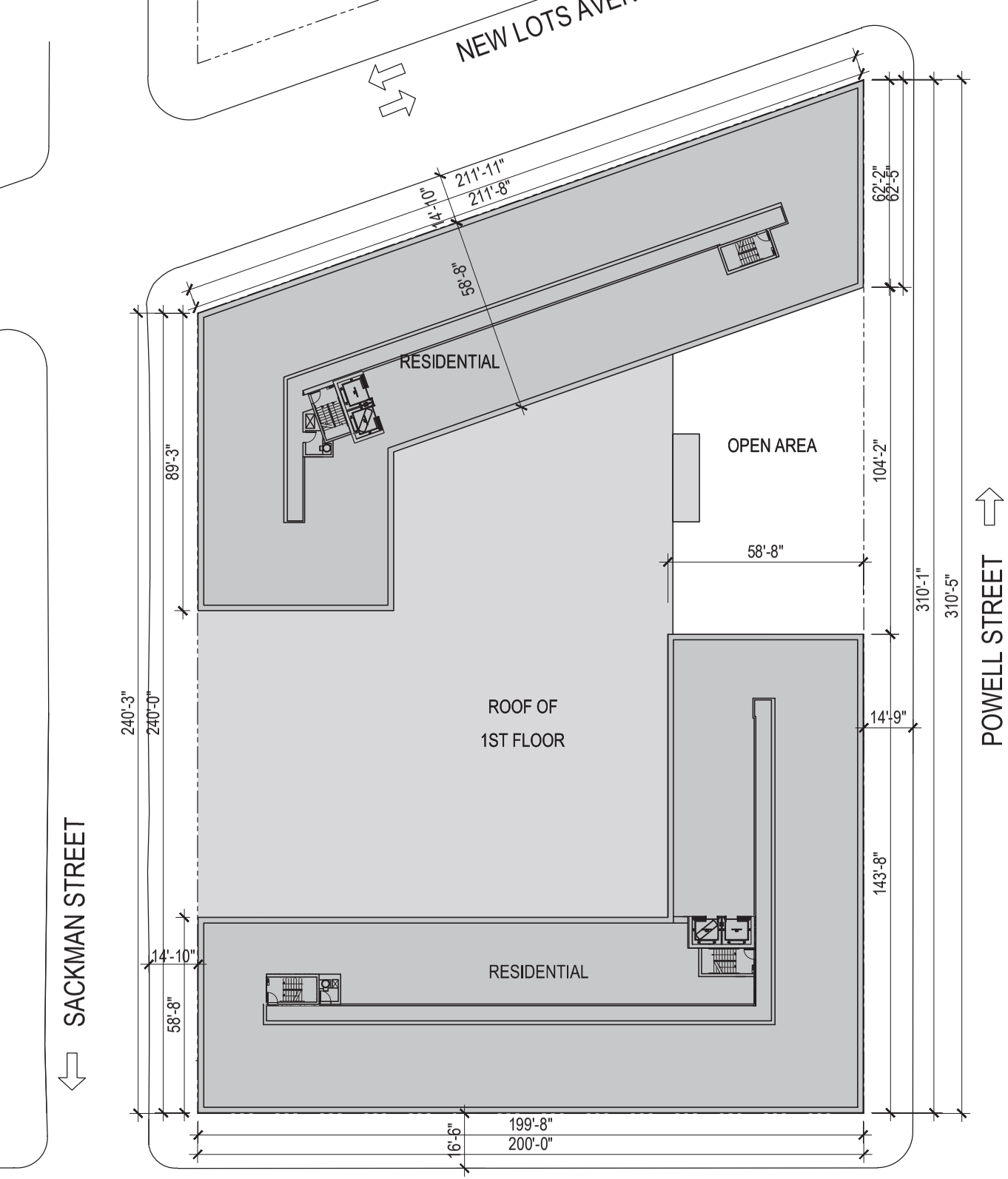


Legend

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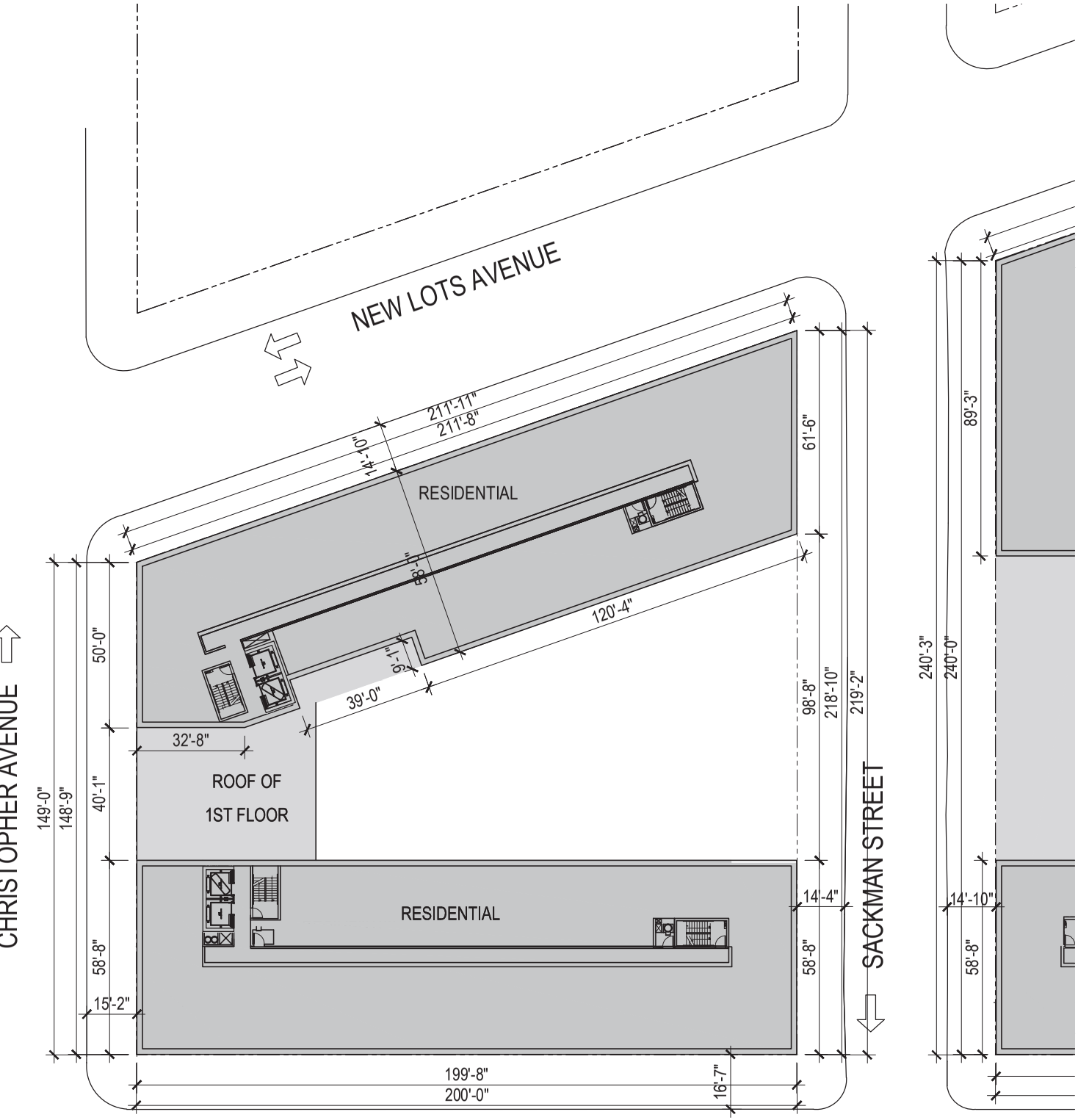


Legend

- STREET LINE IN ELEVATION
- ZONING DISTRICT BOUNDARY
- ZONING LOT LINE BOUNDARY
- 1.00' SPOT ELEVATION TAG
- BUILDING FOOTPRINT
- BUILDING ENTRANCE
- DIRECTION OF TRAFFIC

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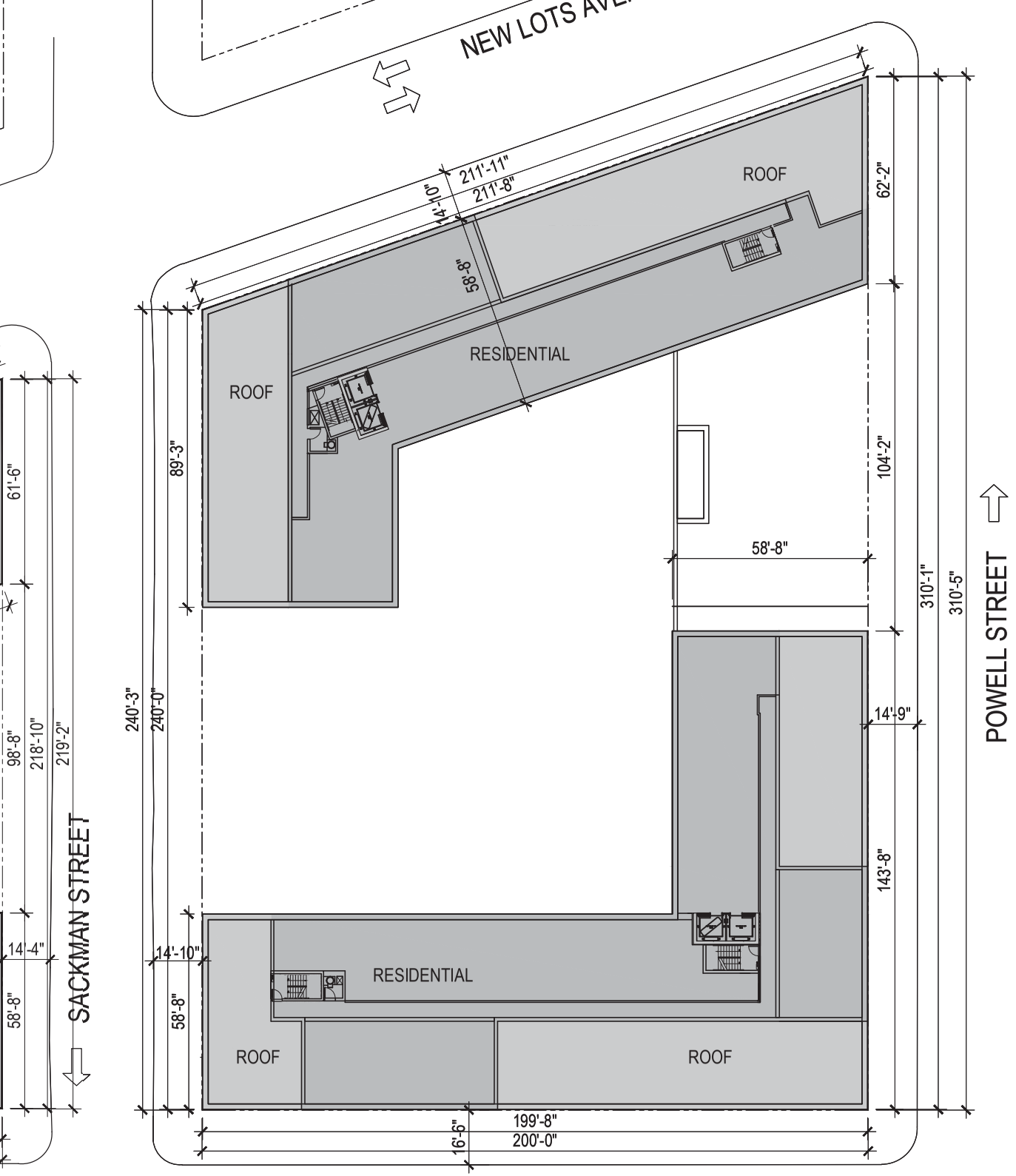
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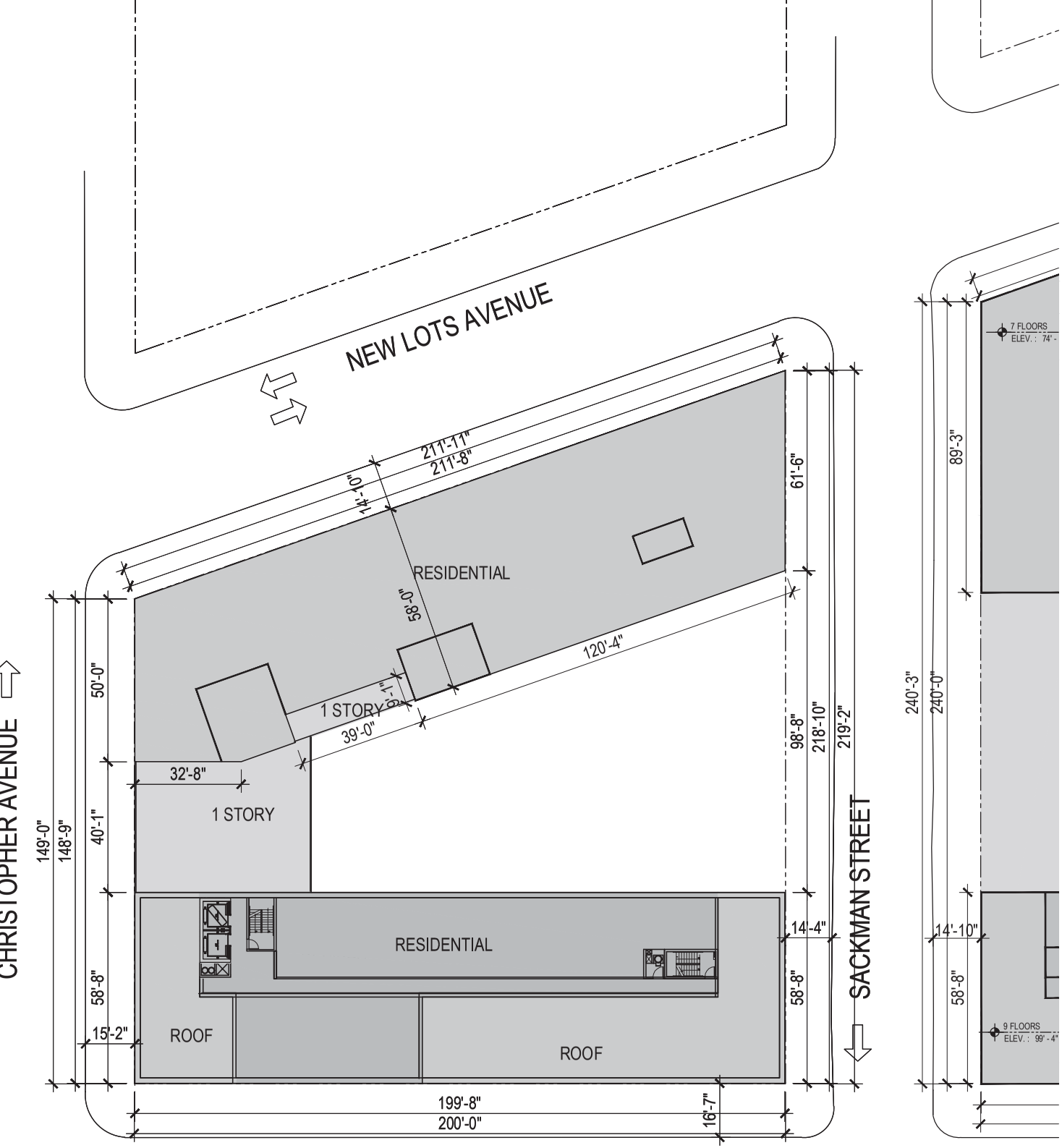


Legend

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- ZONING DISTRICT BOUNDARY
- ZONING LOT LINE BOUNDARY
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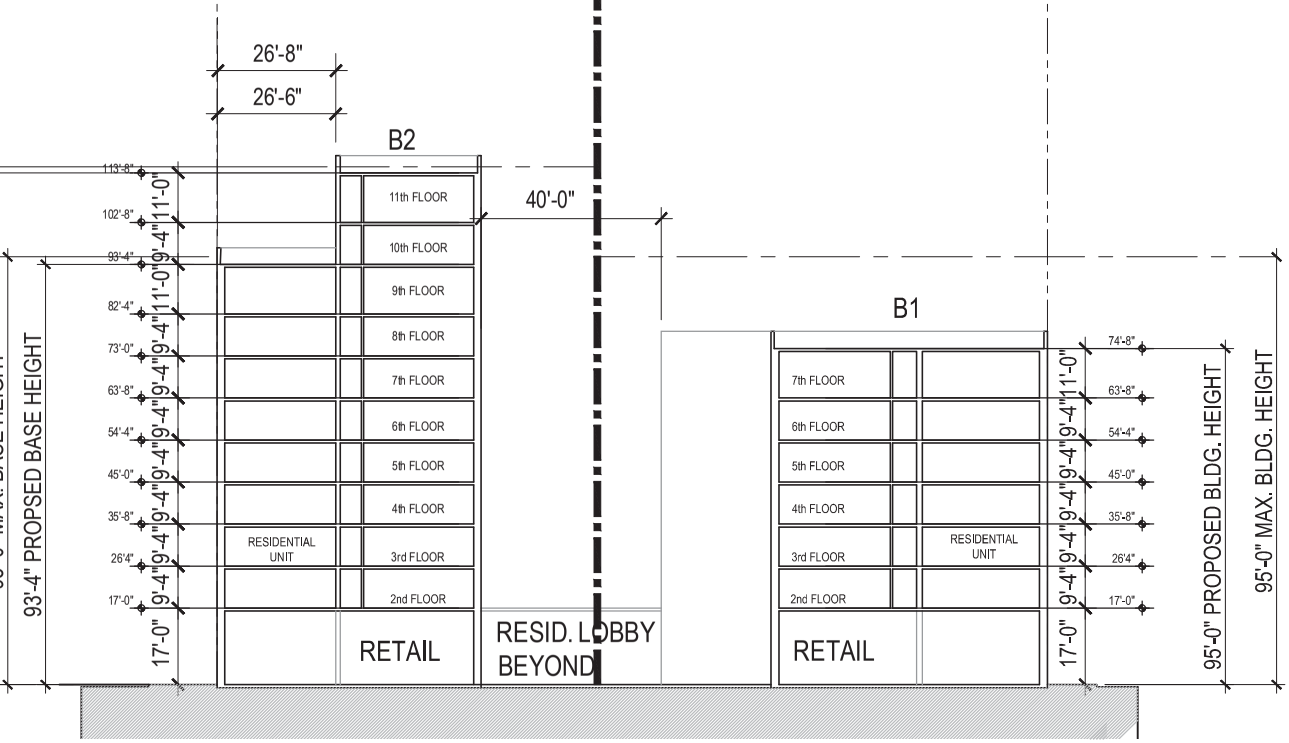


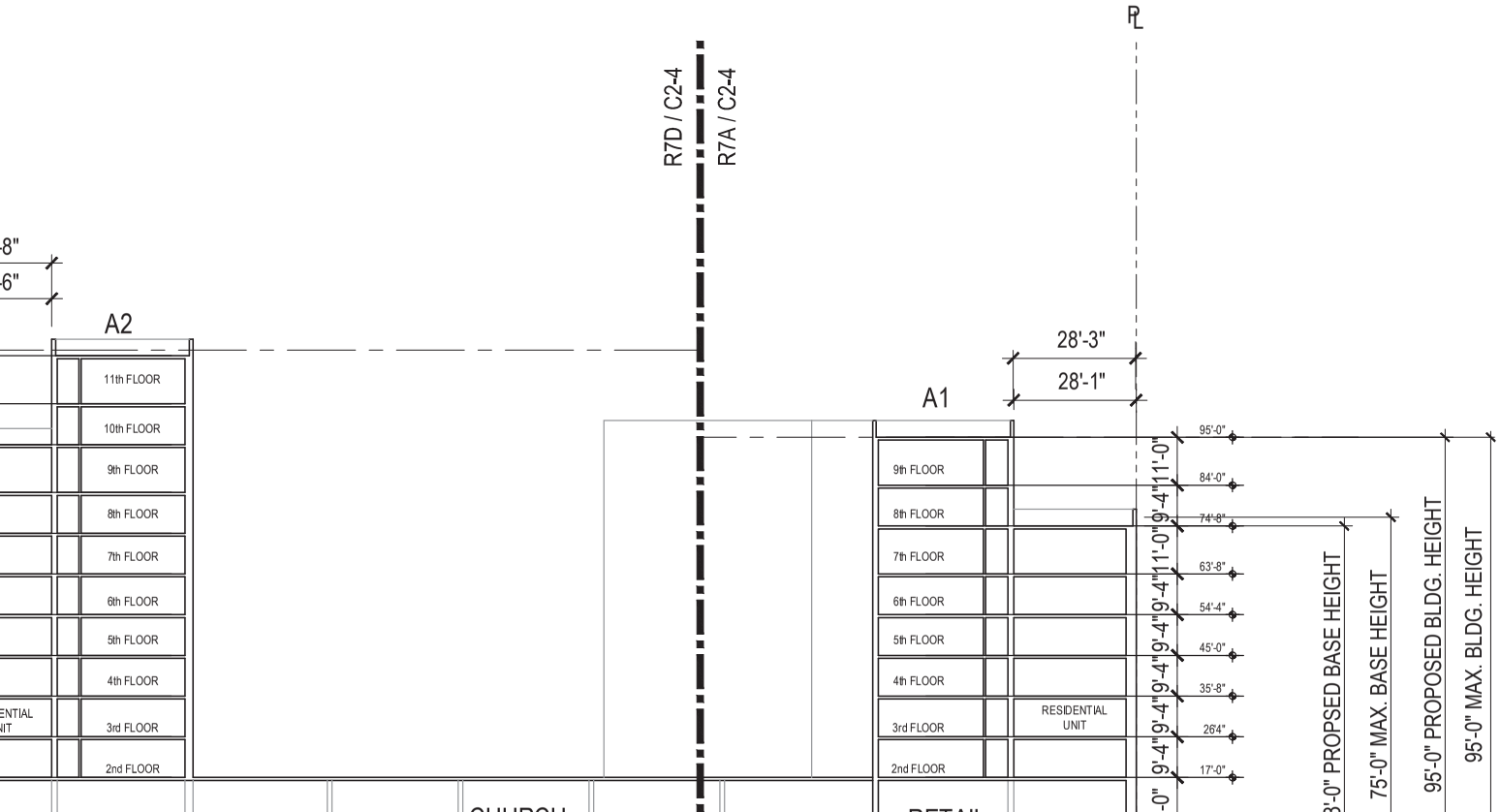
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- STREET LINE IN ELEVATION
- ZONING DISTRICT BOUNDARY
- ZONING LOT LINE BOUNDARY
- SPOT ELEVATION TAG
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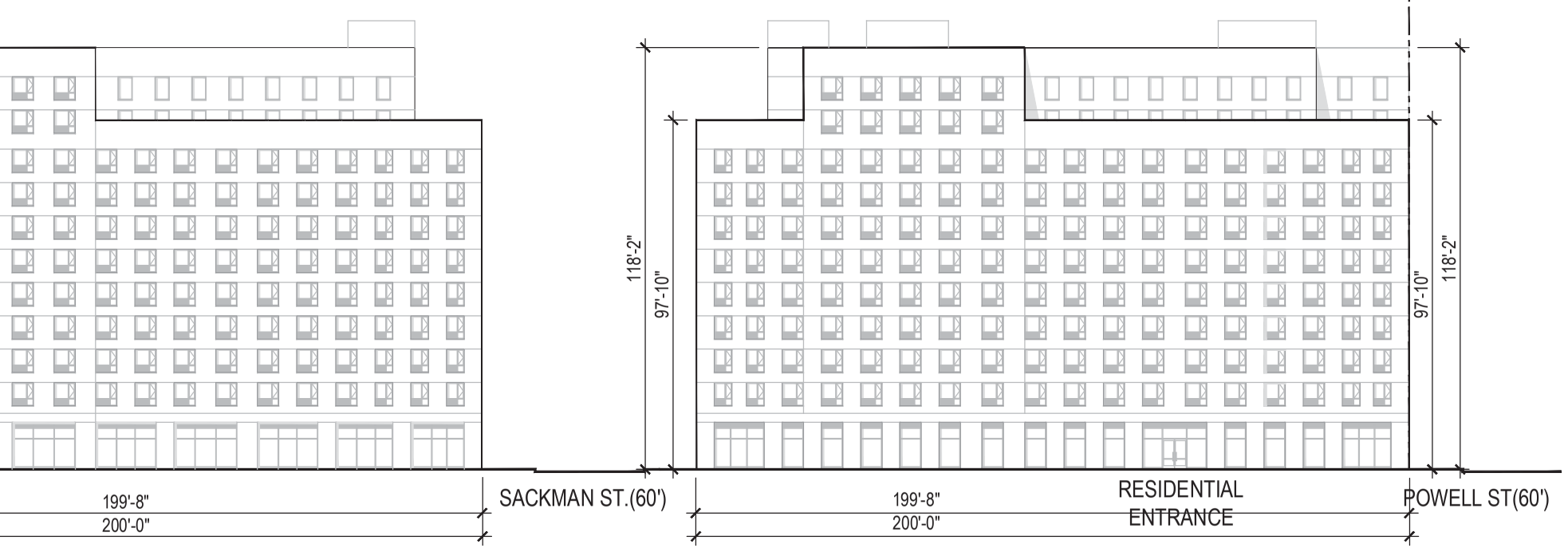


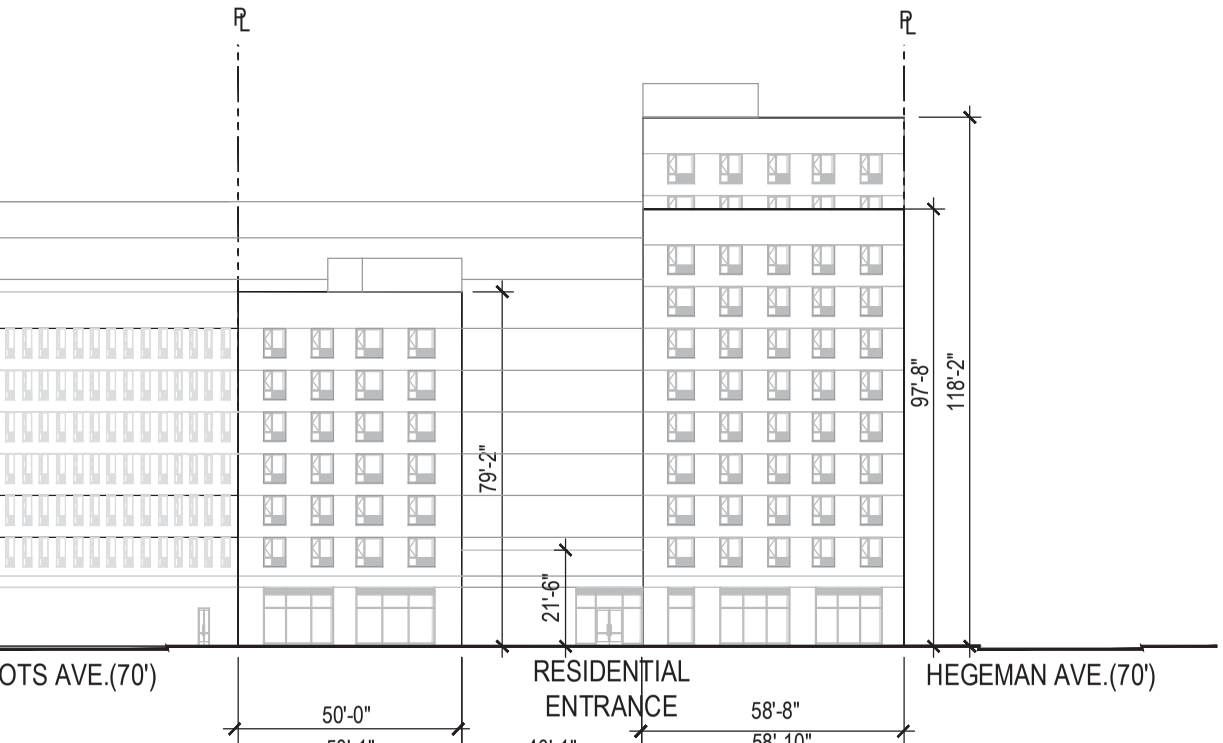
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- STREET LINE IN ELEVATION
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- ZONING LOT LINE BOUNDARY
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Legend

- STREET LINE IN ELEVATION
- ZONING DISTRICT BOUNDARY
- ZONING LOT LINE BOUNDARY
- SPOT ELEVATION TAG (1.00')
- BUILDING FOOTPRINT
- BUILDING ENTRANCE
- DIRECTION OF TRAFFIC

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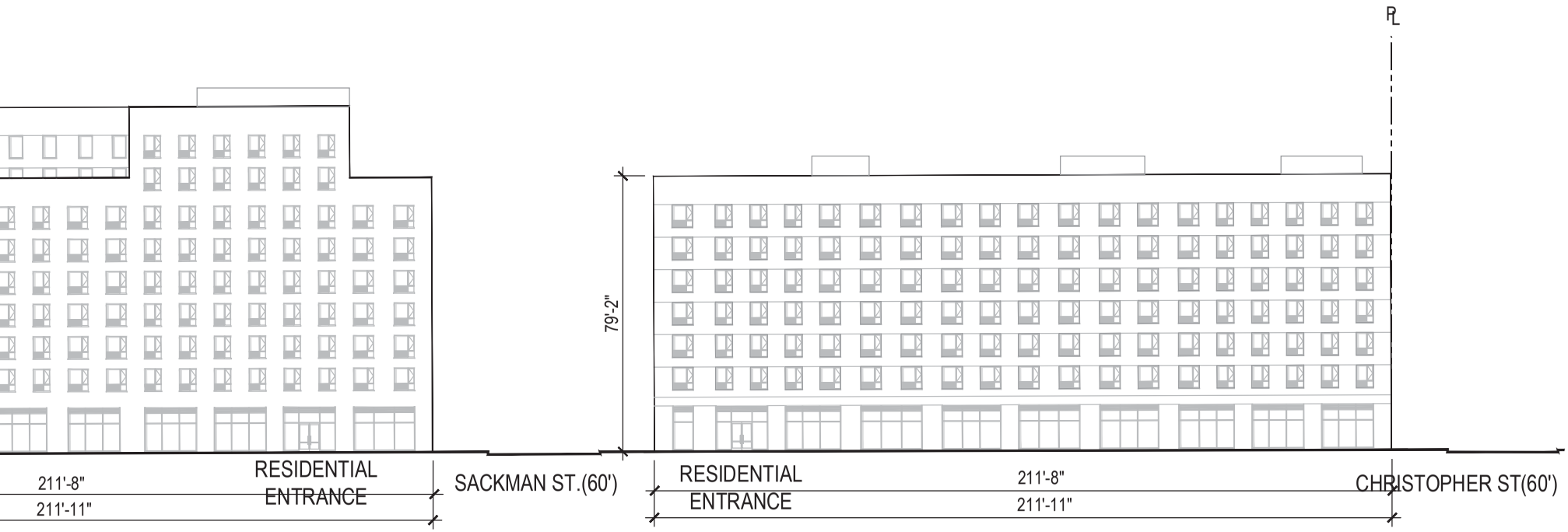
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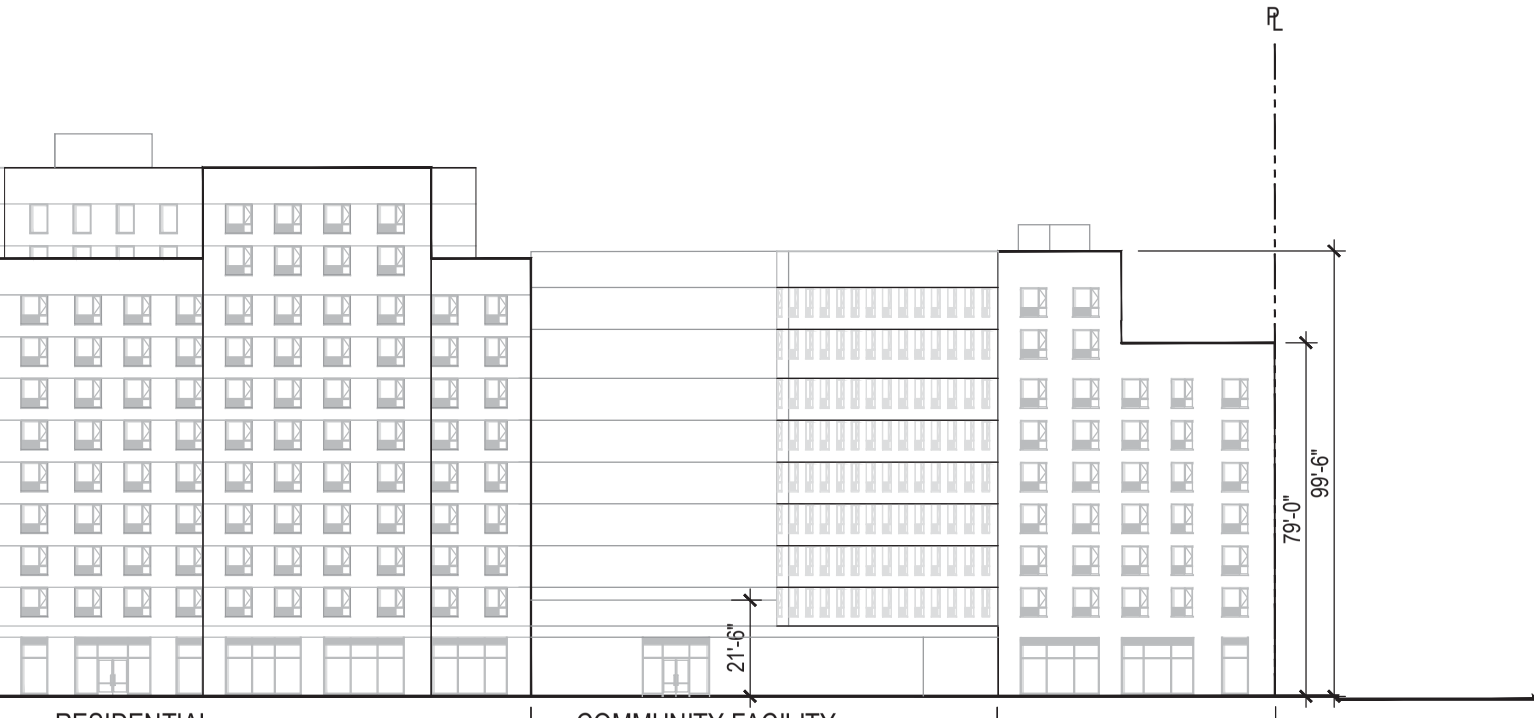
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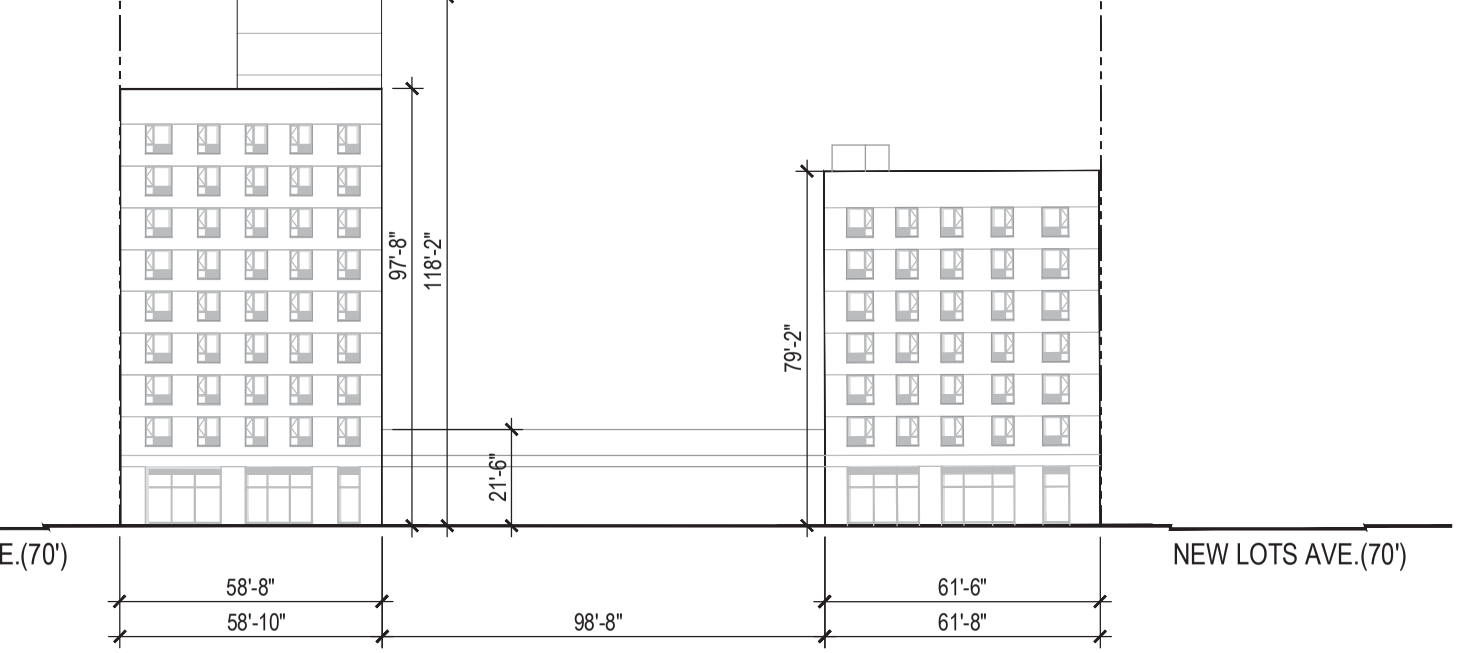
Legend

- STREET LINE IN ELEVATION
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- ZONING LOT LINE BOUNDARY
- 1.00' SPOT ELEVATION TAG
- BUILDING FOOTPRINT
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- DIRECTION OF TRAFFIC

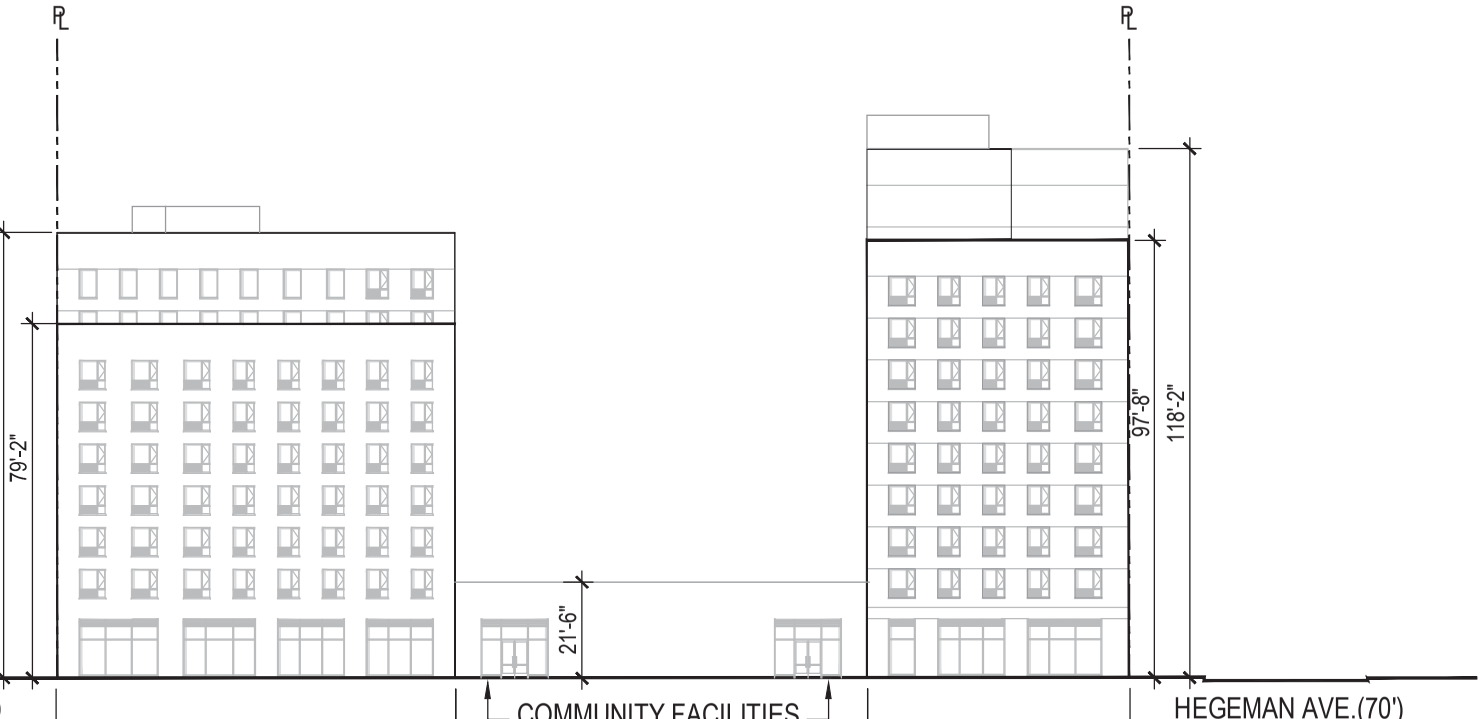
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3. STREET TREES ADJACENT TO THE PROJEC5T AREA WILL BE PROVIDED IN ACCORDANCE WITH THE ZONING RESOLUTION, THE LOCATION AND NUMBER OF WHICH SHALL BE SUBJECT TO DEPARTMENT OF PARKS AND

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Legend

- STREET LINE IN ELEVATION
- ZONING DISTRICT BOUNDARY
- ZONING LOT LINE BOUNDARY
- SPOT ELEVATION TAG
- BUILDING FOOTPRINT
- BUILDING ENTRANCE
- DIRECTION OF TRAFFIC

Notes

1. INFORMATION OUTSIDE OF THE BOUNDARIES OF THE ZONING LOT IS FOR ILLUSTRATIVE PURPOSES ONLY, AND MAY NOT BE EXACT.THE ARCHITECT BEARS NO RESPONSIBILITY FOR INEXACT INFORMATION ON SURROUNDING PROPERTIES.
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2. HAZARDOUS MATERIALS DOCUMENTS

NYC Environmental Protection

Vincent Sapienza, P.E.
Acting Commissioner

Angela Licata
Deputy Commissioner of Sustainability

59-17 Junction Blvd.
Flushing, NY 11373

Tel. (718) 595-4398
Fax (718) 595-4479
alicata@dep.nyc.gov

February 3, 2017

Mr. Robert Dobruskin
Director, Environmental Assessment and Review Division
New York City Department of City Planning
120 Broadway, 31st Floor
New York, New York 10271

Re: Ebenezer Plaza Rezoning
Block 3860 Lots 1, 3, 4, 5 and 6
Block 3861 Lots 1 and 6
Block 3862 Lots 1, 23, 24, 25 and 26
CEQR # 77DCP197K
Brooklyn, New York

Dear Mr. Dobruskin:

The New York City Department of Environmental Protection, Bureau of Sustainability (DEP) has reviewed the June 2016 Phase I Environmental Site Assessment (Phase I) prepared by Hillmann Consulting and the December 2016 Environmental Assessment Statement prepared by Equity Environmental Engineering on behalf of Brownsville Linden Plaza LLC., (applicant) for the above referenced project. It is our understanding that the applicant is seeking a zoning map amendment from the New York City Department of City Planning (DCP) to rezone three blocks from a M1-1 zoning district to a R7A and R7D zoning district with a C2-4 overlay. The applicant is also seeking a zoning text amendment to establish the proposed rezoned area as a Mandatory Inclusionary Housing Area. The project area is bounded by New Lots Avenue, Powell Street, Hegeman Avenue and Mother Gaston Boulevard in the Brownsville neighborhood of Brooklyn Community District 16. As currently proposed, the rezoning action would facilitate the redevelopment of the project site (Block 3861, Lots 1 and 6 and Block 3862, Lots 1, 23, 24, 25 and 26), with one 7-story, one 8-story and two 11-story buildings containing a total of 511 residential dwelling units as well as other commercial and community facilities. It should be noted that Block 3861, Lots 1 and 6 and Block 3862, Lots 1, 23, 24, 25 and 26 are applicant-owned, while Block 3860, Lots 1, 3, 4, 5 and 6 are not owned or under the control of the applicant.

The June 2016 Phase I report revealed that historical on-site and surrounding area land uses consists of manufacturing uses including several auto repair facilities, D&M Body Shop Collision, JM Mobile Glass, Linden Used Cars Inc., Mr. T Auto Body & Repair Shop, dry cleaners, filling stations, a church as well as residential dwellings. Regulatory databases such as the New York State Department of Environmental Conservation (NYSDEC) SPILLS, Leaking Underground Storage Tank (LUST), Leaking Storage Tanks (LTANKS), Resource Conservation and Recovery Act Generators, and Petroleum Bulk Storage (PBS) Underground Storage Tanks (USTs) identified several sites in close proximity to the project site. The SPILLS database reported 23 spills within a 1/4-mile radius of the project site,

the LUST database reported 11 LUSTs sites within a 1/4-mile radius of the project site and the LTANKS database reported 29 LTANKS within a 1/2-mile radius of the project site. Based on the age of the buildings that currently occupy the project site, asbestos containing materials (ACM), lead based paint (LBP) and polychlorinated biphenyls (PCBs) containing materials could be present in the structures. It should be noted that the Phase I also reported several USTs on the project site.

Based upon our review of the submitted documentation, we have the following comments/recommendations to DCP:

Development Site – Block 3861, Lots 1 and 6; Block 3862, Lots 1, 23, 24, 25 and 26 (Owned and controlled by the applicant)

- DCP should note that the applicant applied to enter into the NYSDEC Brownfield Cleanup Program (BCP) in August 2016, which is a voluntary program in which the applicant enters into an agreement with NYSDEC to incorporate all testing and remedial measures under BCP requirements to ensure that there would be no potential for significant adverse hazardous materials impacts as a result of the proposed project. However, as the BCP is a voluntary program, DEP recommends that an (E) designation for hazardous materials be assigned on the zoning map pursuant to Section 11-15 of the New York City Zoning Resolution to ensure that testing and mitigation will be performed, as necessary, before any future development and/or soil disturbance in the event that the applicant falls out of the voluntary BCP. Further hazardous materials assessments should be coordinated through the Mayor's Office of Environmental Remediation (OER).

Block 3860, Lots 1, 3, 4, 5, and 6 (Sites not under the control or ownership of the applicant)

- Since the above lots are not under the control or ownership of the applicant and they are not included in the proposed development plans for this project, DEP recommends that an (E) designation for hazardous materials should be assigned on the zoning map pursuant to Section 11-15 of the New York City Zoning Resolution. The (E) designation will ensure that testing and mitigation will be performed, as necessary, before any future development and/or soil disturbance. Further hazardous materials assessments should be coordinated through OER.

Future correspondence related to this project should include the following CEQR number **17DCP088K**. If you have any questions, you may contact Ms. Cassandra Scantlebury at (718) 595-6756.

Sincerely,

Wei Yu
Acting Deputy Director, Hazardous Materials

cc: R. Weissbard; T. Estesen; C. Scantlebury; M. Wimbish; S. Nourieli (DCP); O. Abinader (DCP); M. Bertini (OER)

3. LANDMARK AND PRESERVATION 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 / 17DCP088K
Project: EBENEZER PLAZA
Date received: 1/5/2017

Properties with no Architectural or Archaeological significance:

1) ADDRESS: 257 HEGEMAN AVENUE, BBL: 3038610001
2) ADDRESS: 6878 NEW LOTS AVENUE, BBL: 3038610006
3) ADDRESS: 94 NEW LOTS AVENUE, BBL: 3038620001
4) ADDRESS: 656 POWELL STREET, BBL: 3038620023
5) ADDRESS: 660 POWELL STREET, BBL: 3038620024
6) ADDRESS: 662 POWELL STREET, BBL: 3038620025
7) ADDRESS: 666 POWELL STREET, BBL: 3038620026
8) ADDRESS: 44 NEW LOTS AVENUE, BBL: 3038600001
9) ADDRESS: 48 NEW LOTS AVENUE, BBL: 3038600003
10) ADDRESS: 50 NEW LOTS AVENUE, BBL: 3038600004
11) ADDRESS: 52 NEW LOTS AVENUE, BBL: 3038600005
12) ADDRESS: 54 NEW LOTS AVENUE, BBL: 3038600006



1/9/2017

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 31873_FSO_GS_01092017.doc

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: EBENEZER PLAZA
Date received: 10/19/2016

Properties with no Architectural or Archaeological significance:

1) ADDRESS: 257 HEGEMAN AVENUE, BBL: 3038610001
2) ADDRESS: 6878 NEW LOTS AVENUE, BBL: 3038610006
3) ADDRESS: 94 NEW LOTS AVENUE, BBL: 3038620001
4) ADDRESS: 656 POWELL STREET, BBL: 3038620023
5) ADDRESS: 660 POWELL STREET, BBL: 3038620024
6) ADDRESS: 662 POWELL STREET, BBL: 3038620025
7) ADDRESS: 666 POWELL STREET, BBL: 3038620026



10/20/2016

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 31873_FSO_GS_10202016.doc

4. Jamaica Bay Watershed Form

Print Form

Jamaica Bay Watershed Protection Plan
Project Tracking Form

The Jamaica Bay Watershed Protection Plan, developed pursuant to Local Law 71 of 2005, mandates that the New York City Department of Environmental Protection (DEP) work with the Mayor's Office of Environmental Coordination (MOEC) to review and track proposed development projects in the Jamaica Bay Watershed (http://www.nyc.gov/html/oec/downloads/pdf/ceqr/Jamaica_Bay_Watershed_Map.jpg) that are subject to CEQR in order to monitor growth and trends. If a project is located in the Jamaica Bay Watershed, (the applicant should complete this form and submit it to DEP and MOEC. This form must be updated with any project modifications and resubmitted to DEP and MOEC.

The information below will be used for tracking purposes only. It is not intended to indicate whether further CEQR analysis is needed to substitute for the guidance offered in the relevant chapters of the CEQR Technical Manual.

A. GENERAL PROJECT INFORMATION

1. CEQR Number: 77DCP331K 1a. Modification ☐
2. Project Name: Ebenezer Plaza
3. Project Description:

   Zoning Map and text Amendment affecting all lots within Blocks 3860, Block 3861, Block 3862 to change th existing M1-1 district governing these areas to portions R7D and R7A with a C2-4 overlay over the entire area -in order to build 526 100% affordable housing units in two buildings.

4. Project Sponsor: Brownsville Linden Plaza LLC
5. Required approvals: Zoning Map Amendment and Zoning Text Amendment - CEQR EAS certfication
6. Project schedule (build year and construction schedule): start 2017 - complete 2019

B. PROJECT LOCATION:

1. Street address: Mutliple Addresses
2. Tax block(s): (3860),(3861),(3862) Tax Lot(s): (1,3,4,5,6)(1,6),(1,23,14,25,26)
3. Identify existing land use and zoning on the project site: Manufacturing, Industrial - Autobody, Com
4. Identify proposed land use and zoning on the project site: Primarily Multi-family Residential, Com
5. Identify land use of adjacent sites (include any open space): Primarily Residnetial, Local Retail, Co
6. Describe existing density on the project site and the proposed density:

Existing Condition	Proposed Condition
.67 FAR on Block 3862, .87 FAR on Block	5.1 FAR on Block 3862, 5.2 FAR on Block 3861, 4.6 FAR on Block 3860 (NON Applicant owned)

7. Is project within 100 or 500 year floodplain (specify)? ☐ 100 Year ☐ 500 Year ☒ No

C. GROUND AND GROUNDWATER

1. Total area of in-ground disturbance, if any (in square feet): 91,364
2. Will soil be removed (if so, what is the volume in cubic yards)? 1,272,280
3. Subsurface soil classification:
   (per the New York City Soil and Water Conservation Board): 211. Pavement & buildings-Flatbush
4. If project would change site grade, provide land contours (**attach** map showing existing in 1' contours and proposed in 1' contours).
5. Will groundwater be used (list volumes/rates)? ☐ Yes ☒ No

   Volumes: _____ Rates: _____
6. Will project involve dewatering (list volumes/rates)? ☐ Yes ☒ No

   Volumes: _____ Rates: _____
7. Describe site elevation above seasonal high groundwater:

   60 ft+/-

D. HABITAT

1. Will vegetation be removed, particularly native vegetation? ☐ Yes ☒ No

   If YES,
   - **Attach** a detailed list (species, size and location on site) of vegetation to be removed (including trees >2" caliper, shrubs, understory planting and groundcover).
   - **List** species to remain on site.
   - **Provide** a detailed list (species and sizes) of proposed landscape restoration plan (including any wetland restoration plans).
2. Is the site used or inhabited by any rare, threatened or endangered species? ☐ Yes ☐ No
3. Will the project affect habitat characteristics? ☐ Yes ☒ No

   If YES, describe existing wildlife use and habitat classification using "Ecological Communities of New York State." at http://www.dec.ny.gov/animals/29392.html.
4. Will pesticides, rodenticides or herbicides be used during construction? ☐ Yes ☒ No

   If YES, estimate quantity, area and duration of application.
5. Will additional lighting be installed? ☐ Yes ☒ No

   If YES and near existing open space or natural areas, what measures would be taken to reduce light penetration into these areas?

E. SURFACE COVERAGE AND CHARACTERISTICS

(describe the following for both the existing and proposed condition):

	Existing Condition	Proposed Condition
1. *Surface area:*		
Roof:	109,905 SF	109,905 sf
Pavement/walkway:	58,300	58,300
Grass/softscape:	n/a	n/a
Other (describe):		
2. ***Wetland*** (regulated or non-regulated) area and classification:	n/a	n/a
3. ***Water surface area:***	n/a	n/a

4. ***Stormwater management*** (describe):

Existing – how is the site drained?

In street storm sewer drains

Proposed – describe, including any infrastructure improvements necessary off-site:

nothing necessary - same area drained as existing - no new impervious surface implemented. Rooftop to street drain system will slow down rainwater compared to existing condition.

5. SHADOWS ASSESSMENT – GREEN VALLEY GARDEN

equity environmental engineering

SHADOWS ASSESSMENT – GREEN VALLEY GARDEN

Summary Findings

This Appendix includes a revised shadows analysis that was not considered in the original EAS, due to an error. The revised analysis considers potential shadows impacts on the Green Valley Garden (Block 3857, Lots 1, 24, 25, 26 and 27), located directly to the north of Projected Development Site 1. The conclusion of the original analysis was that there would be no significant adverse impacts on sunlight sensitive resources as a result of the Proposed Actions. With the inclusion of this additional open space resource, the conclusions remain the same; there would be no significant adverse shadows impacts as a result of the Proposed Actions.

As stated above, this Assessment of potential impacts from shadow produced by the Proposed Rezoning indicate that no significant impact will arise from the Build Condition of the Reasonable Worst Case Development Scenario. As the analysis shows, although the Rezoning may result in shadows cast on the Green Valley Community Garden, it would only do so during non-growing season sample study days of December 21st and March 21st and only produce minimal duration – AM shadow – leaving over 8 hours of direct unobstructed sunlight on the May 6th study day – which is traditionally well before the growing season which begins its early period after Memorial Day. No impacts from shadows were cast on the Green Valley Community Garden for the June 21st study day – which indicates that the remainder of the growing period will have no shadows during daylight hours on the Green Valley Community Garden during the summer growing stage.

Shadow Assessment – Preliminary CEQR Discussion

Although this assessment is directed toward an evaluation of the potential impact of shadows produced by the Proposed Ebenezer Plaza Rezoning on a specific additional resource – the Green Valley Community Garden, a general restatement of CEQR Shadow Assessment Intent and Methodology is contained below prior to the analysis so that this Study may be stand alone for the audience specifically interested in this resource.

The *CEQR Technical Manual* defines a shadow as the condition that results when a building or other built structure blocks the sunlight that would otherwise directly reach a certain area, space or feature. An incremental shadow is the additional 'or new shadow that a building or other built structure resulting from a proposed project would cast on a sunlight-sensitive resource during the year. The sunlight-sensitive resources of concern are those resources that depend on sunlight or for which direct sunlight is necessary to maintain the resource's usability or architectural integrity, including public open space, architectural resources and natural resources. Shadows can have impacts on publicly accessible open spaces or natural features by adversely affecting their use and important landscaping and vegetation. In general, increases in shadow coverage make parks feel darker and colder, affecting the experience of park patrons. Shadows can also have impacts on historic resources whose features are sunlight-sensitive, such as stained-glass windows, by obscuring the features or details, which make the resources significant.

The duration and dimensions of Shadows are determined by the geographic location of the area from which the shadow is cast and the time of day and season. Shadows cast during the morning and evening, when the sun is low in the sky, are longer, while midday shadows are shorter in length. Shadows in winter, when the sun arcs low across the southern sky, are also longer throughout the day than at corresponding times in spring and fall seasons. In summer, the high arc of the sun casts shorter shadows than at any other time of year, and early and late shadows during the summer are cast towards the south than shadows cast in early and late winter months.

The *CEQR Technical Manual* states that a shadow assessment considers projects that result in new shadows long enough to reach a sunlight-sensitive resource. Therefore, a shadow assessment is warranted only if the project would either result in: (a) new structures (or additions to existing structures including the addition of rooftop mechanical equipment) of 50 feet or more; or, (b) be located adjacent to, or across the street from, a sunlight-sensitive resource. However, a project located adjacent to or across the street from a sunlight-sensitive open space resource (which is not a designated New York City Landmark or listed on the State/National Registers of Historic Places, or eligible for these programs) may not require a detailed shadow assessment if the project's height increase is ten feet or less.

The sunlight-sensitive resources of concern are those resources that depend on sunlight or for which direct sunlight is necessary to maintain the resource's usability or architectural integrity, including public open space, architectural resources and natural resources. In general, shadows on city streets and sidewalks or on other buildings are not considered significant. Some open spaces also contain facilities that are not sensitive to sunlight. These are usually paved such as handball or basketball courts, contain no seating areas and no vegetation, no unusual or historic plantings, or contain only unusual or historic plantings that are shade tolerant. These types of facilities do not need to be analyzed for shadow impacts. Additionally, it is generally not necessary to assess resources located to the south of projected development sites, as shadows cast by the action-generated development would not be cast in the direction of these resources. Furthermore, shadows occurring within one and one-half hour of sunrise or sunset generally are not considered significant in accordance with the *CEQR Technical Manual*.
The Projected Development Sites on Blocks 3861 and 3862 could be developed with buildings of up to eleven stories and 115 feet in height, while the Projected Development Site on Block 3860 could be developed with buildings of up to 95 feet in height. Accordingly, a preliminary assessment of shadows is warranted.

Methodology and Assessment

Tier 1: Preliminary Shadow Assessment

The shadow assessment begins with a preliminary screening assessment to ascertain whether a project's shadow may reach any sunlight-sensitive resources at any time of the year. If the screening assessment does not eliminate this possibility, a detailed shadow analysis may be warranted to determine the extent and duration of the net incremental shadow resulting from the project. The effects of shadows on a sunlight-sensitive resource are site-specific; therefore, as directed in the *CEQR Technical Manual*, the screening assessment was performed for the relevant Projected Development Sites to determine whether they fall within the range of maximum possible shadow cast on potential sunlight sensitive resources as described above. To determine this, a Tier 1 Screening Assessment was performed in accordance with the *CEQR Technical Manual*. A base map is developed that illustrates the proposed site location in relationship to any sunlight-sensitive resources. The longest shadow study area is then determined, which encompasses the site of the proposed project(s) and a perimeter around the site's boundary with a radius equal to the longest shadow that could be cast by the proposed structure, which is 4.3 times the height of the structure that occurs on December 21st, the winter solstice. A Tier 1 Assessment Map – **Figure 1**, was prepared identifying the location of Green Valley Garden (resource # 4 on the map) in relation to the Proposed Project. After this a buffer map was prepared to display the maximum possible shadow of 515.3 feet, which could be cast from each Proposed or Projected Development site in the proposed rezoning area. This shadow cast was derived by multiplying 119'-10" feet (the maximum possible height under R7D with MIH bonus plus bulkhead) by 4.3 (the CEQR Technical Manual multiplier representing the maximum shadow cast from any object as being 4.3 times its height). The potentially impacted area of shadow from each projected site was then compared to those resources identified above to see if any fell within the shadow cast area.

Figure 1: Tier 1 Screening

Ebenezer Plaza, Brooklyn

Tier 1 Screening Assessment



Urban Cartographics

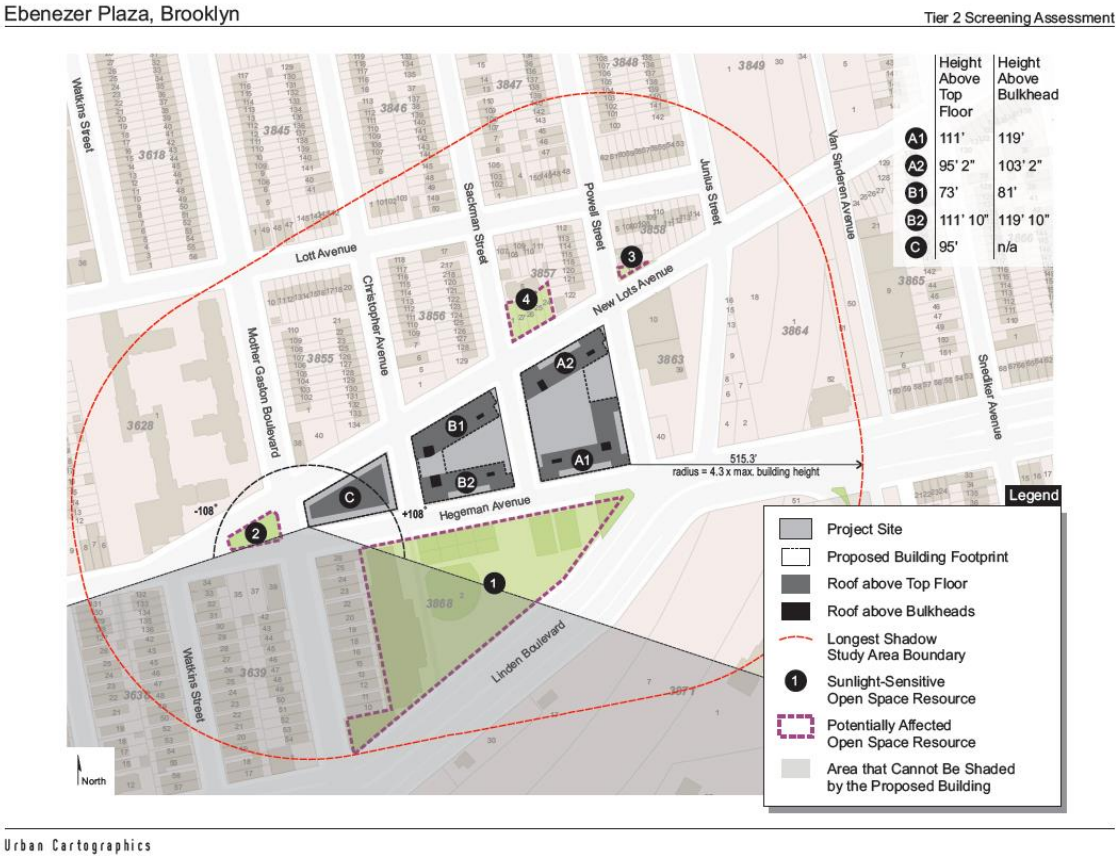
Based on the Tier 1 analysis in **Figure 1**, it was determined that Green Valley Garden, an approximately 7,879 square foot community run garden, located on Block 3857, Lots 1, 24, 25, 26 and 27) is due north of Project Site 1 (Block 3862) on the corner of Sackman Street and New Lots Ave – and is within reach of the longest possible shadow that could be cast from the Proposed Development or Projected Development buildings associated with the Proposed Rezoning of the Affected Area. This site, although not currently identified as a community garden in NYC Oasis, is a long operating community garden that is considered sensitive due to the potential of shadows to impact the availability of light during the growing season and therefore is was analyzed for potential impact from shadows arising from the Proposed Action.

Tier 2 Screening Assessment

The *CEQR Technical Manual* states that if any portion of a sunlight-sensitive resource lies within the longest shadow study area, a Tier 2 screening assessment should be performed. Because of the path the sun travels across the sky in the northern hemisphere, no shadow can be cast in a triangular area south of any given project site. In New York City, this area lies between -108 and +108 degrees from true north. For a Tier 2 screening assessment, sunlight-sensitive resources within the triangular area cannot be shaded by new development sites, and are screened out. The complementing portion to the north within the longest shadow study area is the area that can be shaded by the proposed project.

As shown in **Figure 2,** the Tier 2 screening assessment shows that the Green Valley Community Garden resource identified under the Tier 1 analysis can still be reached by a potential shadow from the "Affected Area" outside the triangular area where no shadow can be cast. Therefore, further analysis is required for these open space resources to determine the extent of the impact of shadows on these resources.

Figure 2: Tier 2 Screening



Tier 3 Screening Assessment

Based on the results of the Tier 2 screening assessment, a Tier 3 screening assessment should be performed if any portion of a sunlight-sensitive resource is within the area that could be shaded by the proposed project. Because the sun rises in the east and travels across the southern part of the sky to set in the west, a project's earliest shadows would be cast almost directly westward. Throughout the day, shadows shift clockwise (moving northwest, then north, then northeast) until sunset, when they would fall east. Therefore, a project's earliest shadow on a sunlight-sensitive resource would occur in a similar pattern, depending on the location of the resource in relation to the project site.

The *CEQR Technical Manual* states that for the New York City area, the months of interest for an open space resource encompass the growing season (March through October) and one month between November and February (usually December) representing a cold-weather month. Assessments of the incremental shadows cast during four representative dates were made in accordance with the *CEQR Technical Manual* to encompass a cold-weather month and months during the growing season. The four representative dates of the Tier 3 screening assessment are:

- December 21st
- March 21st
- May 6th
- June 21st

As the Figure 3 through Figure 6 will show, the Tier 3 screening assessment indicates that project-generated shadows have the potential to reach the Open Space resource 4, Green Valley Community Garden on December 21st, March 21st, May 6 and June 21 Analysis Days; Open Space resource 2, Veterans Triangle on June 21 and May 6 Analysis Days. Based on the Tier 3 screening, a detailed shadow analysis was performed for these resources for the relevant days.

Figure 3: Tier 3 Screening Assessment for December 21st

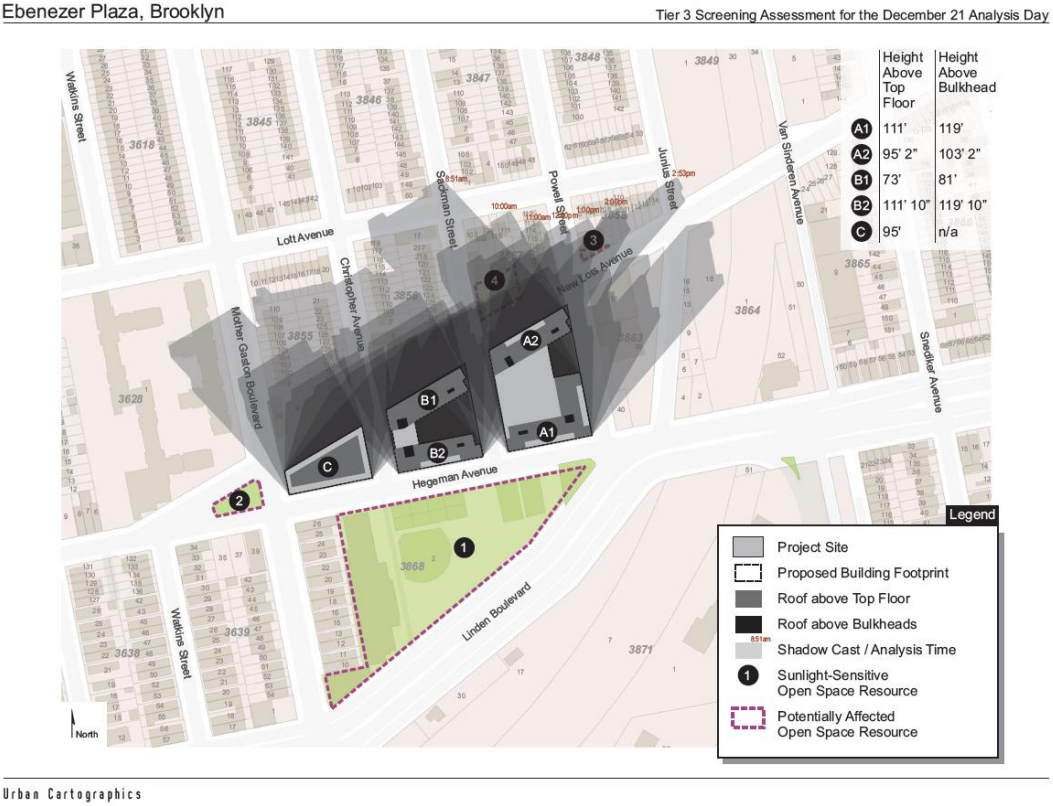


Figure 4: Tier 3 Screening Assessment for March 21st

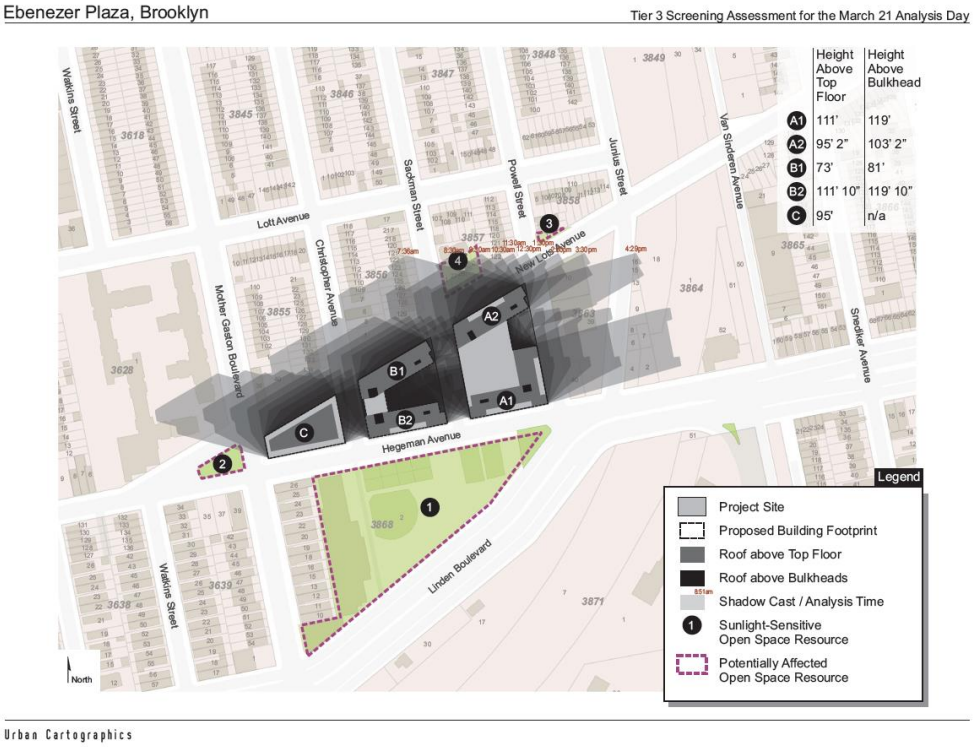


Figure 5: Tier 3 Screening Assessment for May 6th

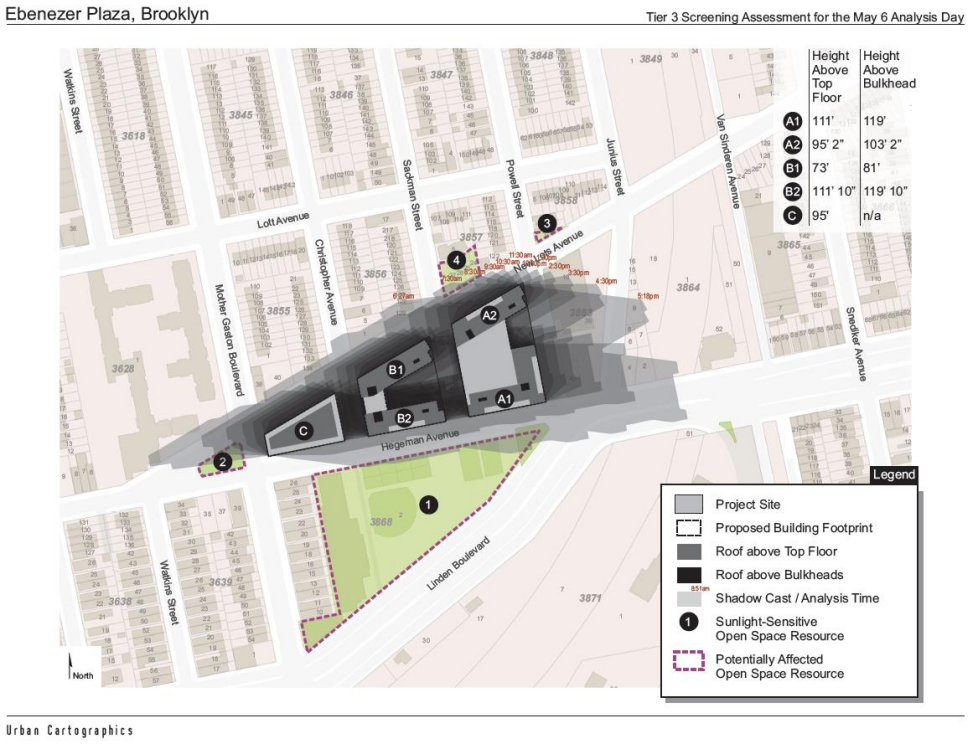
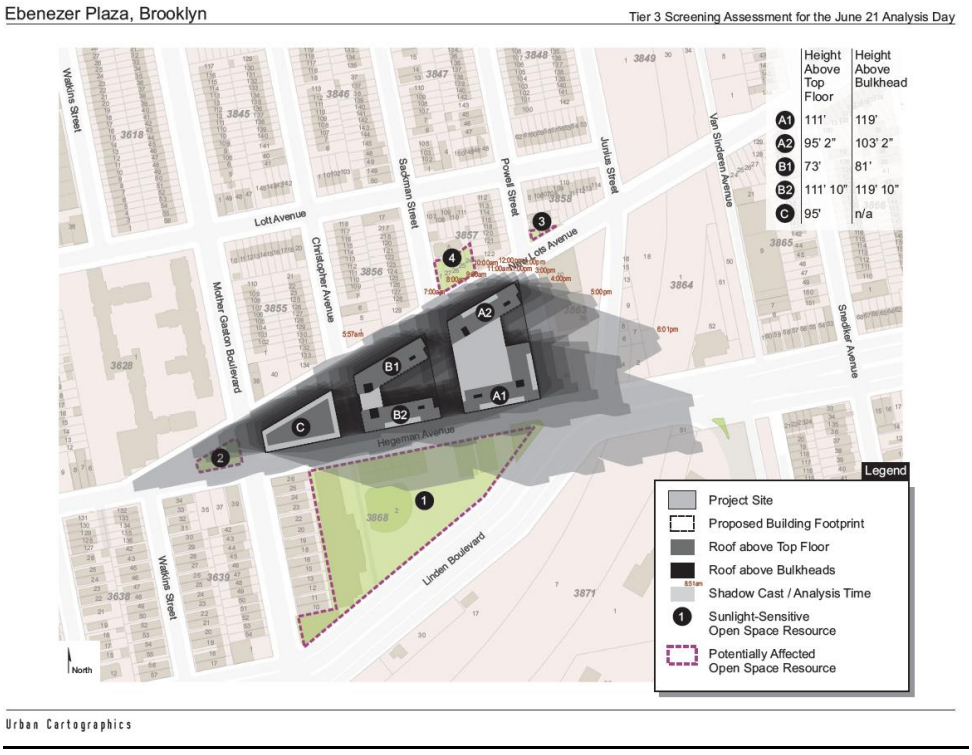


Figure 6: Tier 3 Screening Assessment for June 21st



Detailed Shadow Analysis

The *CEQR Technical Manual* states that a detailed shadow analysis is warranted when the screening analyses does not rule out the possibility that project-generated shadows would reach any sunlight-sensitive resources. The purpose of the detailed analysis is to determine the extent and duration of new incremental shadows that fall on a sunlight-sensitive resource as a result of the proposed project. The results of the detailed shadow analyses on the identified resources of concern are summarized in **Table 1** and visualized in **Figures 7 – 10**.

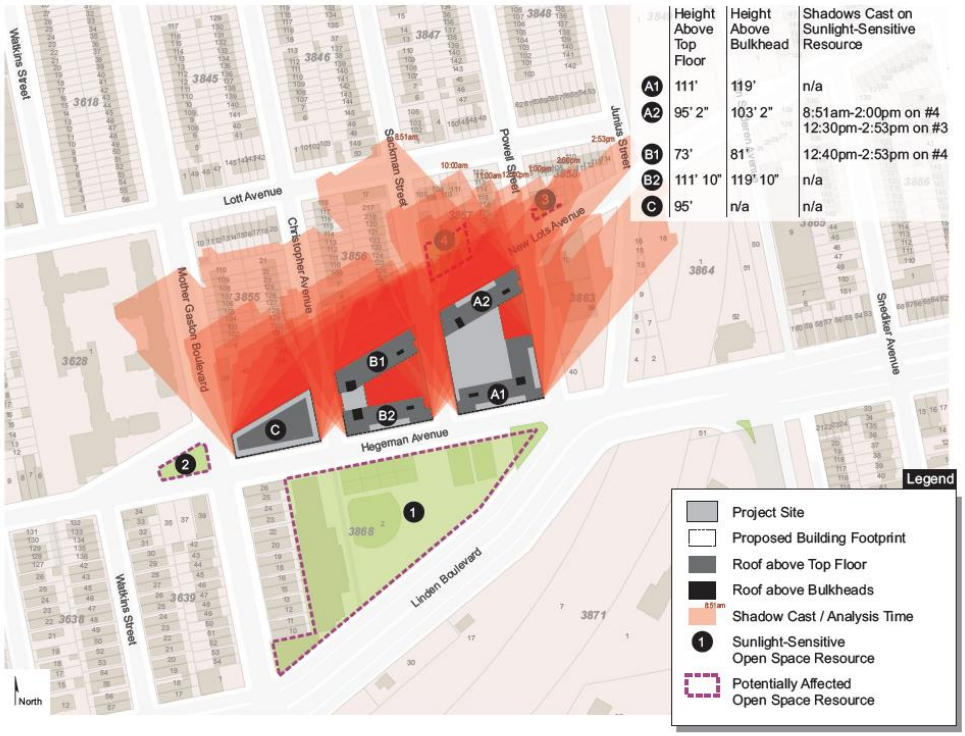
Table 1: Detailed Shadow Analysis Summary

Analysis Date	December 21	March 21	May 6	June 21
Analysis Period	**8:51 a.m. – 2:53 p.m.**	**7:36 a.m. – 4:29 p.m.**	**6:27 a.m. – 5:18 p.m.**	**5:57 a.m. – 6:01 p.m.**
Open Space Resource 4				
Shadows Enter/ Exit Time	8:51 AM – 2:00 PM; 12:40 PM – 2:53 PM	7:36 AM – 11:49 AM.	6:27 AM – 8:56 AM	n/a
Shadow Duration	5 h 9 m, 2 h 13 min = 7 h 18 min total	4 h 13 min	2 h 29 min	n/a

Note: Daylight Saving Time not used/applied (per CEQR)

Figure 7: Tier 3 Incremental Impact for December 21st

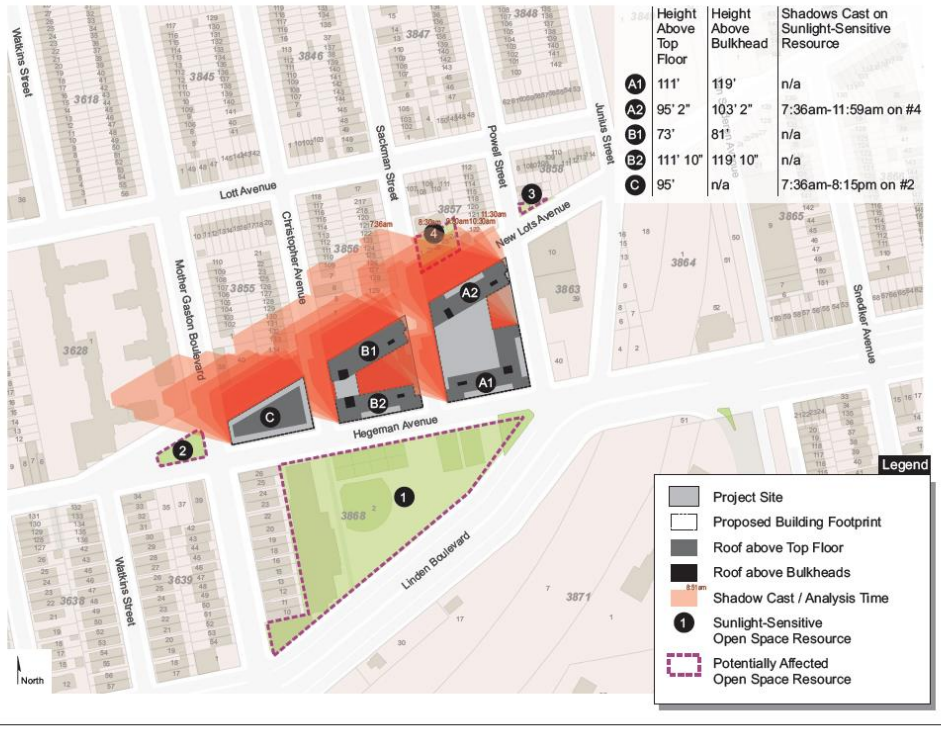
Ebenezer Plaza, Brooklyn — Tier 3 Incremental Impact for the December 21 Analysis Day



Urban Cartographics

Figure 8: Tier 3 Incremental Impact for March 21st

Ebenezer Plaza, Brooklyn — Tier 3 Incremental Impact for the March 21 Analysis Day



Urban Cartographics

Figure 9: Tier 3 Incremental Impact for May 6th

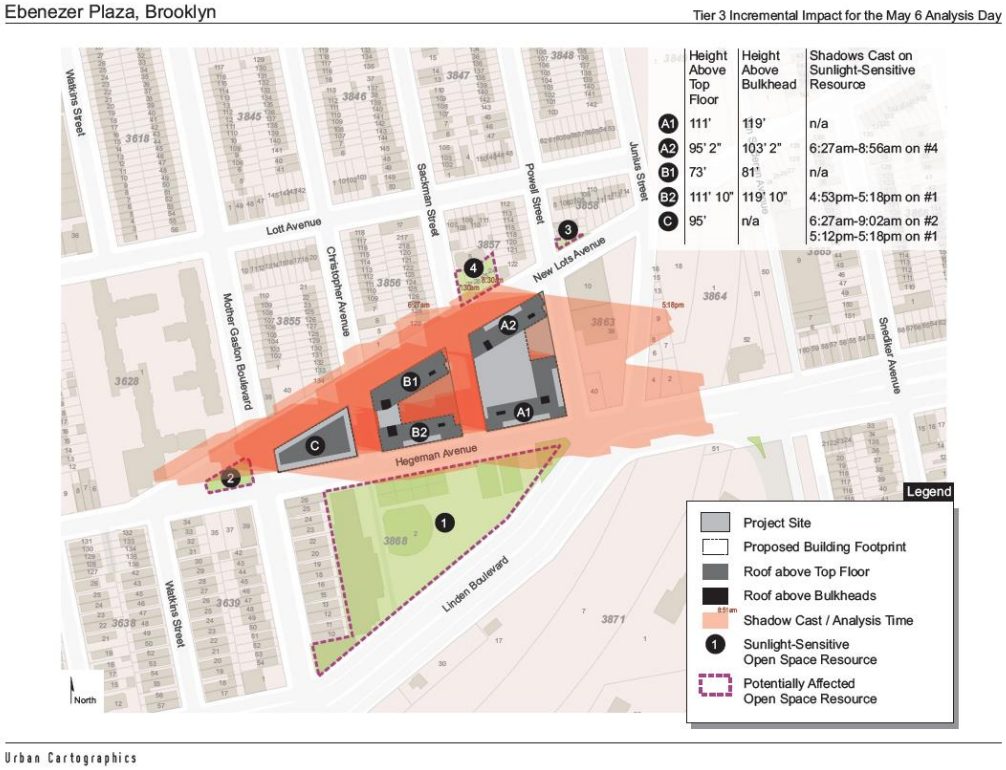
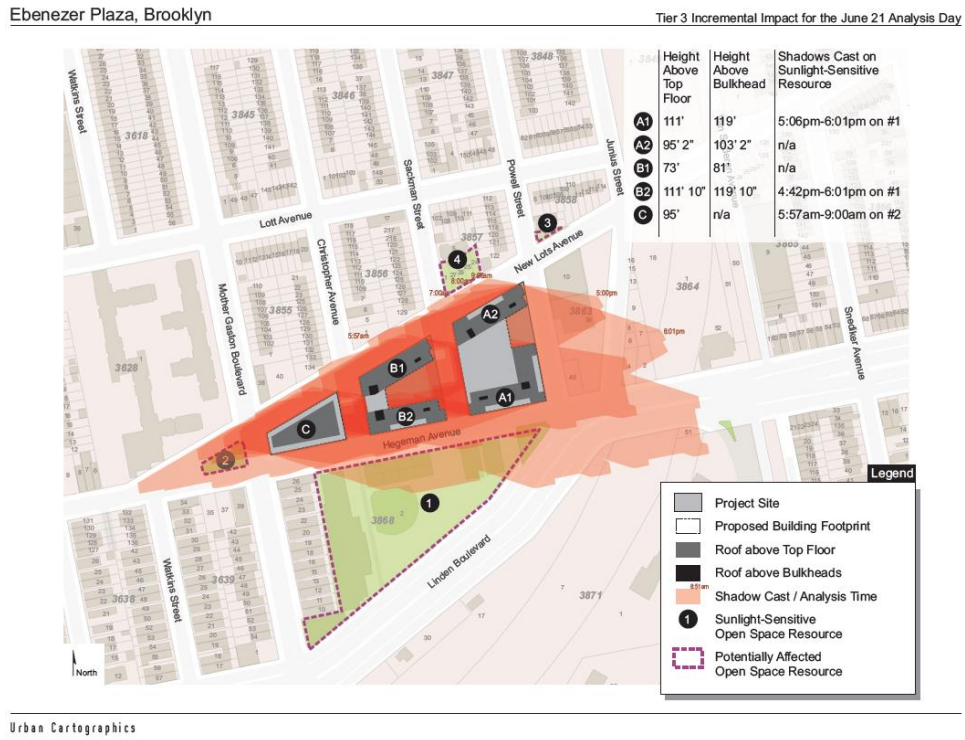


Figure 10: Tier 3 Incremental Impact for June 21st



Determination of Shadow Impact Significance.

The *CEQR Technical Manual* states that the determination of significance of shadow on a sunlight-sensitive resource is based on: (1) the information resulting from the detailed shadow analysis describing the extent and duration of incremental shadows; and (2) an analysis of the resource's sensitivity to reduced sunlight. The goal of the assessment is to determine whether the effects of incremental shadows on a sunlight-sensitive resource are significant under CEQR. A shadow impact occurs when the incremental shadow from a proposed project falls on a sunlight-sensitive resource or feature and reduces its direct sunlight exposure. Determining whether this impact is significant or not, under CEQR, depends on the extent and duration of the incremental shadow and the specific context in which the impact occurs.

For open space and natural resources, the uses and features of a resource is an indicator of its sensitivity to shadows. Shadows occurring during the cold-weather months generally do not affect the growing season of outdoor vegetation; however, their effects on other uses and activities should be assessed. This sensitivity is assessed for warm-weather-dependent features (such as wading pools and sand boxes) or vegetation that could be affected by a loss of sunlight during the growing season, and for features (such as benches) that could be affected by a loss of winter sunlight. Vegetation requiring direct sunlight includes the tree canopy, flowering plants and plots in community gardens. Generally, four to six hours a day of sunlight, particularly in the growing season, is often a minimum requirement. Where the incremental shadows from the project fall on sunlight-sensitive features or uses, the analysis assesses the loss of sunlight relative to sunlight that would be available without the project.

As stated in the *CEQR Technical Manual*, to determine impact significance, an incremental shadow is generally not considered significant when its duration is no longer than 10 minutes at any time of year and the resource continues to receive substantial direct sunlight. A significant shadow impact generally occurs when an incremental shadow of 10 minutes or longer falls on a sunlight-sensitive resource and results in one of the following:

Vegetation - A substantial reduction in sunlight available to a sunlight-sensitive feature of the resource to less than the minimum time necessary for its survival (when there was sufficient sunlight in the future without the project). Or, a reduction in direct sunlight exposure where the sunlight-sensitive feature of the resource is already subject to substandard sunlight (i.e., less than minimum time necessary for its survival).

Open Space Utilization - A substantial reduction in the usability of open space as a result of increased shadow.

For Any Sunlight-Sensitive Feature of a Resource - Complete elimination of all direct sunlight on the sunlight-sensitive feature of the resource, when the complete elimination results in substantial effects on the survival, enjoyment, or use of the resource.
Methodological Approach

Findings: Sensitive Resource Impact Assessment

Green Valley Community Garden

This resource is a fully operational Community Garden that produces fresh produce for the Community and requires direct regular access to sunlight. As noted above, generally, four to six

hours a day of sunlight, particularly in the growing season, is often a minimum requirement for such a resource. The planting season begins in April, while growing season often begins slightly after Memorial Day, primarily during the summer months of June, July and August. Based on Tier 3 Screening, the Garden is only subject to shadows on three of the study dates, December 21st, March 21st and May 6th. As the impact from shadows during December and March do not affect the use of this sensitive resource, whose utility is based on access to the sun during the growing season – as such, incremental shadows cast during these winter and early spring months will not have an impact on the function of the garden. Further, as noted – no shadows will be cast on the Garden in June – the start of the growing season. The only possible impact from shadows produced by the Proposed Development are during the May 6th analysis day, which based on the assessment as shown in **Table 1**, will produce 2 hours and 29 minutes of shadow from sunlight till 8:56 – leaving well over 8 hours of good light (from 9 PM till over 5 PM) for those growing very early and outside of the traditional growing stage. As the analysis indicates no shadow impact to the traditional growing season and only minimal – non-significant shadow cast early morning in early May on the Green Valley Community Garden, therefore - no significant impact to the function of this community garden will occur due to the proposed project.