1045 Atlantic Avenue Rezoning
Environmental Assessment Statement

CEQR # 21DCP168K



Prepared for:
Atlantic Brooklyn LLC

Prepared by:
Philip Habib & Associates

June 18, 2021

1045 Atlantic Avenue Rezoning

Environmental Assessment Statement

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Environmental Assessment Statement (EAS) Form

City Environmental Quality Review
ENVIRONMENTAL ASSESSMENT STATEMENT (EAS) FULL FORM

Please fill out and submit to the appropriate agency (see instructions)

Part I: GENERAL INFORMATION

PROJECT NAME **1045 Atlantic Avenue**

1. *Reference Numbers*

CEQR REFERENCE NUMBER (to be assigned by lead agency)	BSA REFERENCE NUMBER (if applicable)
21DCP168K	
ULURP REFERENCE NUMBER (if applicable)	OTHER REFERENCE NUMBER(S) (if applicable) (*e.g.*, legislative intro, CAPA)
210276 ZMK, N210277 ZRK	

2a. *Lead Agency Information*			**2b. *Applicant Information***		
NAME OF LEAD AGENCY			NAME OF APPLICANT		
New York City Department of City Planning			**Atlantic Brooklyn, LLC**		
NAME OF LEAD AGENCY CONTACT PERSON			NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON		
Olga Abinader, Director			**Tucker Reed, Totem**		
ADDRESS **120 Broadway**			ADDRESS **55 Washington Street, Suite 710**		
CITY **New York**	STATE **NY**	ZIP **10271**	CITY **Brooklyn**	STATE **NY**	ZIP **11201**
TELEPHONE **212-720-3493**	EMAIL **oabinad@planning.nyc.gov**		TELEPHONE **718-422-0403**	EMAIL **tucker@totembrooklyn.com**	

3. *Action Classification and Type*

SEQRA Classification

☐ UNLISTED ☒ TYPE I: Specify Category (see 6 NYCRR 617.4 and NYC Executive Order 91 of 1977, as amended):

Action Type (refer to Chapter 2, "Establishing the Analysis Framework" for guidance)

☒ LOCALIZED ACTION, SITE SPECIFIC ☐ LOCALIZED ACTION, SMALL AREA ☐ GENERIC ACTION

4. *Project Description*

The Applicant, Atlantic Brooklyn LLC, seeks discretionary actions to facilitate the development of a 17-story mixed-used building (the "Proposed Project") on a site located at 1045 Atlantic Avenue (Block 2020, Lots 68, 70, 73, 74, and 77; the "Proposed Development Site") in the Bedford-Stuyvesant/Crown Heights neighborhood of Brooklyn Community Distrct (CD) 3. Specficially, the Applicant seeks the following discretionary actions in connection with the development of the Proposed Project: (i) a zoning map amendment to rezone the Proposed Rezoning Area (Block 2020, Lots 35-40 (p/o), 42-44 (p/o), 46 (p/o), 68, 70, 73, 74, 77 (p/o), and 7503 (p/o)) from an M1-1 district to a C6-3A district; (ii) a zoning text amendment to Appendix F of the New York City Zoning Resolution (ZR) to establish the Proposed Rezoning Area as a Mandatory Inclusionary Housing (MIH) area subject to the affordability requirements of Option 2 and the Workforce Housing option of the MIH progam; and (iii) a zoning text amendment to the New York City Zoning Resolution (ZR) Section 35-66 (Special Height and Setbacks Provisions for Certain Areas) to allow for streetwall flexibility along the Proposed Project's street frontage (collectively, the "Proposed Actions"). The Proposed Rezoning Area consists of an approximately 44,114 square foot (sf) portion of Block 2020, comprising all of Lots 68, 70, 73, and 74, as well as portions of Lots 35-40, 42-44, 46, 77, and 7503 and is generally bounded by Atlantic Avenue to the south, a line approximately 207 feet east of Classon Avenue, the R6B district boundary to the north (approximately 125 feet from Atlantic Avenue, and a line approximately 182 feet west of Franklin Avenue. Lots 68, 70, 73, 74, and 77 are owned and controlled by the Applicant and comprise the "Proposed Development Site." The Proposed Rezoning Area and the Proposed Development Site collectively make up the larger "Project Area." The Project Area has a total lot area of approximately 47,527 sf.

The Proposed Actions would facilitate the development of an approximately 477,098 gross square foot (gsf) mixed-use building at the Proposed Development Site containing residential uses, local retail, and office space (the "Proposed Project"). The Proposed Project will contain approximately 357,436 gsf (422 dwelling units [DUs]) of residential uses (of which, 30 percent or up to 127 units would designated as permanently affordable pursuant to Option 2 of the City's MIH program), 28,334 gsf of commercial office space, 34,470 gsf of commercial retail space, and 8,995 gsf of community

facility (child care) space, as well as 39,950 gsf of below-grade accessory parking for approximately 152 spaces, 2,352 gsf of at-grade parking/loading uses, and 5,561 gsf of mechanical uses. It is anticipated that the proposed development would be constructed and fully occupied by 2024.

In addition, as the Proposed Actions would increase the maximum permitted commercial FAR of 6.0, a second reasonable worst-case development scenario (RWCDS) will be assessed (the "Alternate Commercial Scenario"). Under the Alternate Commercial Scenario, the Applicant could reasonably construct a mixed-use building containing approximately 113,587 gsf of commercial office uses, 33,111 gsf of commercial retail uses, 273,072 gsf (337 DUs) of residential uses (of which, up to 101 units would be permanently affordable under Option 2 of the MIH program), 43,640 gsf of below-grade accessory parking uses, 2,382 gsf of at-grade parking/loading uses, and 5,798 gsf of mechanical uses.

Project Location

BOROUGH Brooklyn	COMMUNITY DISTRICT(S) 3	STREET ADDRESS 1045 Atlantic Avenue
TAX BLOCK(S) AND LOT(S) Block 2020; Lots 68, 70, 73, 74, 77 (applicant-owned); portions of Lots 35-40, 42-44, 46, 7503 (non-applicant-owned)		ZIP CODE 11238

DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS Atlantic Avenue to the south; a line approximately 207 feet east of Classon Avenue; the adjacent R6B district boundary to the north (approximately 125 feet from Atlantic Avenue); and a line approximately 182 feet west of Franklin Avenue.

EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY M1-1	ZONING SECTIONAL MAP NUMBER 16c/17a

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Physical Setting (both developed and undeveloped areas)

Total directly affected area (sq. ft.): 47,527 sf (Project Area) Waterbody area (sq. ft.) and type: N/A
Roads, buildings, and other paved surfaces (sq. ft.): 47,527 sf Other, describe (sq. ft.): N/A

7. *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):
NUMBER OF BUILDINGS: 1 GROSS FLOOR AREA OF EACH BUILDING (sq. ft.): 492,203 gsf
HEIGHT OF EACH BUILDING (ft.): 175 feet NUMBER OF STORIES OF EACH BUILDING: 17

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: 46,752 sf
The total square feet not owned or controlled by the applicant: 775 sf

Does the proposed project involve in-ground excavation or subsurface disturbance, including, but not limited to foundation work, pilings, utility lines, or grading? ☒ YES ☐ NO
If "yes," indicate the estimated area and volume dimensions of subsurface disturbance (if known):
AREA OF TEMPORARY DISTURBANCE: 46,752 sq. ft. (width x length) VOLUME OF DISTURBANCE: 561,024 cubic ft. (width x length x depth)
AREA OF PERMANENT DISTURBANCE: 42,134 sq. ft. (width x length)

8. *Analysis Year* CEQR Technical Manual Chapter 2

ANTICIPATED BUILD YEAR (date the project would be completed and operational): 2024

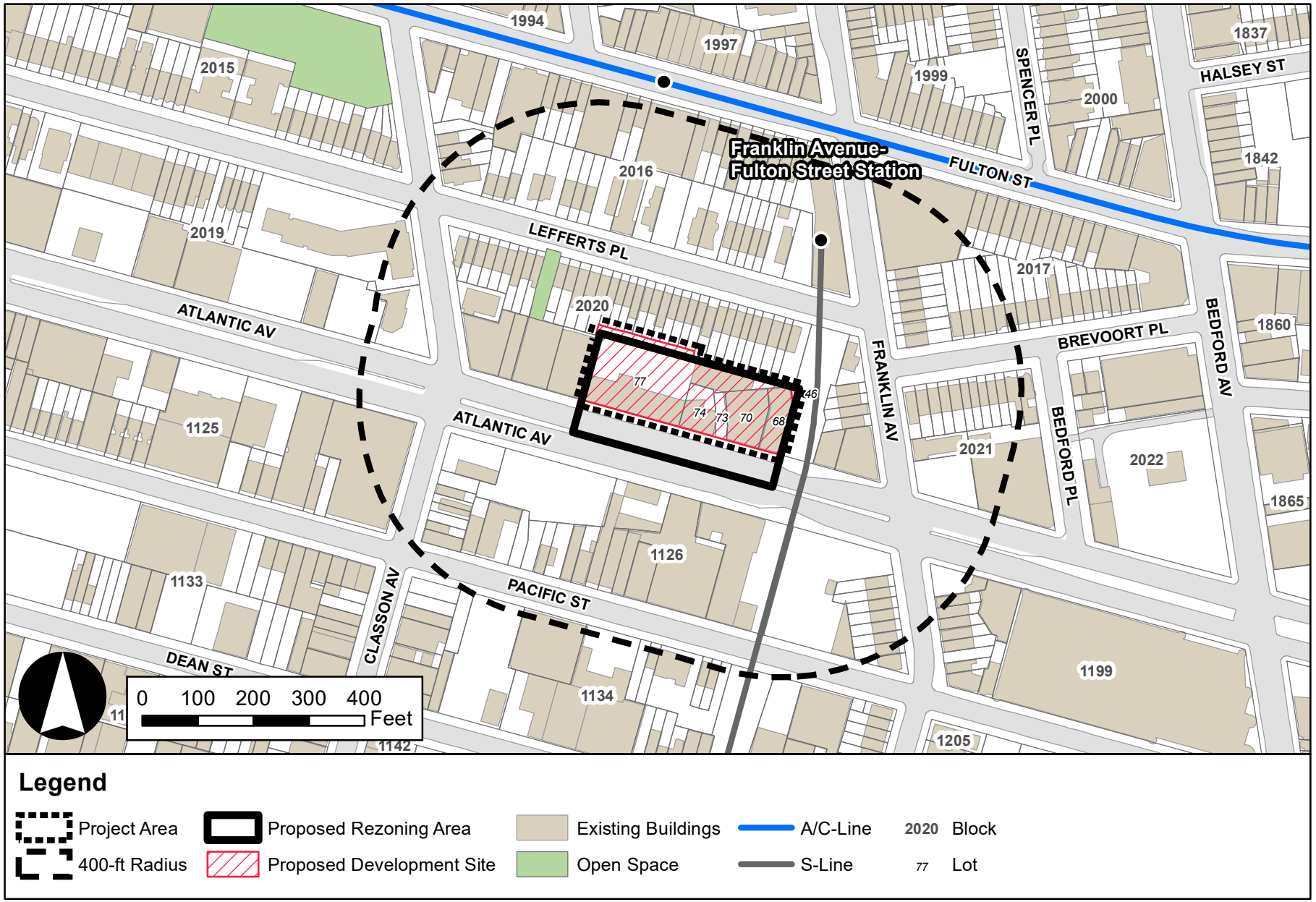
ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS: ~22-23 months

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

BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE: **Construction of the Proposed Project would be implemented in a single phase and is expected to last approximately 22-23 months, of which would include demolition, excavation, foundation, superstructure, and exterior/interior fit-out work. See "Construction" in Attachment B, "Supplemental Screening" for more info.**

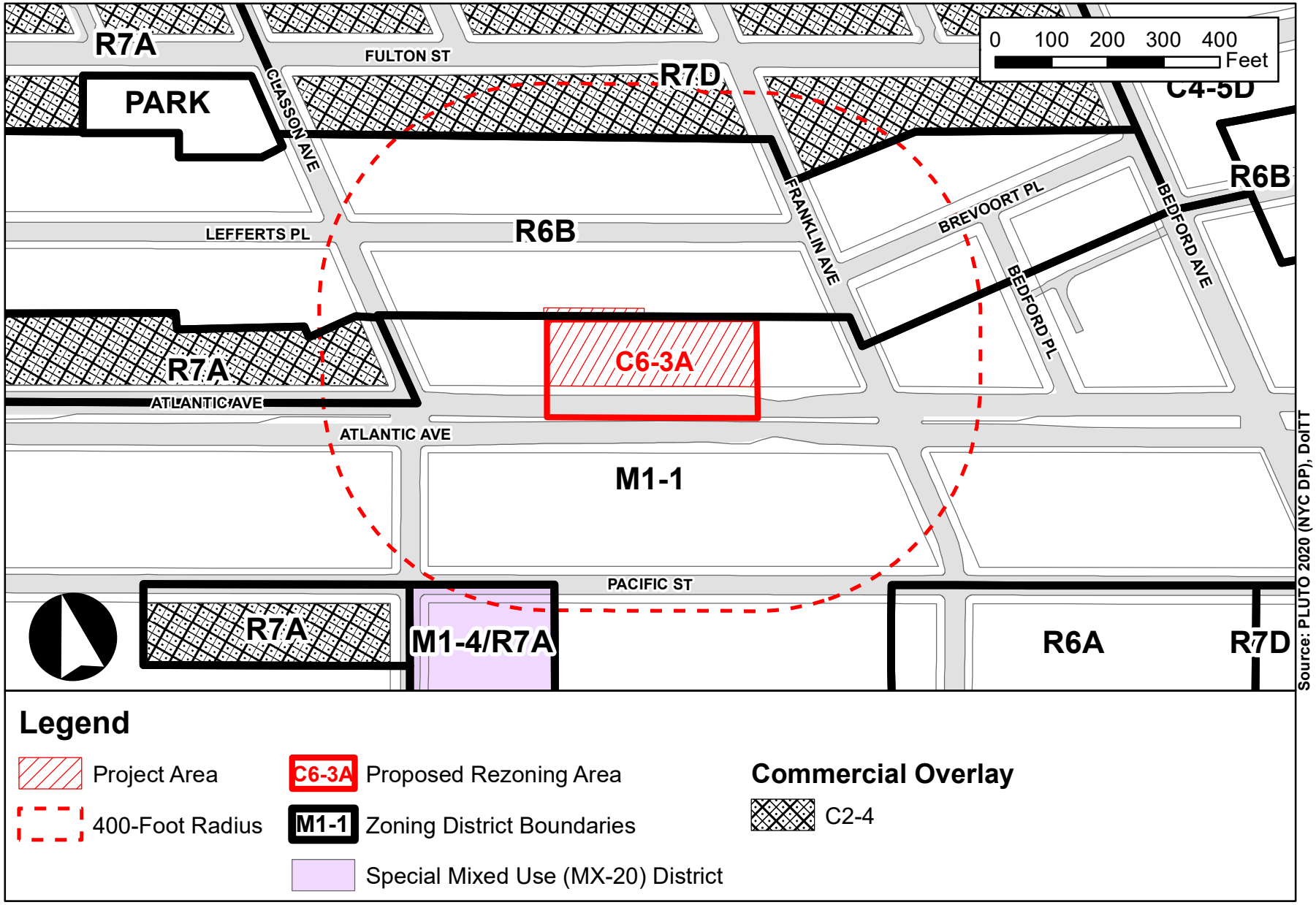
9. *Predominant Land Use in the Vicinity of the Project* (check all that apply)

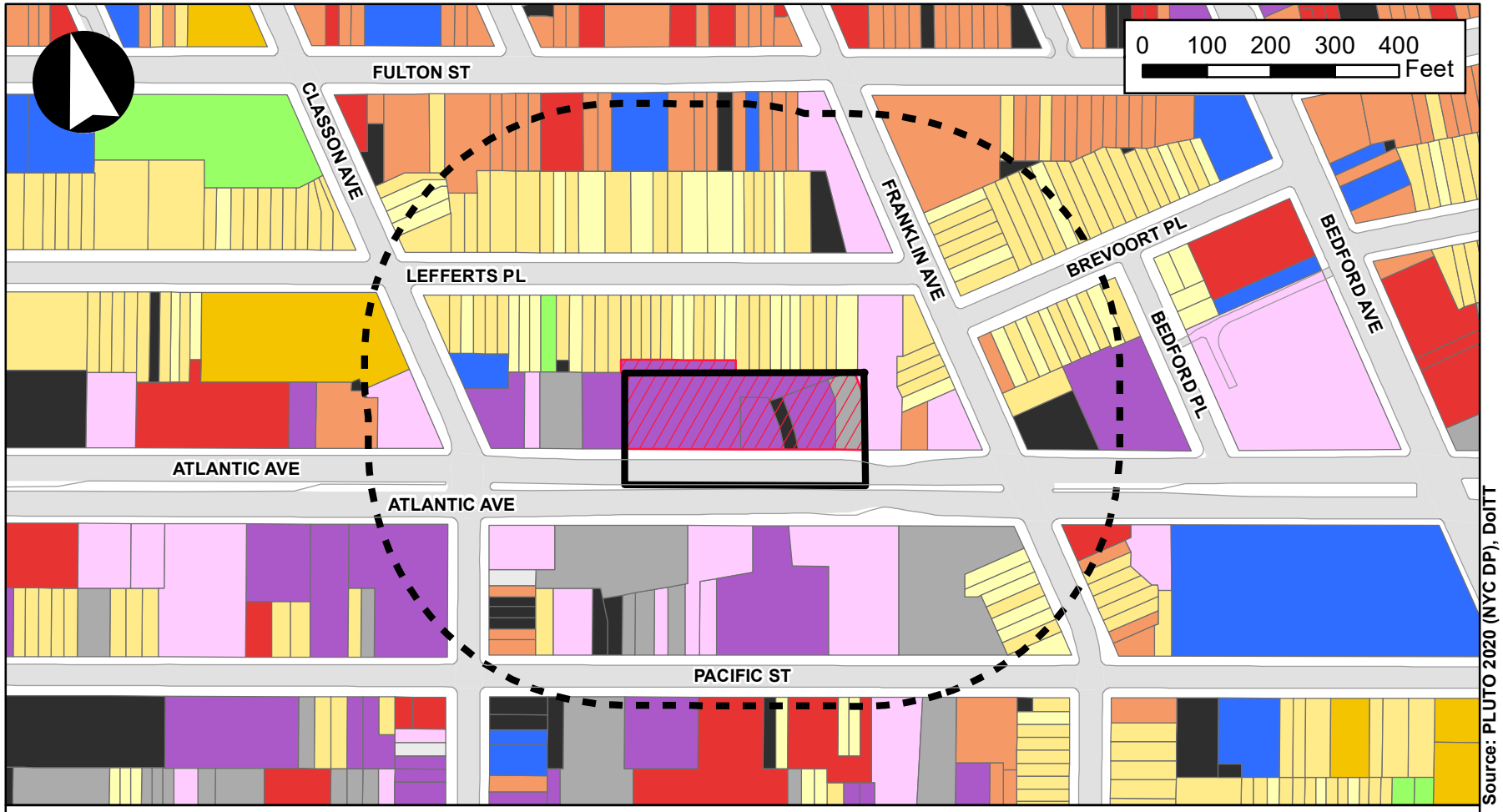
☒ RESIDENTIAL ☒ MANUFACTURING ☒ COMMERCIAL ☐ PARK/FOREST/OPEN SPACE ☐ OTHER, specify:

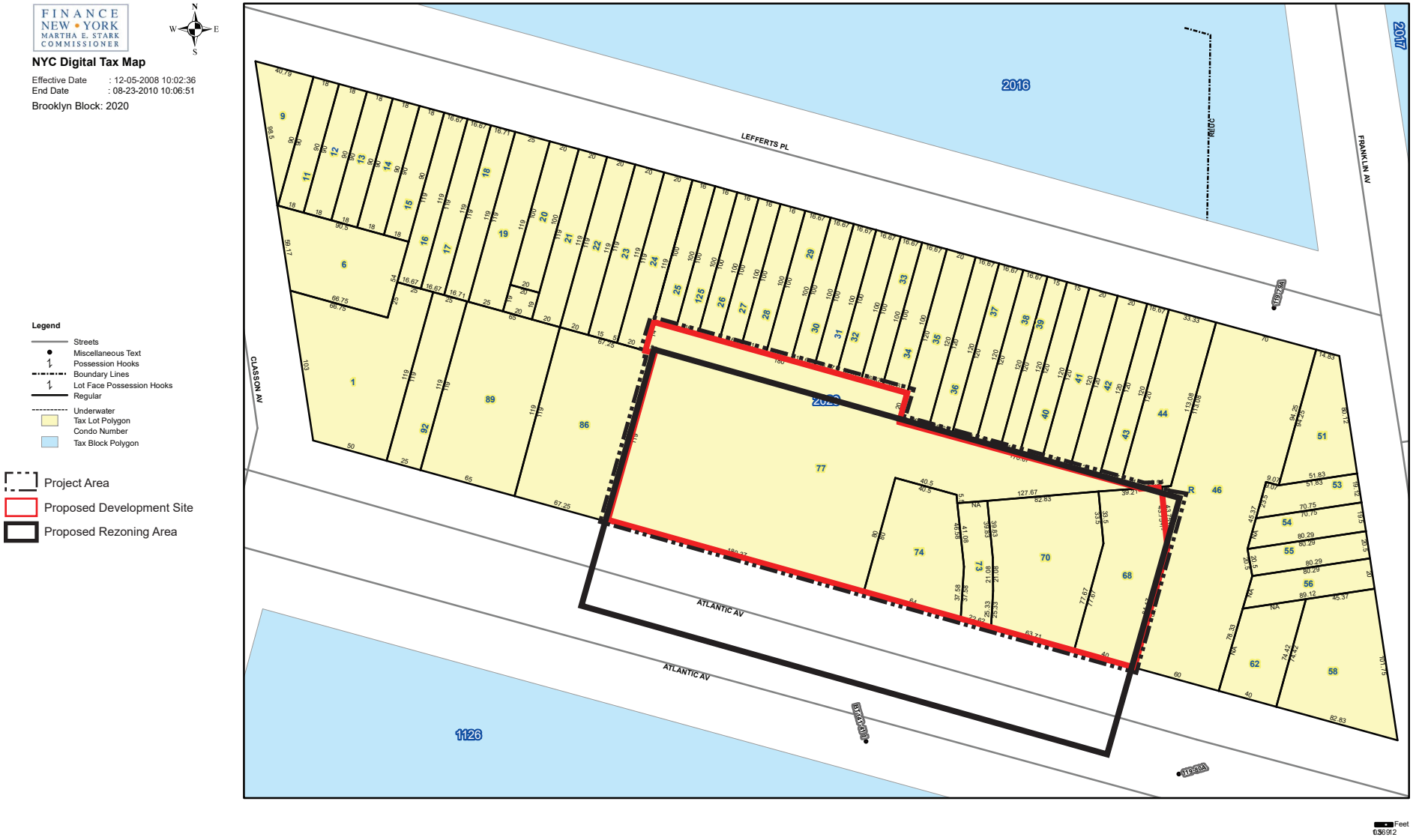


1045 Atlantic Avenue Rezoning EAS

Figure 1
Project Site Location


R7A
FULTON ST
R7D
C4-5D
PARK
CLASSON AVE
FRANKLIN AVE
BREVOORT PL
BEDFORD AVE
R6B
LEFFERTS PL
R6B
BEDFORD PL
C6-3A
R7A
ATLANTIC AVE
ATLANTIC AVE
M1-1
PACIFIC ST
R7A
M1-4/R7A
R6A
R7D
0 100 200 300 400
Feet
Source: PLUTO 2020 (NYC DP), DoITT
Legend
Project Area
400-Foot Radius
C6-3A
Proposed Rezoning Area
M1-1
Zoning District Boundaries
Special Mixed Use (MX-20) District
Commercial Overlay
C2-4


0 100 200 300 400
Feet
FULTON ST
CLASSON AVE
FRANKLIN AVE
BREVOORT PL
BEDFORD AVE
BEDFORD PL
LEFFERTS PL
ATLANTIC AVE
ATLANTIC AVE
PACIFIC ST
Source: PLUTO 2020 (NYC DP), DoITT
Legend
Proposed Development Site
Proposed Rezoning Area
400-Foot Radius
One & Two Family Buildings
Multi-Family Walkup Buildings
Multi-Family Elevator Buildings
Mixed Commercial/Residential Buildings
Commercial/Office Buildings
Industrial/Manufacturing
Transportation/Utility
Public Facilities & Institutions
Open Space
Parking Facilities
Vacant Land
All Others or No Data



1045 Atlantic Avenue Rezoning EAS

Figure 4
Tax Map

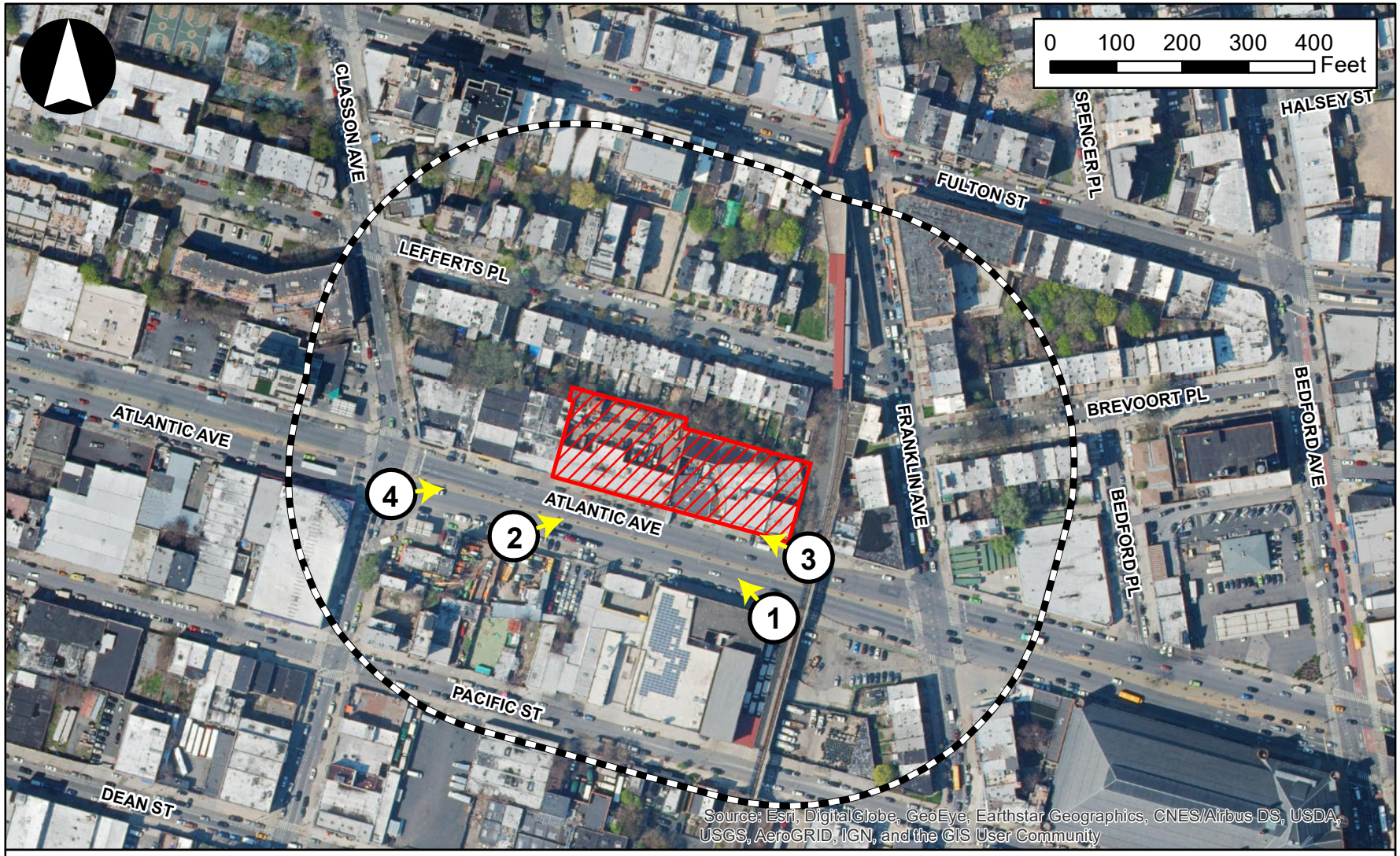
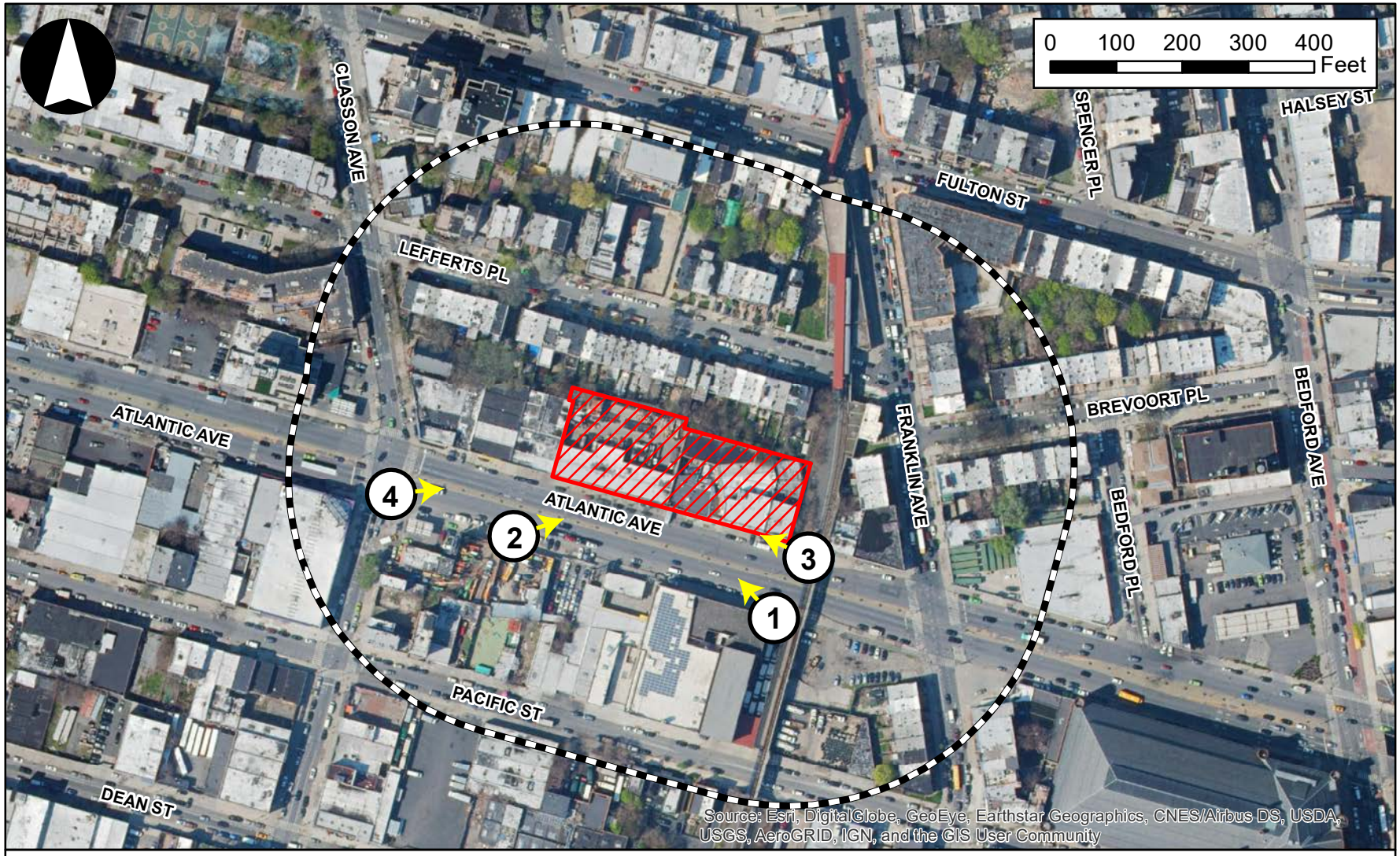


Figure 5a
Existing Conditions Photos - Key



Legend

Project Area

400-Foot Radius

1 Photo Location



1) Looking north towards the Project Area from Atlantic Avenue.



2) Looking east towards the Project Area from Atlantic Avenue.



3) Looking northwest along Atlantic Avenue towards the Project Area.



4) Looking east towards the Project Area from the intersection of Atlantic and Classon avenues.

DESCRIPTION OF EXISTING AND PROPOSED CONDITIONS

The information requested in this table applies to the directly affected area. The directly affected area consists of the project site and the area subject to any change in regulatory control. The increment is the difference between the No-Action and the With-Action conditions.

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
LAND USE				
Residential	☐ YES ☒ NO	☐ YES ☒ NO	☒ YES ☐ NO	
If "yes," specify the following:				
Describe type of residential structures	**N/A**	**N/A**	**Multi-Family Elevator**	**Multi-Family Elevator**
No. of dwelling units	**N/A**	**N/A**	**422**	422
No. of low- to moderate-income units	**N/A**	**N/A**	127	127
Gross floor area (sq. ft.)	**N/A**	**N/A**	357,436	357,436
Commercial	☒ YES ☐ NO	☒ YES ☐ NO	☒ YES ☐ NO	
If "yes," specify the following:				
Describe type (retail, office, other)	**Office; Retail**	**Office; Retail**	**Office; Retail**	**No Change**
Gross floor area (sq. ft.)	**8,245**	**8,245**	**68,365**	60,120
Manufacturing/Industrial	☒ YES ☐ NO	☒ YES ☐ NO	☐ YES ☒ NO	
If "yes," specify the following:				
Type of use	**Light Industrial**	**Light Industrial**	**N/A**	**Elimination of Light Industrial**
Gross floor area (sq. ft.)	**17,861**	**30,101**	**N/A**	**-30,101**
Open storage area (sq. ft.)	**15,892**	**15,892**	**N/A**	**-15,892**
If any unenclosed activities, specify:	**Warehouse; Showroom; Storage**	**Warehouse; Showroom; Storage**	**N/A**	
Community Facility	☐ YES ☒ NO	☐ YES ☒ NO	☒ YES ☐ NO	
If "yes," specify the following:				
Type	**N/A**	**N/A**	**Child Care**	**Child Care**
Gross floor area (sq. ft.)	**N/A**	**N/A**	**8,995**	**8,995**
Vacant Land	☒ YES ☐ NO	☒ YES ☐ NO	☐ YES ☒ NO	
If "yes," describe:	**Lot 73 (1,679 sf) is vacant and unimproved; vacant industrial building on Lot 70 (12,240 sf)**	**Lot 73 (1,679 sf) is vacant and unimproved**	**N/A**	**Elimination of Vacant Land**
Publicly Accessible Open Space	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," specify type (mapped City, State, or Federal parkland, wetland—mapped or otherwise known, other):	**N/A**	**N/A**	**N/A**	
Other Land Uses	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," describe:	**N/A**	**N/A**	**N/A**	
PARKING				
Garages	☐ YES ☒ NO	☐ YES ☒ NO	☒ YES ☐ NO	
If "yes," specify the following:				
No. of public spaces	**N/A**	**N/A**	**0**	
No. of accessory spaces	**N/A**	**N/A**	**152**	**152**
Operating hours	**N/A**	**N/A**	**24/7**	
Attended or non-attended	**N/A**	**N/A**	**attended**	
Lots	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," specify the following:				
No. of public spaces	**N/A**	**N/A**	**N/A**	
No. of accessory spaces	**N/A**	**N/A**	**N/A**	
Operating hours	**N/A**	**N/A**	**N/A**	
Other (includes street parking)	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," describe:	**N/A**	**N/A**	**N/A**	

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
POPULATION				
Residents	☐ YES ☒ NO	☐ YES ☒ NO	☒ YES ☐ NO	
If "yes," specify number:	**N/A**	**N/A**	**882**	**1,093**
Briefly explain how the number of residents was calculated:	**Based on 2010 US Census data for average persons per household in Brooklyn Community District 3 (2.59 p/hh)**			
Businesses	☒ YES ☐ NO	☒ YES ☐ NO	☒ YES ☐ NO	
If "yes," specify the following:				
No. and type	**Office; Retail; Light Industrial**	**Office; Retail; Light Industrial**	**Office; Retail; Parking**	
No. and type of workers by business	**51**	**65**	**300**	**235**
No. and type of non-residents who are not workers				
Briefly explain how the number of businesses was calculated:	**Assumes one employee per 250 sf of office; one employee per 300 sf of retail; one employee per 25 DUs; and one employee per 50 attended parking spaces.**			
Other (students, visitors, concert-goers, *etc.*)	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If any, specify type and number:	**N/A**	**N/A**	N/A	
Briefly explain how the number was calculated:				
ZONING				
Zoning classification	**M1-1**	**M1-1**	**C6-3A**	**Change from M1-1 to C6-3A**
Maximum amount of floor area that can be developed	**R: 0 zsf** **C: 46,752 zsf** **CF: 112,205 zsf** **M: 46,752 zsf**	**R: 0 zsf** **C: 46,752 zsf** **CF: 112,205 zsf** **M: 46,752 zsf**	**R: 397,392 zsf** **C: 280,512 zsf** **CF: 397,392 zsf** **M: 0 zsf**	**R: +397,392 zsf** **C: +233,760 zsf** **CF: +285,187 zsf** **M: -46,752 zsf**
Predominant land use and zoning classifications within land use study area(s) or a 400 ft. radius of proposed project	**Land Use: Light Industrial, Transportation/Utility, Residential, Retail, Parking Facilities** **Zoning: M1-1, R6B, R7A, R7D**	**Land Use: Light Industrial, Transportation/Utility, Residential, Retail, Parking Facilities** **Zoning: M1-1, R6B, R7A, R7D**	**Land Use: Light Industrial, Transportation/Utility, Residential, Retail, Office, Parking Facilities** **Zoning: M1-1, R6B, R7A, R7D, C6-3A**	**Land Use: Office** **Zoning: C6-3A**
Attach any additional information that may be needed to describe the project. If your project involves changes that affect one or more sites not associated with a specific development, it is generally appropriate to include total development projections in the above table and attach separate tables outlining the reasonable development scenarios for each site.				

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 Full 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?	☐	☒
○ 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?	☐	☒
○ If "yes," complete the Consistency Assessment Form.		
2. *SOCIOECONOMIC CONDITIONS*: CEQR Technical Manual Chapter 5		
(a) Would the proposed project:		
○ Generate a net increase of more than 200 residential units *or* 200,000 square feet of commercial space?	☒	☐
▪ If "yes," answer *both* questions 2(b)(ii) and 2(b)(iv) below.		
○ Directly displace 500 or more residents?	☐	☒
▪ If "yes," answer questions 2(b)(i), 2(b)(ii), and 2(b)(iv) below.		
○ Directly displace more than 100 employees?	☐	☒
▪ If "yes," answer questions under 2(b)(iii) and 2(b)(iv) below.		
○ Affect conditions in a specific industry?	☐	☒
▪ If "yes," answer question 2(b)(v) below.		
(b) If "yes" to any of the above, attach supporting information to answer the relevant questions below. If "no" was checked for each category above, the remaining questions in this technical area do not need to be answered.		
i. Direct Residential Displacement		
○ If more than 500 residents would be displaced, would these residents represent more than 5% of the primary study area population?	☐	☐
○ If "yes," is the average income of the directly displaced population markedly lower than the average income of the rest of the study area population?	☐	☐
ii. Indirect Residential Displacement		
○ Would expected average incomes of the new population exceed the average incomes of study area populations? See **Attachment D, "Socioeconomic Conditions,"** for further detail.	☐	☒
○ If "yes:"		
▪ Would the population of the primary study area increase by more than 10 percent?	☐	☐
▪ Would the population of the primary study area increase by more than 5 percent in an area where there is the potential to accelerate trends toward increasing rents?	☐	☐
○ If "yes" to either of the preceding questions, would more than 5 percent of all housing units be renter-occupied and unprotected?	☐	☐
iii. Direct Business Displacement		
○ Do any of the displaced businesses provide goods or services that otherwise would not be found within the trade area, either under existing conditions or in the future with the proposed project?	☐	☐

	YES	NO
○ Is any category of business to be displaced the subject of other regulations or publicly adopted plans to preserve, enhance, or otherwise protect it?	☐	☐
iv. Indirect Business Displacement		
○ Would the project potentially introduce trends that make it difficult for businesses to remain in the area? See **Attachment D, "Socioeconomic Conditions,"** for further detail.	☐	☒
○ Would the project capture retail sales in a particular category of goods to the extent that the market for such goods would become saturated, potentially resulting in vacancies and disinvestment on neighborhood commercial streets? See **Attachment D, "Socioeconomic Conditions,"** for further detail.	☐	☒
v. Effects on Industry		
○ Would the project significantly affect business conditions in any industry or any category of businesses within or outside the study area?	☐	☐
○ Would the project indirectly substantially reduce employment or impair the economic viability in the industry or category of businesses?	☐	☐
3. *COMMUNITY FACILITIES*: CEQR Technical Manual Chapter 6		
(a) Direct Effects		
○ Would the project directly eliminate, displace, or alter public or publicly funded community facilities such as educational facilities, libraries, health care facilities, day care centers, police stations, or fire stations?	☐	☒
(b) Indirect Effects		
i. 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)	☒	☐
○ If "yes," would the project result in a collective utilization rate of the group child care/Head Start centers in the study area that is greater than 100 percent? Further detailed in **Attachment E, "Community Facilities"**	☐	☒
○ If "yes," would the project increase the collective utilization rate by 5 percent or more from the No-Action scenario? Further detailed in **Attachment E, "Community Facilities"**	☐	☒
ii. 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)	☐	☒
○ If "yes," would the project increase the study area population by 5 percent or more from the No-Action levels?	☐	☐
○ If "yes," would the additional population impair the delivery of library services in the study area?	☐	☐
iii. 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)	☐	☒
○ If "yes," would the project result in a collective utilization rate of the elementary and/or intermediate schools in the study area that is equal to or greater than 100 percent?	☐	☐
○ If "yes," would the project increase this collective utilization rate by 5 percent or more from the No-Action scenario?	☐	☐
iv. Health Care Facilities		
○ Would the project result in the introduction of a sizeable new neighborhood?	☐	☒
○ If "yes," would the project affect the operation of health care facilities in the area?	☐	☐
v. Fire and Police Protection		
○ Would the project result in the introduction of a sizeable new neighborhood?	☐	☒
○ If "yes," would the project affect the operation of fire or police protection in the area?	☐	☐
4. *OPEN SPACE*: CEQR Technical Manual Chapter 7		
(a) Would the 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?	☐	☒
(c) If "yes," would the project generate more than 50 additional residents or 125 additional employees?	☐	☐
(d) Is the project located within a well-served area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island?	☐	☒
(e) If "yes," would the project generate more than 350 additional residents or 750 additional employees?	☐	☐
(f) If the project is located in an area that is neither under-served nor well-served, would it generate more than 200 additional residents or 500 additional employees?	☒	☐
(g) If "yes" to questions (c), (e), or (f) above, attach supporting information to answer the following:		

	YES	NO
○ If in an under-served area, would the project result in a decrease in the open space ratio by more than 1 percent?	☐	☐
○ If in an area that is not under-served, would the project result in a decrease in the open space ratio by more than 5 percent?	☒	☐
○ If "yes," are there qualitative considerations, such as the quality of open space, that need to be considered? Please specify: See **Attachment F, "Open Space,"** for further detail.	☒	☐
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?	☐	☒
(c) If "yes" to either of the above questions, attach supporting information explaining whether the project's shadow would reach any sunlight-sensitive resource at any time of the year. See **Attachment G, "Shadows,"** for further detail.		
6. *HISTORIC AND CULTURAL RESOURCES*: CEQR Technical Manual Chapter 9		
(a) Does the proposed project site or an adjacent site contain any architectural and/or archaeological resource that is eligible for or has been designated (or is calendared for consideration) as a New York City Landmark, Interior Landmark or Scenic Landmark; that is listed or eligible for listing on the New York State or National Register of Historic Places; or that is within a designated or eligible New York City, New York State or National Register Historic District? (See the GIS System for Archaeology and National Register to confirm)	☒	☐
(b) Would the proposed project involve construction resulting in in-ground disturbance to an area not previously excavated?	☐	☒
(c) If "yes" to either of the above, list any identified architectural and/or archaeological resources and attach supporting information on whether the proposed project would potentially affect any architectural or archeological resources. See **Attachment H, "Historic and Cultural Resources,"** for further detail.		
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?	☐	☒
(c) If "yes" to either of the above, please provide the information requested in Chapter 10. See **Attachment I, "Urban Design and Visual Resources,"** for further detail.		
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?	☐	☒
○ If "yes," list the resources and attach supporting information on whether the project would affect any of these resources.		
(b) Is any part of the directly affected area within the Jamaica Bay Watershed?	☐	☒
○ 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?	☒	☐
○ If "yes," were Recognized Environmental Conditions (RECs) identified? Briefly identify:	☒	☐
(i) Based on the Phase I Assessment, is a Phase II Investigation needed? Phase II investigations were conducted on Lots 68, 73, 74, and 77, summaries of which are located in Appendices D and E; further discussion of the Phase II investigations can be found in **Attachment B, "Supplemental Screening."**	☒	☐

	YES	NO
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 that listed in Table 13-1 in Chapter 13?	☐	☐
(d) Would the 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 Treatment Plant and/or contribute contaminated stormwater to a separate storm sewer system?	☐	☒
(h) Would the project involve construction of a new stormwater outfall that requires federal and/or state permits?	☐	☒
(i) If "yes" to any of the above, conduct the appropriate preliminary analyses and attach supporting documentation. See **Attachment J, "Water and Sewer Infrastructure"** for further detail.		
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): 28,519 (Proposed Prject)		
○ 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?	☐	☒
○ If "yes," would the proposed project comply with the City's Solid Waste Management Plan?	☐	☐
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): 67,583,107 (Alternate Commercial Scenario)		
(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 appropriate screening analyses, attach back up data as needed for each stage, and answer the following questions:		
○ 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.*	☐	☒
○ 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/rail trips per station or line?	☒	☐
○ 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?	☒	☐
○ 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?	☐	☒

	YES	NO
(f) If "yes" to any of the above, conduct the appropriate analyses and attach any supporting documentation. Refer to **Attachment L, "Air Quality"** for further detail.		
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) Would the proposed project result in the development of 350,000 square feet or more?	☒	☐
(d) If "yes" to any of the above, would the project require a GHG emissions assessment based on guidance in Chapter 18? Pursuant to CEQR Technical Manual guidance, further assessment is not warranted as the Proposed Actions are not associated with a City capital project; do not require an EIS; do not include the development of power generation facilities; do not include regulations or other actions that would fundamentally change the City's solid waste management system; would not result in a development that is energy-intense (such as a data processing center or health care facility); and would affect a site located outside the 100- and 500-year flood zones.	☐	☒
○ If "yes," would the project result in inconsistencies with the City's GHG reduction goal? (See Local Law 22 of 2008; § 24-803 of the Administrative Code of the City of New York). Please attach supporting documentation.	☐	☐
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?	☐	☒
(e) If "yes" to any of the above, conduct the appropriate analyses and attach any supporting documentation. See **Attachment M, "Noise,"** for further detail.		
17. *PUBLIC HEALTH*: CEQR Technical Manual Chapter 20		
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Air Quality; Hazardous Materials; Noise?	☒	☐
(b) If "yes," explain why an assessment of public health is or is not warranted based on the guidance in Chapter 20, "Public Health." Attach a preliminary analysis, if necessary. As discussed in the EAS, the Proposed Actions would not result in significant adverse Air Quality, Hazardous Materials, or Noise impacts. Therefore, an assessment of public health is not warranted.		
18. *NEIGHBORHOOD CHARACTER*: CEQR Technical Manual Chapter 21		
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Land Use, Zoning, and Public Policy; Socioeconomic Conditions; Open Space; Historic and Cultural Resources; Urban Design and Visual Resources; Shadows; Transportation; Noise?	☒	☐
(b) If "yes," explain why an assessment of neighborhood character is or is not warranted based on the guidance in Chapter 21, "Neighborhood Character." Attach a preliminary analysis, if necessary. The Proposed Actions and associated RWCDS do not have the potential to result in significant adverse impacts to land use, zoning, and public policy, socioeconomic conditions, open space, historic and cultural resources, urban design and visual resources, shadows, transportation, or noise. Nor would the Proposed Actions result in a combination of moderate effects to several elements that cumulatively may affect neighborhood character. Therefore, an assessment of neighborhood character is not warranted.		
19. *CONSTRUCTION*: CEQR Technical Manual Chapter 22		
(a) Would the project's construction activities involve:		
○ Construction activities lasting longer than two years?	☐	☒
○ Construction activities within a Central Business District or along an arterial highway or major thoroughfare?	☒	☐
○ Closing, narrowing, or otherwise impeding traffic, transit, or pedestrian elements (roadways, parking spaces, bicycle routes, sidewalks, crosswalks, corners, *etc.*)?	☒	☐
○ Construction of multiple buildings where there is a potential for on-site receptors on buildings completed before the final build-out?	☐	☒
○ The operation of several pieces of diesel equipment in a single location at peak construction?	☐	☒
○ Closure of a community facility or disruption in its services?	☐	☒
○ Activities within 400 feet of a historic or cultural resource?	☐	☒
○ Disturbance of a site containing or adjacent to a site containing natural resources?	☐	☒

	YES	NO
○ Construction on multiple development sites in the same geographic area, such that there is the potential for several construction timelines to overlap or last for more than two years overall?	☐	☒

(b) If any boxes are checked "yes," explain why a preliminary construction assessment is or is not warranted based on the guidance in Chapter 22, "Construction." It should be noted that the nature and extent of any commitment to use the Best Available Technology for construction equipment or Best Management Practices for construction activities should be considered when making this determination. Construction on the Proposed Development Site may result in temporary disruptions including noise, dust, and traffic associated with the delivery of materials and arrival of workers to and from the site. These effects, however, would be temporary (lasting approximately 22-23 months), and are therefore not considered significant. Additionally, while sidewalk sheds would likely be required during construction, a protected pedestrian walkway would remain open throughout construction activities, and no roadways or pedestrian elements are expected to be impeded by construction activities.

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	SIGNATURE	DATE
Tucker Reed		4/2/21

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
Deputy Director, Environmental Assessment and Review Division	Department of City Planning, on behalf of the City Planning Commission
NAME	DATE
Stephanie Shellooe, AICP	June 18, 2021

SIGNATURE

NEGATIVE DECLARATION

Statement of No Significant Effect

Pursuant to Executive Order 91 of 1977, as amended, and the Rules of Procedure for City Environmental Quality Review, found at Title 62, Chapter 5 of the Rules of the City of New York and 6 NYCRR, Part 617, State Environmental Quality Review, the Department of City Planning acting on behalf of the City Planning Commission assumed the role of lead agency for the environmental review of the proposed actions. Based on a review of information about the project contained in this environmental assessment statement (EAS) and any attachments hereto, which are incorporated by reference herein, the lead agency has determined that the proposed actions would not have a significant adverse impact on the environment.

Reasons Supporting this Determination

The above determination is based on information contained in this EAS, which finds the proposed actions sought before the City Planning Commission would not have a significant adverse impact on the environment. Reasons supporting this determination are noted below.

Land Use, Zoning, and Public Policy

A detailed analysis of land use, zoning, and public policy is included in the EAS. The proposed actions are a Zoning Map Amendment to rezone the project area (all or parts of Brooklyn Block 2020, Lots 35-40, 42-44, 68, 70, 73, 74, and 77, and 7503) from an M1-1 district to a C6-3A district and Zoning Text Amendments to: a) Appendix F of the Zoning Resolution ("ZR") to establish a Mandatory Inclusionary Housing (MIH) area coterminous with the rezoning area in the Bedford-Stuyvesant neighborhood of Brooklyn, Community District 3; and b) Section 35-66 of the ZR to allow for streetwall flexibility. The project area is generally bounded by Atlantic Avenue to the south, Classon Avenue to the west, Atlantic Avenue to the north, and Franklin Avenue to the east. The proposed actions would facilitate the development of a 477,098 gross square feet ("gsf") mixed-use building (the "Proposed Project") on Block 2020, Lots 68, 70, 73, 74, and 77. The Proposed Project would contain approximately 357,436 gsf of residential uses (422 units, 127 of which would be affordable pursuant to MIH), 28,334 gsf of commercial office space, 34,470 gsf of commercial retail space, and 8,995 of community facility space; as well as approximately 152 spaces of below-grade accessory parking. The land use, zoning, and public policy analysis finds that the proposed actions would create additional zoning capacity in a transit-accessible area to support new housing creation and increase the number of affordable housing units available in New York City. While the proposed C6-3A district would permit residential and commercial development at a density greater than permitted under existing or No-Action conditions, the Project Area's location along a wide street, Atlantic Avenue, in a transit accessible area is well-suited for additional development. The analysis concludes that the proposed actions would not result in significant adverse impacts related to land use, zoning, and public policy.

Open Space

A detailed analysis related to open space is included in this EAS. The analysis finds that the residential (0.5-mile) study area's total open space ratio (0.0930 acres per thousand residents) would be below the City's guideline of a 1.5 acres per thousand residents. Additionally, the analysis shows the decrease would be greater than one percent compared to No-Action conditions (1.81 percent). While the analysis finds that proposed actions would result in reductions in the open space ratio within the study area, significant adverse impact would not result from the proposed actions due to several qualitative factors: the Proposed Project would include approximately 10,665 gsf of private indoor amenity space and 31,503 gsf of private rooftop deck space accessible to residents. Additionally, the proposed project would include 62 dwelling units with private outdoor balconies. Additionally, while there is a deficiency of open space within the study area, there is an abundance of regional and local parks located south of the open space study area within walking distance of the southern half of the open space study area, including Prospect Park and Eastern Parkway. The analysis concludes that the proposed actions would not result in significant adverse impacts related to open space.

Shadows

A detailed analysis of shadows is included in this EAS. The analysis finds that incremental shadow would reach two sunlight-sensitive resources: Lefferts Place Block Association Community Garden (the "Community Garden") and the Crispus Attucks playground. Incremental shadow would reach the Community Garden (1 hours and 41 minutes on the March/September 21 analysis days and 2 hours and 3 minutes on the December 21 analysis day). The incremental shadow on the December 21 analysis day would not sufficiently impact vegetation as it is outside the growing season. During the growing season, the shadow coverage would generally be limited to the southern portion of the Community Garden for less than two hours, and the garden would continue to receive four-to-six hours of sunlight, the minimum specified in the CEQR Technical Manual to support vegetative growth. As such, the analysis finds that the proposed actions would not result in significant adverse shadows impacts to the community garden. Incremental shadow would reach the Crispus Attucks playground on the December 21 analysis day, the shadow would be cast on the southeastern corner of the resource for approximately 12 minutes. As the incremental shadow would be limited in duration, the analysis finds the shadow would not significantly alter the public's use of the open space resource or threaten the viability of vegetation. Therefore, the proposed actions would not result in significant adverse shadows impacts to the Crispus Attucks playground. The analysis thus concludes the proposed actions would not result in significant adverse impacts related to shadows.

Urban Design and Visual Resources

A detailed analysis of urban design and visual resources is included in this EAS. The analysis finds that the proposed actions would facilitate new development along a major commercial corridor (Atlantic Avenue) and within blocks of a major shopping thoroughfare (Fulton Street) in Bedford-Stuyvesant, Brooklyn. The proposed actions would facilitate redevelopment in an area currently predominated by underutilized single- and two-story

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SEQRA Classification: Type I

commercial, industrial, and vacant buildings with a new 17-story mixed-use building that is expected to bring a range of uses to the project area and will activate the streetscape by increasing pedestrian traffic, further supported by the proposed sidewalk widening along the proposed project's frontages along Atlantic Avenue. The proposed actions additionally would not alter the existing street network or grid, and not impede any visual corridors. While the proposed actions would facilitate development at a density greater than the existing and No-Action conditions, the Proposed Project's scale would complement the existing scale and building context within the vicinity of Atlantic Avenue, which includes of variety of building typologies. The analysis concludes the proposed actions would not result in significant adverse impacts related to urban design and visual resources.

Hazardous Materials and Noise

An (E) designation (E-631) related to hazardous materials and noise would be established as part of the approval of the proposed actions. Refer to "Determination of Significance Appendix: (E) designation" for the applicable (E) designation requirements. The hazardous materials and noise analyses conclude that with the (E) designation in place, the proposed actions would not result in a significant adverse impact related to hazardous materials or noise.

No other significant effects upon the environment that would require the preparation of a Draft Environmental Impact Statement are foreseeable. This Negative Declaration has been prepared in accordance with Article 8 of the New York State Environmental Conservation Law (SEQRA). Should you have any questions pertaining to this Negative Declaration, you may contact Anthony Howard at +1 212-720-3422.

TITLE Deputy Director, Environmental Assessment and Review Division	LEAD AGENCY Department of City Planning on behalf of the City Planning Commission 120 Broadway, 31st Fl. New York, NY 10271 | 212.720.3328
NAME Stephanie Shellooe, AICP	DATE June 18, 2021
SIGNATURE	
TITLE Chair, City Planning Commission	
NAME Marisa Lago	DATE June 21, 2021
SIGNATURE	

Project Name: 1045 Atlantic Avenue
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SEQRA Classification: Type I

Determination of Significance Appendix

The Proposed Action(s) were determined to have the potential to result in changes to development on the following site(s):

Development Site	Borough	Block and Lot
Projected Development Site 1	Brooklyn	Block 2020, Lots 68, 70, 73, 74, 77

(E) Designation Requirements

To ensure that the proposed actions would not result in significant adverse impacts related to hazardous materials, and noise an (E) designation (**E-631**) would be established as part of approval of the proposed actions on **Projected Development Site 1** as described below:

Development Site	Hazardous Materials	Air Quality	Noise
Projected Development Site 1	X		X

Hazardous Materials

The (E) designation requirements applicable to **Projected Development Site 1** for hazardous materials would apply as follows:

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.

Project Name: 1045 Atlantic Avenue
CEQR # 21DCP168K
SEQRA Classification: Type I

Noise

The (E) designation requirements for noise would apply as follows:

> *Projected Development Site 1: To ensure an acceptable interior noise environment, future residential/community facility uses must provide a closed-window condition with a minimum of 33 dBA window/wall attenuation on all facades facing Franklin Avenue within 100 feet of Atlantic Avenue and all facades facing Atlantic Avenue within 100 feet from the lot line between Lot 68 and Lot 46, and 31 dBA window/wall attenuation on all facades facing Atlantic Avenue beyond 100 feet from the lot line between Lot 68 and Lot 46 and all facades facing Classon Avenue within 100 feet of Atlantic Avenue to maintain an interior noise level not greater than 45 dBA for residential and community facility uses as illustrated in the EAS. 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.*

Attachment A
Project Description

1045 Atlantic Avenue Rezoning EAS
Attachment A: Project Description

I. INTRODUCTION

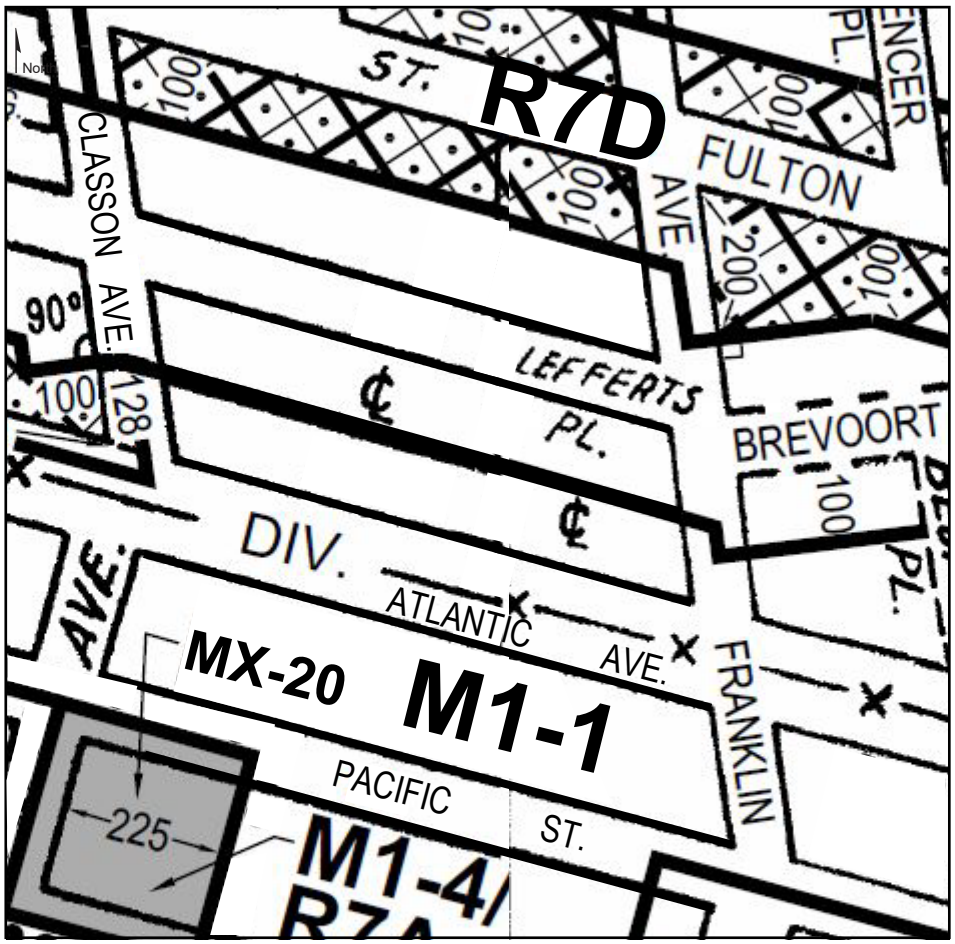
Atlantic Brooklyn LLC ("the Applicant") is seeking discretionary actions to facilitate the development of a 17-story mixed-use building comprising approximately 477,098 gross square feet (gsf) of residential and commercial office and retail uses (the "Proposed Project") on Brooklyn Block 2020, Lots 68, 70, 73, 74, and 77 (the "Proposed Development Site") in the Bedford-Stuyvesant/Crown Heights neighborhood of Brooklyn Community District (CD) 3 (see Figure 1, "Project Location" in the EAS Form). The proposed discretionary actions include: (i) a zoning map amendment to rezone an approximately 44,114 square foot (sf) portion of Brooklyn Block 2020 (the "Proposed Rezoning Area") from a M1-1 district to a C6-3A district (refer to Figure A-1, "Existing and Proposed Zoning"); (ii) a zoning text amendment to Zoning Resolution (ZR) Appendix F to designate the proposed C6-3A district as a Mandatory Inclusionary Housing (MIH) Area; and (iii) a zoning text amendment to create a new ZR Section 35-662 to allow flexibility in the location of the street wall. Collectively, the zoning map and zoning text amendments are the "Proposed Actions" for the purposes of the environmental analysis.

As shown in Figure 4 of the EAS Form, the Proposed Rezoning Area encompasses Block 2020, Lots 68, 70, 73, and 74, as well as portions of Lots 35-40, 42-44, 46, 77, and 7503. The Proposed Rezoning Area is bounded by Atlantic Avenue to the south, a line approximately 207 feet east of Classon Avenue, the R6B district to the north (approximately 125 feet from Atlantic Avenue), and a line approximately 182 feet west of Franklin Avenue. Lots 68, 70, 73, 74, and 77 are owned by the Applicant and comprise approximately 46,752 sf of lot area. The Proposed Rezoning Area and the Proposed Development Site make up the larger "Project Area," and totals approximately 47,527 sf of lot area.

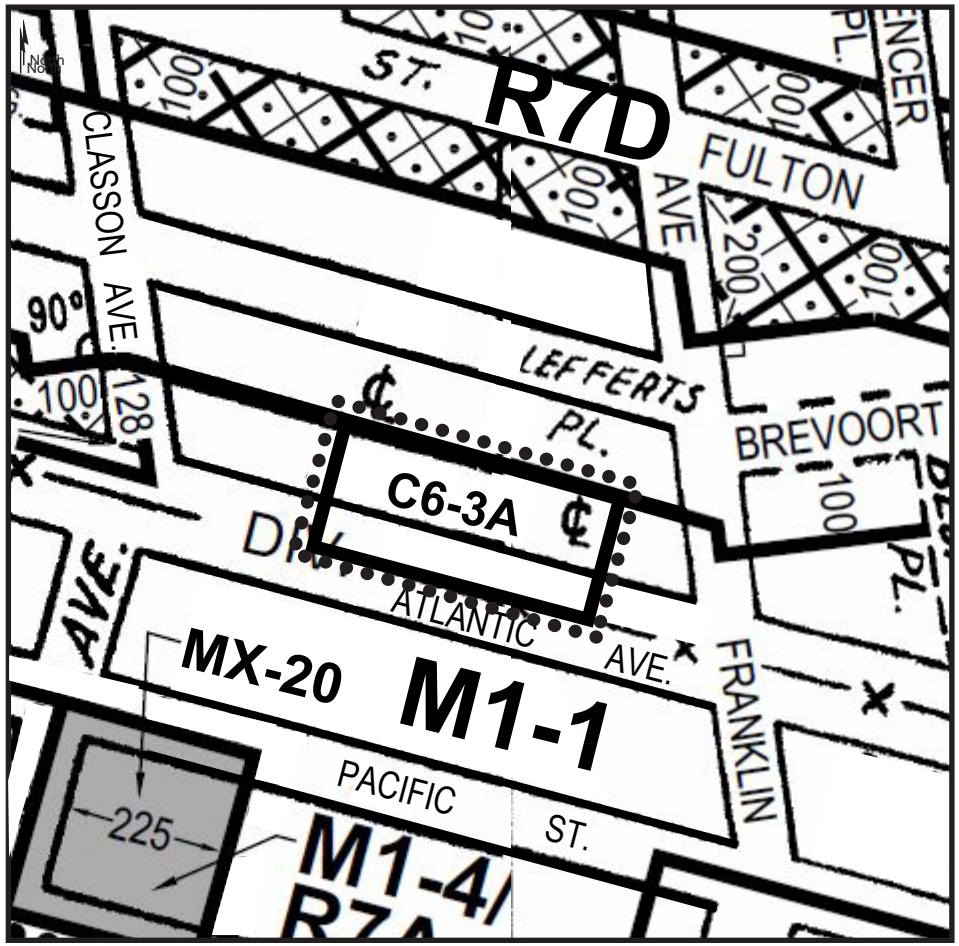
The Applicant-owned Proposed Development Site is an irregularly-shaped site containing approximately 370 feet of frontage along the north side of Atlantic Avenue. As shown in Figure A-2, the Proposed Development Site is currently occupied by several single-story and two-story buildings containing auto-body mechanic shops, a bar, a former warehouse, and a plumbing and heating supply store.

In the future with the Proposed Actions, the Applicant proposes to demolish the existing structures at the Proposed Development Site and construct a new 17-story (175-feet in height) predominantly residential building with commercial office and retail uses on the first two floors, with a total of approximately 477,098 gsf (397,234 zoning square feet [zsf]), with a floor area ratio (FAR) of 8.5. It is anticipated that the Proposed Project would contain a total of 357,436 gsf (327,947 zsf) of residential space (7.01 FAR) with approximately 422 dwelling units (DUs), approximately 34,470 gsf (33,264 zsf) of commercial retail space (0.71 FAR), approximately 28,334 gsf (27,343 zsf) of commercial office space (0.58 FAR), and 8,995 gsf (8,680 zsf) of community facility space (0.19 FAR), as well as approximately 152 accessory parking spaces (approximately 42,302 gsf) in a single cellar level and 5,561 gsf of mechanical space.[1] Of the proposed

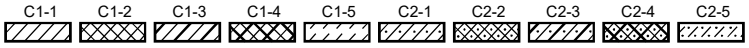
[1] For reasonable worst-case analysis purposes, the 5,561 gsf of mechanical uses will be conservatively assigned as commercial office uses.



Existing Zoning Map (16c/17a)



Proposed Zoning Map (16c/17a)
Area to be rezoned is outlined with dotted lines



residential units, 30 percent or up to 126 units would be designated as permanently affordable pursuant to either Option 2 or Option 4 (the "Workforce" option) of the City's MIH program.[2]

In addition, as the Proposed Actions would increase the maximum permitted commercial FAR to 6.0, a second reasonable worst-case development scenario (RWCDS) will be assessed (the "Alternate Commercial Scenario"). Under the Alternate Commercial Scenario, the Applicant could reasonably construct a mixed-use building containing approximately 113,587 gsf of commercial office uses, 33,111 gsf of commercial retail uses, 273,072 gsf (337 DUs) of residential uses (of which, a minimum of 84 units would be permanently affordable under the City's MIH program), approximately 152 accessory parking spaces (approximately 46,022 gsf), and 5,798 gsf of mechanical uses.[3]

It is expected that the Proposed Project or Alternate Commercial Scenario would be completely constructed and fully occupied by 2024.

This attachment provides a summary and description of the Proposed Actions, including Project Area location, existing conditions of the Project Area, project purpose and need, project description, reasonable worst-case development scenario (RWCDS) under the No-Action and With-Action conditions, and the governmental approvals required. The attached supplemental studies examine the potential for the Proposed Actions to result in impacts in any City Environmental Quality Review (CEQR) technical areas, including separate attachments with detailed analyses of land use, zoning, and public policy; socioeconomic conditions; community facilities; open space; shadows; urban design and visual resources; water and sewer infrastructure; transportation; air quality; and noise in Attachments C through L, respectively. All other preliminary screening assessments are summarized in Attachment B, "Supplemental Screening."

II. BACKGROUND AND EXISTING CONDITIONS

Project Area

The Project Area, which includes the limits of the Proposed Development Site and the Proposed Rezoning area, are comprised of Block 2020, Lots 68, 70, 73, 74, and 77, as well as portions of Lots 35-40, 42-44, 46, and 7503. As described above, the Project Area is located within Brooklyn CD 3. The Project Area has a lot area of approximately 47,527 sf and is generally bounded by Atlantic Avenue to the south, a line approximately 207 feet east of Classon Avenue, the northern edge of Lot 77 (approximately 138 feet from Atlantic Avenue), and a line approximately 182 feet west of Franklin Avenue (refer to Figure A-2).

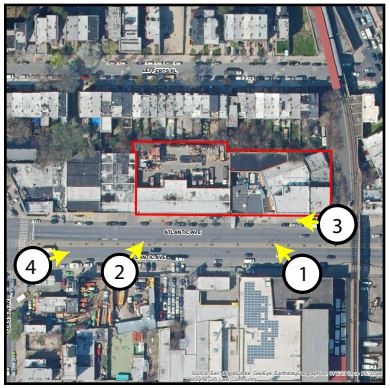
As presented in Figure A-1, the Project Area is currently located within a M1-1 district. M1-1 is a light manufacturing/industrial district that has performance standards and often serves as industrial "front yards" or buffers between heavy manufacturing M2 or M3 districts to adjacent residential or commercial districts. M1 districts typically include light industrial uses, such as woodworking shops, repair shops, and

[2] Pursuant to Option 2 of the City's MIH program, 30 percent or up to 126 units would be affordable at or below 80 percent of the area median income (AMI). By comparison, pursuant to Option 4 (the "Workforce" option), 30 percent or up to 126 units would be affordable at or below 115 percent of AMI (of which up to 21 units would be affordable at or below 70 percent of AMI). However, it should be noted that for CEQR analysis purposes, any DUs that exceed 80 percent AMI will be counted and analyzed as market-rate.

[3] Similar to Footnote #1 above, for reasonable worst-case analysis purposes, the 5,798 gsf of mechanical uses will be conservatively assigned as commercial office uses.



1) Looking north towards the Project Area from Atlantic Avenue.





2) Looking east towards the Project Area from Atlantic Avenue.



3) Looking northwest along Atlantic Avenue towards the Project Area.



4) Looking east towards the Project Area from the intersection of Atlantic and Classon avenues.

wholesale service and storage facilities (Use Groups 4 to 14, 16, and 17). High performance industrial uses are allowed, as well as a range of commercial uses. Pursuant to the recently-approved M1 Hotel Text Amendment, hotels are only permitted by special permit, Additional Use Group 4 community facilities are allowed in M1 districts by special permit.[4] Residential development is generally not permitted as-of-right in M1 districts. M1-1 districts have a maximum industrial/commercial FAR of 1.0 and a maximum community facility FAR of 2.4. Building heights for commercial or industrial developments in M1-1 districts are governed by the sky-exposure plane, which begins 30 feet above the street line. Within M1-1 districts, off-street parking is required and varies by use.

The proposed zoning map amendment would rezone the Proposed Rezoning Area from M1-1 to C6-3A (refer to Figure A-1). The proposed rezoning would affect the Applicant-owned Proposed Development Site (Lots 68, 70, 73, 74, and 77), described further below.

TABLE A-1
Proposed Development Site – Existing Conditions

Lot	Address	Total Lot Area (sf)	Owner	Zoning	Land Use	Building (sf)	Built FAR
68	1065 Atlantic Avenue	5,720	1053 Atlantic, LLC	M1-1	Parking Facilities	10,526	1.84
70	1061 Atlantic Avenue	6,833	Atlantic Equity Holdings	M1-1	Industrial & Manufacturing	0[1]	0.00
73	1059 Atlantic Avenue	1,679	1053 Atlantic, LLC	M1-1	Vacant Land	0	0.00
74	1053 Atlantic Avenue	5,120	1053 Atlantic, LLC	M1-1	Industrial & Manufacturing	3,273	0.64
77	1041 Atlantic Avenue	27,400	1045 Atlantic, LLC	M1-1	Industrial & Manufacturing	12,307	0.45
Total Area		***46,752***					

Sources: NYC DCP 2020 PLUTO Data (20v6); PHA Site Visit (February 2020).
Notes:
[1] Lot 70 is currently occupied by an improved but vacant building comprised of approximately 12,240 gsf of former industrial (warehouse) space.

Applicant-Owned Lots 68, 70, 73, 74, & 77 (a.k.a. "Proposed Development Site")

The Applicant-owned Proposed Development Site at 1045 Atlantic Avenue (Brooklyn Block 2020, Lots 68, 70, 73, 74, and 77) is an irregularly-shaped parcel that has approximately 370 feet of frontage along the north side of Atlantic Avenue (refer to Figure 4 in the EAS Form) with a total combined lot area of approximately 46,752 sf. As shown in Figure A-1 and Figure 2 in the EAS Form, the Proposed Development Site is currently zoned M1-1. As discussed above, M1-1 districts generally permit Use Groups 4 to 14, 16 and 17, and has a maximum FAR of 1.0 for industrial/commercial uses and 2.4 for community facility uses. Lot 68 is currently occupied by a two-story auto-body mechanic shop containing 10,526 sf of industrial space on a 5,720-sf lot (1.84 FAR); Lot 70 is currently occupied by a former two-story warehouse building containing 12,240 sf on a 6,833-sf lot that is now vacant (0.0 FAR); Lot 73 is vacant and unimproved, and is utilized by the neighboring auto-body mechanic shop on Lot 68 as an accessory open space; Lot 74 is currently occupied by a single-story building that includes a bar and an extension of the auto-body mechanic shop on Lot 68 with 3,273 sf of floor area on a 5,120-sf lot (0.64 FAR); and Lot 77, which is the largest parcel within the Proposed Development Site, is currently occupied by two single-story buildings

[4] Pursuant to the ZR, section 42-11, Use Group 4A containing health facilities and houses of worship are permitted as-of-right and do not require a special permit; Use Group 4B (which includes open uses, such as agriculture, cemeteries, golf courses, parks, and railroad right-of-ways and Use Group 4C (which includes accessory uses to Use Groups 4A and 4B) are not permitted as-of-right and thus, would require a special permit.

with 6,807 sf of commercial office space and 5,500 sf of industrial uses (plumbing and heating supply store) on a 27,400-sf lot (0.45 FAR). All of Lots 68, 70, 73, and 74 are located within the Proposed Rezoning Area, whereas a portion of Lot 77 is located with the rezoning area.

Remainder of the Project Area (Portions of Lots 35-40, 42-44, 46, & 7503)

The remaining non-Applicant-owned sites that are partially within the Project Area include Lots 35-40 (p/o), 42-44 (p/o), 46 (p/o), and 7503 (p/o). Lots 35-40, 42-44, and 7503 are currently zoned R6B[5]; and Lot 46 is currently zoned M1-1 and R6B. Lot 46 is a through-lot with frontages on Atlantic Avenue and Lefferts Place and is currently occupied by the elevated Franklin Avenue Shuttle subway line, which is owned and controlled by the New York City Transit Authority (NYCT); Lot 35, where less than five percent of the lot area is located within the Proposed Rezoning Area, contains frontages on Lefferts Place and is currently vacant and unimproved; and Lots 36-40, 42-44, and 7503, where less than five percent of each lot is located within the Proposed Rezoning Area, each contain frontages along Lefferts Place and are currently occupied by three- to four-story residential brownstone buildings ranging in built FAR from 0.65 to 1.57.

Neighborhood Context

The area surrounding the Project Area is characterized by a wide variety of industrial, commercial, residential, transportation/utility, and community facility land uses and various building types. The Project Area is in the Bedford-Stuyvesant/Crown Heights neighborhood of Brooklyn, located one block northwest of 23rd Regiment Armory/Bedford-Atlantic Shelter. As shown in Figure 2 in the EAS Form, the surrounding area within an approximate 400-foot radius is zoned M1-1 to the south, R6B and R7D to the north, and a small section of R7A to the west. The R6B, R7A, and R7D/C2-4 zoning districts each permit residential and community facility uses in Use Groups 1 to 4, and have a maximum FAR of 2.2, 4.6, and 5.6, respectively.[6] In addition, a Special Mixed Use District (MX-20) is located directly south and just outside the 400-foot study area. The Special MX Districts were designed to promote and protect public health, safety and general welfare and encourage investment in, and enhance the vitality of, existing neighborhoods with residential and industrial uses in close proximity to one another and create expanded opportunities for new mixed-use communities.

Within the 400-ft study area, the buildings found along Atlantic Avenue are largely industrial, with few commercial and mixed-use commercial and residential buildings located on either side of the street. By comparison, the buildings found along Lefferts Place and Brevoort Place north of the Proposed Development Site are predominantly residential, whereas the buildings found along Fulton Street even further north contain a mix of commercial, community facility, and mixed-use commercial and residential uses. Residential uses in the surrounding area are generally characterized as two- to eight-family homes, with building heights ranging between two- to four-stories. Higher density multi-family residential/mixed-use buildings are located directly northeast (1134 Fulton Street) and northwest (1078 Fulton Street) of the Project Area, which contain 116 DUs and 45 DUs, respectively. Commercial and mixed-use commercial and residential buildings along Fulton Street are generally low- to mid-rise, ranging from three- to nine-stories in height. Commercial uses within the surrounding area are primarily local retail (such as eating

[5] Pursuant to ZR 77-11, as a majority of Lots 35-40, 42-44, and 7503 are zoned R6B, and as a small portion of each lot (approximately less than five percent) is located in the adjacent M1-1 zoning district and the greatest distance from the mapped M1-1 district boundary does not exceed 25 feet, these lots are each governed by R6B zoning regulations only.

[6] Maximum permitted residential FAR based on Inclusionary Housing bonuses; absent the Inclusionary Housing bonus, maximum permitted residential/community facility FAR for R6B, R7A, and R7D would be 2.0, 4.0, and 4.2, respectively.

and drinking establishments, beauty salons, and convenience stores) and local service uses (such as wholesalers, hardware stores, and auto repair services). Industrial uses in the surrounding area are generally characterized as one- to two-story buildings and include warehouses, storage facilities, and distributors. Additionally, a house of the worship, the Bethel Church of the Nazarene, is located west of the Project Area along the east side of Classon Avenue between Lefferts Place and Atlantic Avenue, and a charter school, Brooklyn Prospect – Clinton Hill Middle School, is located north of the Project Area along south side of Fulton Street between Classon and Franklin avenues. Several parking facilities are located along Atlantic Avenue and Pacific Avenue, whereas underdeveloped and vacant sites within the study area are generally found along Atlantic Avenue, Lefferts Place, Fulton Street, Classon Avenue, and Pacific Street (refer to **Figure 3** of the EAS Form).

Area Transportation

Major thoroughfares in the surrounding area include Atlantic Avenue directly south, Franklin Avenue to the east, and Fulton Street to the north. Outside the 400-foot study area, the Eastern Parkway is located approximately 0.6 miles to the south. Additionally, Atlantic Avenue is designated by the New York City Department of Transportation (DOT) as Through Truck Route.[7]

The Project Area is served by several public transit options. The Franklin Avenue subway station is located directly northeast of the Project Area, which provides access to both Manhattan- and Ozone Park/Rockaway Beach-bound service along the A/C subway lines, as well as north- and southbound service along the Franklin Avenue Shuttle line. The Franklin Avenue Shuttle provides service between the Franklin Avenue A/C station and the Prospect Park B/Q station. The Franklin Avenue-Medgar Evers subway station is located approximate 0.6 miles south of the Project Area, which provides Manhattan- and Flatbush/East New York-bound service along the 2/3/4/5 subway lines. In addition, several local bus services are provided within the 400-foot radius, including the B25 (connecting Brownsville/East New York and Dumbo) and the B26 (connecting Bushwick and Downtown Brooklyn) which both run along Fulton Street two blocks north of the Project Area; the B48 (connecting Greenpoint and Crown Heights) which runs along Franklin and Classon avenues which are directly east and west of the Project Area, respectively; and the B49 (connecting Bedford-Stuyvesant and Manhattan Beach) which runs along Franklin Avenue directly east of the Project Area. There are also two CitiBike stations located within 400-feet of the Project Area: one to the northeast at the intersection of Franklin Avenue and Lefferts Place, and one to the southwest at the intersection Classon Avenue and Pacific Street. Taken together, these transit options provide access to and from the Project Area from much of Brooklyn, Manhattan and beyond.

III. DESCRIPTION OF THE PROPOSED ACTIONS

The Applicant is seeking discretionary actions by the New York City Planning Commission (CPC): a zoning map amendment and two zoning text amendments. The proposed zoning map amendment and text amendment to create a new ZR Section 35-662 to allow flexibility in the location of the street wall are each a discretionary action that are subject to the Uniform Land Use Review Procedure (ULURP). The

[7] According to DOT, the New York City Truck Route Network is a set of roads that commercial vehicles must use in the New York City, which is comprised of two distinct classes of roadways: Local Truck Routes and Through Truck Routes (defined in Section 4-13 of the New York City Traffic Rules). The Through Truck Route Network is primarily composed of major urban arterials and highways and must be used by trucks that have neither an origin or destination within the borough.

Proposed Actions are also subject to environmental review under the City Environmental Quality Review (CEQR) process. These actions are detailed below.

Zoning Map Amendments

The first proposed zoning map amendment would rezone the Proposed Rezoning Area from M1-1 to C6-3A (refer to Figure A-1). As shown in Figure 4 of the EAS Form, the Proposed Rezoning Area includes all of Lots 68, 70, 73, and 74, as well as portions of Lots 35-40, 42-44, 46, 77, and 7503, totaling approximately 44,114 sf of lot area.

Table A-2 compares the use and bulk requirements under the existing and proposed zoning districts. C6-3A zoning districts are contextual commercial districts (with an R9A residential equivalent) which allow a maximum FAR of 6.0 for commercial uses and 7.52 for residential uses (or 8.5 FAR in an Inclusionary Housing designated area) and 7.50 for community facility uses. Additionally, C6-3A districts permit a maximum building height of 135 feet with a qualifying ground floor (or 175 in Inclusionary Housing designated areas), and mandate Quality Housing bulk regulations.

Zoning Text Amendments

Mandatory Inclusionary Housing (MIH) Area (Appendix F)

The Applicant is also proposing a zoning text amendment that would map the proposed C6-3A zoning district as an MIH Area by creating a new map for Brooklyn CD 7 in Appendix F of the New York City ZR. The MIH Area would require affordable housing to be provided pursuant to Option 1, 2, 3, or 4:

- Option 1 requires 25 percent or residential floor area must be affordable housing for residents with incomes averaging 60 percent of area median income (AMI);
- Option 2 requires 30 percent of residential floor area must be affordable housing for residents with incomes averaging 80 percent of AMI;
- Option 3 (or the "Deep Affordability Option") requires 20 percent of residential floor area must be affordable housing for residents with incomes averaging 40 percent of AMI; and
- Option 4 (or the "Workforce Option") requires at least 30 percent of residential floor area must be affordable housing for residents with incomes averaging 115 percent of AMI, with no unit targeted to a household exceeding 135 percent of AMI.

TABLE A-2
Comparison of Existing and Proposed Zoning

	Existing	Proposed
	M1-1	**C6-3A (MIH)**
Use Groups	4-14, 16, 17	1-12
Maximum Permitted FAR		
Residential	N/A	7.52/8.50[1]
Community Facility	2.40	7.50
Commercial	1.00	6.00
Manufacturing	1.00	Not Permitted
Total	2.40	7.52/8.50[1]

Source: *Zoning Resolution of the City of New York.*
Notes:
[1] With Inclusionary Housing bonus.

The MIH Area sets a new maximum permitted residential FAR permitted by the underlying zoning district (7.52 FAR). With both the designation of the proposed rezoning area as an MIH Area and its rezoning to a C6-3A (R9A equivalent) zoning district, the maximum permitted FAR within the Project Area in the C6-3A district would be 8.5, and the maximum permitted building height would be 170 feet (175 feet with a qualifying ground floor) for MIH developments. Mapping of the MIH Area would facilitate development of a minimum of approximately 106 affordable housing units at the Proposed Development Site (pursuant to MIH Option 1); however, the Applicant is committed to providing either up to 126 affordable housing units at or below 80 percent of AMI pursuant to MIH Option 2, or 126 units at or below 115 percent AMI (of which, approximately 21 units would affordable at or below 70 percent of AMI) pursuant to Option 4 (the "Workforce Option").[8]

Special Height and Setback Provisions for Certain Areas (ZR Section 35-662)

The Applicant is proposed a zoning text amendment that would amend ZR Section 35-66 (Special Height and Setback Provisions for Certain Areas) to allow for streetwall flexibility along the frontage of the Proposed Project. This action would result in a new sub-section under ZR Section 35-662, which would permit C6-3A districts along Atlantic Avenue in Brooklyn CD3 to apply the street wall provisions of ZR Section 35-651. The intent of this text amendment is to facilitate a wider sidewalk along the Proposed Development Site's Atlantic Avenue frontage, which is approximately 17'-3" wide under existing conditions, and would be enlarged to 20 feet in width, allowing the Proposed Project's streetwall to be set back 2'-9" of the property line.

IV. PURPOSE AND NEED FOR THE PROPOSED ACTIONS

To facilitate the proposed mixed-use residential and commercial development, the Applicant seeks (i) a zoning map amendment to rezone the Proposed Rezoning Area from M1-1 to C6-3A; (ii) a zoning text amendment to make the Proposed Rezoning Area applicable to the MIH program; and (iii) a zoning text amendment to create a new ZR Section 35-662 to allow flexibility in the location of the street wall. The Proposed Actions would build on previous rezonings for the surrounding area, including the 809 Atlantic Avenue Rezoning (CEQR No. 18DCP179K), enacted in 2019, the 1010 Pacific Street Zoning Map and Text Amendment (CEQR No. 16DCP134K), enacted in 2019, and the 1050 Pacific Street Rezoning (CEQR No. 17DCP205K), enacted in 2018. The 809 Atlantic Avenue Rezoning rezoned a portion of Brooklyn Block 2010 (located approximately 0.5 miles west of the Project Area) from an R7A/C2-4 district to a C6-3 (MIH) district and requested special permits to modify bulk regulations and reduce parking requirements in order to facilitate the construction of a new 28-story mixed-use development. The 1010 Pacific Street Zoning Map and Text Amendment rezoned a portion of Brooklyn Block 1133 (located approximately 1.5 blocks southwest of the Project Area) from an M1-1 district to a R7D/C2-4 (MIH) district to facilitate the construction of an 11-story mixed-use development. The 1050 Pacific Street Rezoning rezoned a portion of Brooklyn Block 1134 (located one block south of the Project Area) from M1-1 to a Special Mixed-Use ("MX") district, which consisted of an R7A (MIH) district and an M1-4 district to facilitate the construction of an eight-story mixed-use development.

The proposed zoning map amendment would allow the Applicant to develop residential space on a site where the underlying zoning (M1-1) does not currently permit residential uses. The proposed zoning

[8] As described earlier in Footnote No. 2 above, it should be noted that for CEQR analysis purposes, any DUs exceeding 80 percent AMI will be counted and analyzed as market-rate.

changes would increase the allowable residential density directing higher density development to a site fronting a wide street (Atlantic Avenue) in a transit accessible area. Atlantic Avenue is one of Brooklyn's major thoroughfares, which serves as a major commercial corridor for the area and is served by the A/C and Franklin Avenue Shuttle subway lines, as well as the nearby B25, B26, B48, and B49 local busses which provide service between Downtown Brooklyn/Dumbo, East New York/Brownsville, Bushwick, Greenpoint, Crown Heights, Bedford-Stuyvesant, and Manhattan Beach. The Proposed Rezoning Area and larger Project Area occupy approximately 370 feet of frontage along Atlantic Avenue between Franklin and Classon avenues, and the existing commercial and industrial uses on the Applicant-owned Proposed Development Site are underbuilt (FAR 0.56).

The proposed zoning text amendment to designate the proposed C6-3A district of the Proposed Rezoning Area as an MIH Area would require the Applicant to construct permanently affordable DUs. The Proposed Actions would create new affordable housing goals set forth by the City in *Housing New York: A Five-Borough, Ten-Year Plan* and *Housing New York 2.0*. *Housing New York* is the City's comprehensive housing development policy plan that seeks, as a primary goal, to build and preserve 300,000 units of high-quality affordable housing over the next decade. Framed by the policy goals and objectives in *Housing New York*, the City's approved MIH program requires, through zoning actions, a share of new housing to be permanently affordable. The Proposed Actions and resultant Proposed Project would be consistent with the *Housing New York* policy by adding a minimum of approximately 126 affordable DUs at or below 80 percent AMI under Option 2 or a minimum of approximately 126 affordable DUs at or below 115 percent AMI (of which, up to 21 units would be affordable at or below 70 percent of AMI) to a community that anticipates population growth and has a need for such mixed-income housing.

The proposed zoning text amendment to allow for streetwall flexibility along the frontage of the Proposed Project would serve to provide additional sidewalk width along Atlantic Avenue in order to improve pedestrian circulation adjacent a wide (120-feet) roadway. As such, the proposed zoning text amendment would result in an overall improvement to the pedestrian environment of this segment of Atlantic Avenue.

The proposed zoning map and text amendments would create additional zoning capacity in a transit accessible area to support new housing creation, and would also increase the number of affordable housing units available in New York City. The creation of new housing supply at various income levels is also expected to help alleviate the upward pressure on housing prices, and contribute to housing affordability in the surrounding neighborhood and larger City. The MIH program would promote and retain neighborhood economic diversity in the area and create new housing units, including affordable units, in proximity to public transit, with the Franklin Avenue (A/C/Franklin Avenue Shuttle) station located approximately one block northeast of the Project Area, and local bus routes traveling on Franklin Avenue, Classon Avenue, and Fulton Street near the Project Area.

While warehousing and other industrial facilities can serve as appropriate uses in certain sections of Bedford-Stuyvesant and Crown Heights, transit accessible areas, such as the Project Area, are better served by high-density commercial office and retail uses. The proposed C6-3A zoning district would allow for the development of commercial uses at higher densities and would create opportunities for nearby schools, community groups and growing tech businesses to engage with one another. The proposed retail uses that would be facilitated by the Proposed Actions would serve to improve the pedestrian environment along this portion of Atlantic Avenue with active ground floor uses, thus activating the streetscape surrounding and within the Project Area. Further, the proposed commercial office and retail development would align with the goals of the New York Works policy, which is a series of 25 initiatives to spur 100,000 jobs over the coming decade. Specifically, the plan calls for the need to bring jobs closer to where New Yorkers live to reduce commuting times and minimize the strain on the transit network.

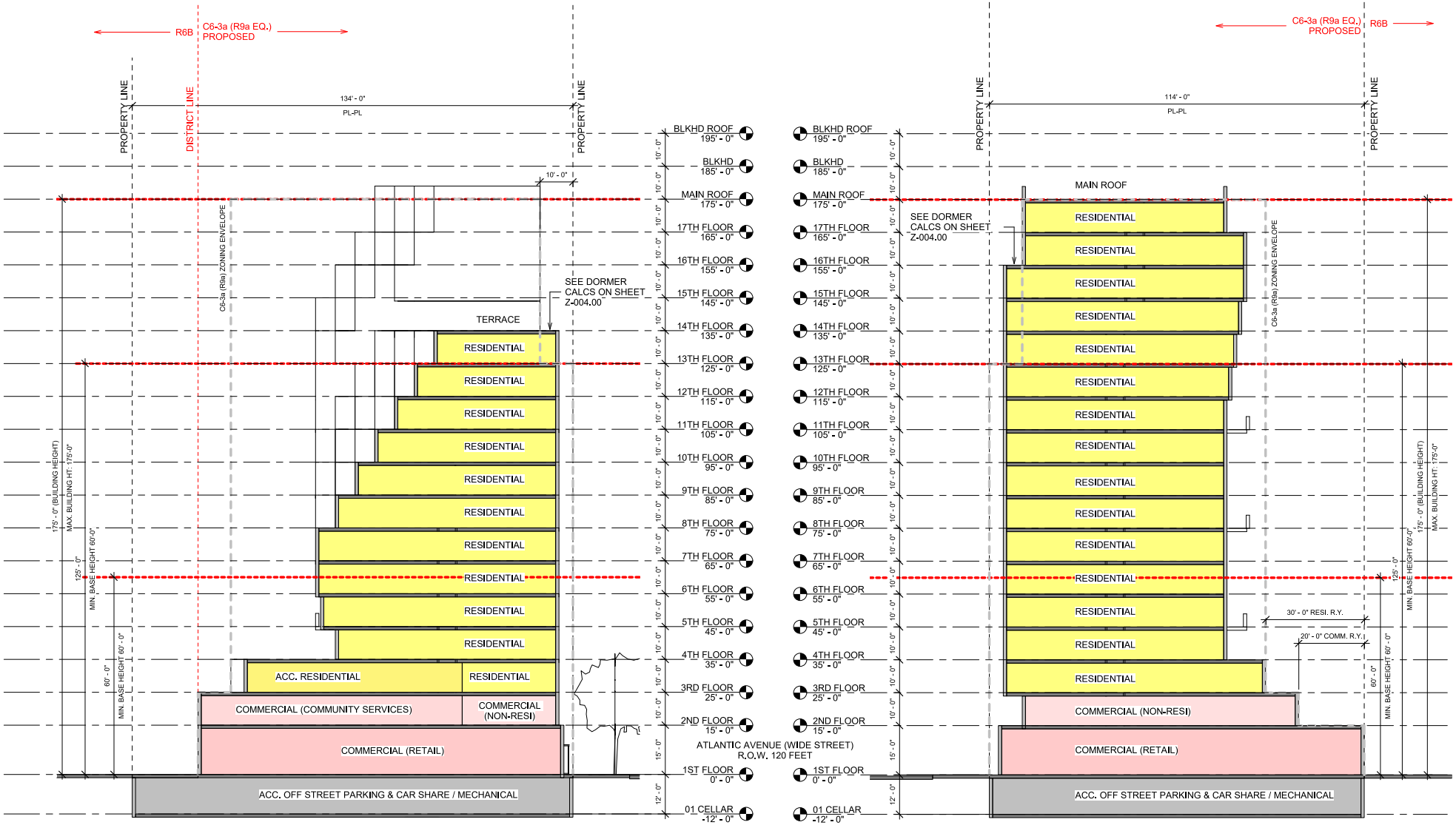
V. DESCRIPTION OF THE PROPOSED PROJECT

With approval of the Proposed Actions, the Applicant intends to demolish the existing buildings on Lots 68, 70, 73, 74, and 77 and redevelop the Proposed Development Site with a new 17-story (175-feet in height) mixed-use building with approximately 477,098 gsf of floor area (8.5 FAR). The Proposed Project will contain approximately 357,436 gsf (422 DUs, of which 126 units would be permanently affordable at or below 80 percent AMI under Option 2, or 126 units at or below 115 percent AMI under Option 4) of residential space, approximately 34,470 gsf of local retail space, approximately 28,334 gsf of commercial office space, and approximately 8,995 gsf of community facility space. Additionally, the Proposed Project would also include 152 below-grade, accessory off-street parking spaces (42,302 gsf) as well as approximately 5,561 gsf of mechanical uses.[9] No funding from the NYC Department of Housing Preservation and Development (HPD) or Housing Development Corporation (HDC) is being sought for the proposed development at this time. Access to the residential and commercial uses would all be located at various locations along the building's Atlantic Avenue frontage. The Proposed Project's approximately 152 below-grade accessory off-street parking garage would be accessed from one curb cut located on the easternmost portion of the site along Atlantic Avenue. The Proposed Project would also include a second curb cut for parking/loading uses directly adjacent the garage entryway. The Proposed Project's street wall would be set back approximately 2'-9" from Atlantic Avenue, thus increasing the portion of the north sidewalk along Atlantic Avenue fronting the Proposed Project from 17'-3" to 20'.

As shown in Figures A-3 and A-4, the proposed building would generally include a 12-story base with a streetwall height of approximately 125 feet recessed approximately 2'-9" from the street line along Atlantic Avenue. Above the base, the building would setback 10 feet before reaching the building's maximum height of 17-stories (175-feet in height). As shown in Figure A-5, the residential lobby would be located on Atlantic Avenue, and, as described above, the proposed below-grade garage and parking/loading areas would be accessible from two curb cuts along Atlantic Avenue as well.

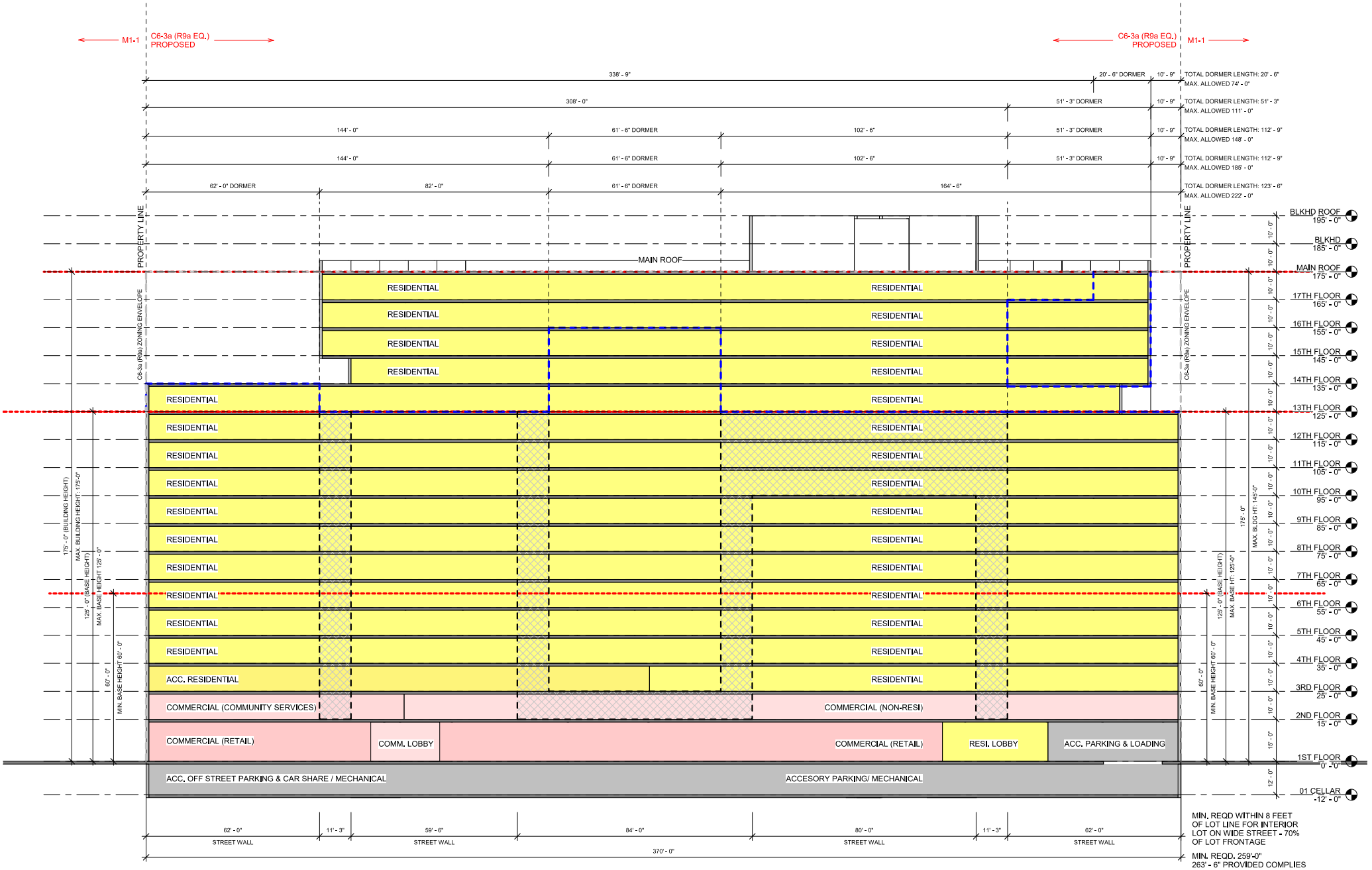
As discussed above and pursuant to the proposed zoning text amendment, the maximum FAR permitted under the MIH Program set forth in ZR Section 23-154 requires provisions of either (i) an amount equivalent to at least 25 percent of the residential floor area within the proposed development be affordable to households at an average of 60 percent AMI (Option 1); and/or (ii) an amount equivalent to at least 30 percent of the residential floor area within the proposed development affordable to households at an average of 80 percent AMI (Option 2). In conjunction with Options 1 and/or 2, the Applicant may also apply for Option 3 (Deep Affordability Option), which would require that at least 20 percent of the residential floor area within the proposed development be affordable to households at an average of 40 percent, with no unit targeted to a household exceeding 130 percent of AMI, or Option 4 (Workforce Option), which would require that at least 30 percent of the residential area be provided as housing affordable to households at an average of 115 percent AMI, with no unit targeted to a household exceeding 135 percent AMI. As noted earlier, the Applicant is committed to providing affordable units pursuant to both Option 2 and Option 4 of the City's MIH program.

[9] For reasonable worst-case analysis purposes, the 5,561 sf of mechanical uses will be conservatively assigned as commercial office uses.



1 WEST/EAST SECTION
1/16" = 1'-0"

2 EAST/WEST SECTION
1/16" = 1'-0"



1 NORTH/SOUTH SECTION
1/16" = 1'-0"

1045 Atlantic Avenue Rezoning EAS

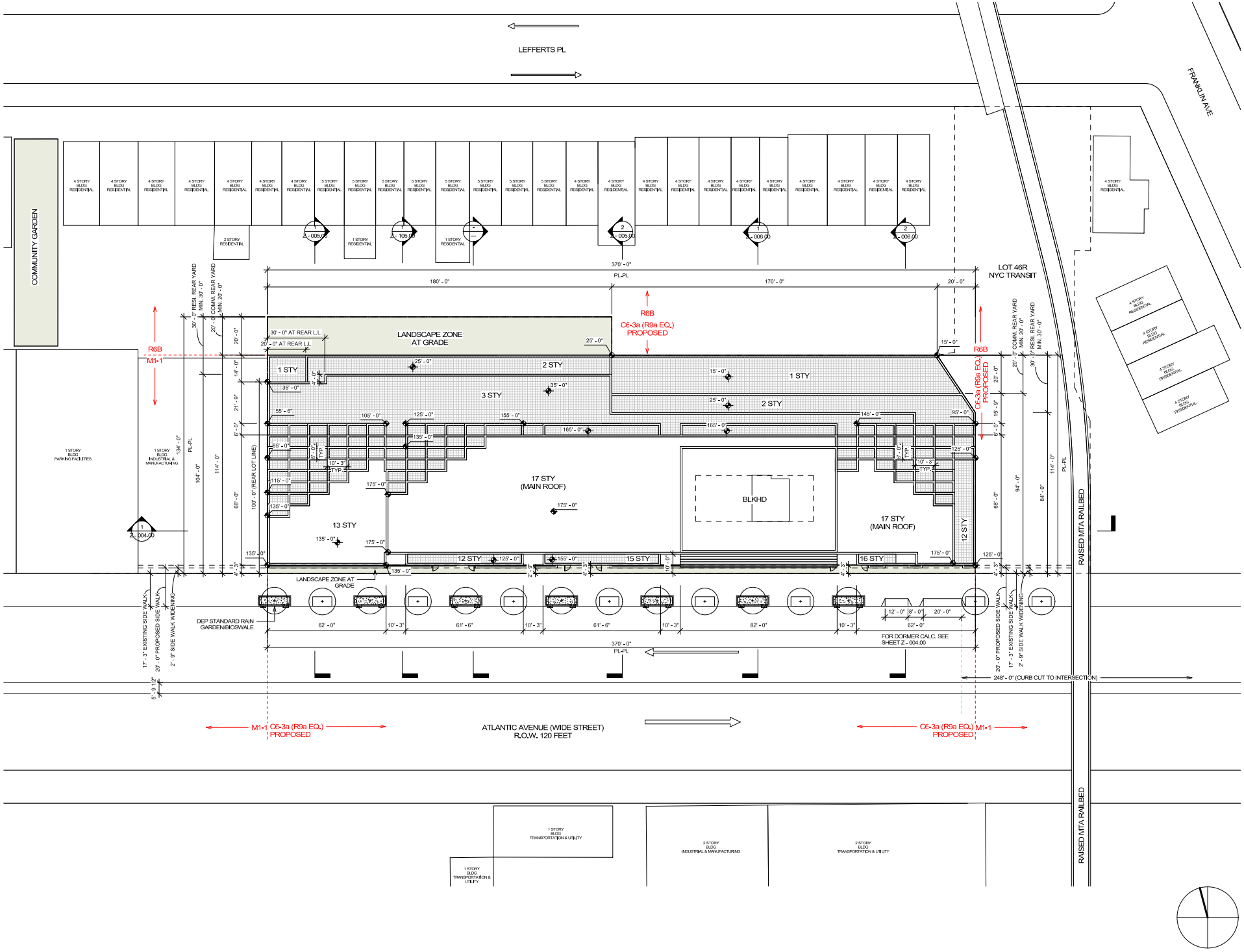
Figure A-3b
Building Section



Aerial Southwest



Aerial Northeast


LEFFERTS PL
FRANKLIN AVE
COMMUNITY GARDEN
LOT 46R
NYC TRANSIT
R6B
M1-1
C6-3a (R9a EQ.)
PROPOSED
LANDSCAPE ZONE
AT GRADE
1 STY
2 STY
3 STY
17 STY
(MAIN ROOF)
BLKHD
13 STY
12 STY
15 STY
16 STY
12 STY
17 STY
(MAIN ROOF)
LANDSCAPE ZONE AT GRADE
DEP STANDARD RAIN
GARDEN/BIOSWALE
FOR DORMER CALC. SEE
SHEET Z - 004.00
248' - 0" (CURB CUT TO INTERSECTION)
RAISED MTA RAILBED
ATLANTIC AVENUE (WIDE STREET)
R.O.W. 120 FEET
M1-1 C6-3a (R9a EQ.) PROPOSED
C6-3a (R9a EQ.) M1-1 PROPOSED

VI. ANALYSIS FRAMEWORK

Analysis Year

It is anticipated that the Proposed Project on Block 2020, Lots 68, 70, 73, 74, and 77 (the Proposed Development Site) would be certified in ULURP in mid- to late-2021. Assuming the completion of the ULURP process by mid-2022 after an approximately 7-month period, and a period of no more than approximately 22- to 23-months of construction, completion and occupancy of the proposed development is expected to occur by mid- to late-2024. As such, it is anticipated that with approval of the Proposed Actions, the Proposed Development Site would be redeveloped by 2024. This Build Year reflects a reasonable estimate of the time needed for the Applicant to demolish the existing structures on Lots 68, 70, 73, 74, and 77 and construct the project. Accordingly, this environmental review will use 2024 as the Build Year for analysis of future conditions consistent with *CEQR Technical Manual* guidance.

Identification of Development Sites

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

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

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

- Full block and newly constructed buildings with utility uses, as these uses are often difficult to relocate;
- Lots where construction is actively occurring, or has recently been completed, as well as lots with recent alterations that would have required substantial capital investment, unless recently constructed or altered lots were built to less than or equal to half of the maximum allowable FAR under the proposed zoning;
- Lots whose location or irregular shape would preclude or greatly limit future as-of-right development. Generally, development on irregular lots does not produce marketable floor space;
- Long-standing institutional uses with no known development plans; or
- Residential buildings with six or more units constructed before 1974. These building are likely to be rent-stabilized and difficult to legally demolish due to tenant relocation requirements.

Proposed Development Site (Lots 68, 70, 73, 74, 77)

The Applicant-owned site is considered a projected development site, as in the future with the Proposed Actions the Applicant intends to redevelop the site with a 17-story predominantly residential building with commercial uses on the base two floors and below-grade accessory parking, as detailed above.

Remainder of the Project Area

In addition to the Applicant's property, the Project Area also includes portions of Lots 35-40, 42-44, 46, and 7503 which are not controlled by the Applicant. Lot 46 is owned and controlled by New York City Transit (NYCT) and currently occupied by the elevated Franklin Avenue Shuttle subway line, and only an approximately one percent portion (approximately 200 sf) of the 15,639-sf lot would be affected by the proposed C6-3A zoning district. Therefore, Lot 46 would not be considered a projected development site. Additionally, as less than approximately five percent of Lots 35-40, 42-44, and 7503 are located within the Proposed Rezoning Area, and as the greatest distance from the proposed C6-3A district boundaries do not exceed 25 feet, these lots will each retain their R6B zoning district designation in the future with the Proposed Actions, and, thus, are not expected to be affected by the Proposed Actions. Therefore, Lots 35-40, 42-44, and 7503 would not be considered projected development sites.

Reasonable Worst-Case Development Scenario (RWCDS)

In order to assess the possible effects of the Proposed Actions and resulting Proposed Project, a reasonable worst-case development scenario (RWCDS) was established for both the future without the Proposed Actions (No-Action) and the future with the Proposed Actions (With-Action) for an analysis year, or Build year, of 2024. The incremental difference between the No-Action and With-Action conditions will serve as the basis of the impact category analyses. The Proposed Development Site described above would have a built FAR of approximately 8.5, and would therefore maximize the allowable residential/commercial FAR for the sites under the Proposed Actions. However, as the Proposed Actions would increase the maximum permitted commercial FAR to 6.0, a second RWCDS (the "Alternate Commercial Scenario") will also be assessed, as discussed in further detail below.

The Future Without the Proposed Actions (No-Action)

In the 2024 future without the Proposed Actions (the No-Action condition), the Project Area would retain its M1-1/R6B zoning designation, and it is assumed that while no new construction is planned for the Proposed Development Site, it is assumed that the currently vacant, approximately 12,240 gsf former industrial building on Lot 70 would be reoccupied with light industrial/warehousing uses in the No-Action condition. As a result, the Applicant-owned Proposed Development Site would be occupied by approximately 30,101 gsf of light industrial uses, 6,807 gsf of office uses, and 1,438 gsf of retail uses. No other changes to the remaining Project Area lots are anticipated in the future without the Proposed Actions (refer to Table A-3 and A-4 below).

The Future With the Proposed Actions (With-Action)

In the 2024 future with the Proposed Actions (the With-Action condition), the proposed zoning map and text amendments would be approved and the Proposed Development Site would be redeveloped as outlined in Section V, above. As such, the Proposed Project would comprise of a new 17-story, mixed-use building and would include approximately 357,436 gsf of residential uses (422 DUs, of which, up to 126 would be permanently affordable pursuant to Option 2 of the MIH program), 28,334 gsf of commercial

office uses, 34,470 gsf of commercial retail uses, 8,995 gsf of community facility uses), 42,302 gsf of below-grade accessory parking uses, and 5,561 gsf of mechanical uses (refer to Table A-3).[10]

Additionally, under the Alternate Commercial Scenario, the Applicant could reasonably construct a 16-story, mixed-use building containing 113,587 gsf of commercial office uses, 33,111 gsf of commercial retail uses (totaling 3.0 FAR of commercial uses), 273,072 gsf of residential uses (5.0 FAR of residential uses, with 337 DUs, of which up to 84-101 units would be permanently affordable), 46,022 gsf of below-grade accessory parking uses, and 5,798 gsf of mechanical uses (refer to Table A-4).[11]

Possible Effects of the Proposed Actions

Proposed Project

Table A-3 below provides a comparison of the No-Action and the Proposed Project under With-Action conditions identified for analysis purposes. As shown, the incremental (net) change that would result from the Proposed Actions with the construction of the Proposed Project is the addition of a total of 357,436 gsf of residential uses, including approximately 422 DUs, of which up to approximately 126 would be affordable units at or below 80 percent AMI, 27,088 gsf of commercial office uses, 33,032 gsf of local retail uses, and 8,995 gsf of community facility (child care) uses, as well as a net reduction in light industrial uses (-30,101 gsf). The Proposed Actions and resultant Proposed Project would also result in a net increase of 152 below-grade accessory parking spaces. In terms of population, the Proposed Project is expected to generate approximately 1,093 incremental residents and 235 incremental employees, as compared to the 2024 No-Action condition.

[10] See Footnote #9.

[11] Given the pre-existing conditions of this area, which are ideal for a mixed-use building with a high proportion of residential use, compared to a more predominantly commercial building, an alternative scenario is included with greater commercial space (3.0 FAR). This is based on the surrounding area being predominantly residential or mixed in use with smaller commercial spaces present, along with some older automotive and industrial uses. While the C6-3A district permits additional commercial use (up to 6.0 FAR), it is not reasonable to assume such a high concentration of commercial floor area could be constructed in this area, given the character of the surrounding area and the ability to support over 280,000 square feet of commercial use, in favor of much needed residential units, the highest and best use for this area, with supporting commercial space. In addition, based on the recent COVID-19 pandemic, demand for high concentrations of commercial use has been further reduced in favor of residential use, and the future economic viability of high concentrations of office and retail space outside Downtown Brooklyn is less favorable for this area and thus less reasonable to fully project. Moreover, additional commercial use beyond 3.0 FAR would reduce the permitted amount of residential floor area, a use in much higher demand, given the reduced housing capacity in the surrounding area prior to the COVID-19 pandemic. As such, the Alternative Commercial Scenario assumes 3.0 FAR of commercial space, over 150,000 square feet, as the most conservative and reasonable alternative scenario for a development with increased commercial space and reduced residential floor area.

TABLE A-3
Comparison of 2024 No-Action and With-Action Conditions (Proposed Project)

	No-Action	With-Action	Increment
Land Use			
Residential	0 gsf	357,436 gsf (422 DUs)	**+357,436 gsf (422 DUs)**
Market Rate	0 DUs	296 DUs	**+296 DUs**
Affordable[1]	0 DUs	126 DUs	**+126 DUs**
Commercial	8,245 gsf	68,365 gsf	**+60,120 gsf**
Local Retail	1,438 gsf	34,470 gsf	**+33,032 gsf**
Office	6,807 gsf	33,895 gsf[3]	**+27,088 gsf**
Community Facility	0 gsf	8,995 gsf	**+8.995 gsf**
Light Industrial	30,101 gsf	0 gsf	**-30,101 gsf**
Parking Spaces	0 spaces	152 spaces	**+152 spaces**
Accessory Parking Garage	0 gsf	42,302 gsf	**+42,302 gsf**
Population[2]			
Residents	0	1,093	**+1,093**
Workers	65	300	**+235**

Notes:
[1] Estimate of the affordable housing units is based on Option 2, which assumes up to 30 percent of units would be affordable to households averaging 80 percent of AMI. However, for CEQR analysis purposes, it is possible the Applicant may choose Option 4 of the City's MIH program, which would result in up to 126 units that would be made permanently affordable at or below 115 percent AMI (of which, up to 21 units would be affordable at or below 70 percent of AMI).
[2] Population estimates based on the following assumptions: 2.59 residents per unit (average persons per household for Brooklyn CD 3, 2010 Census); three retail employees per 1,000 sf of retail; one employee per 1,000 sf of light industrial; one employee per 50 parking spaces; and one residential employee per 25 DUs.
[3] For conservative analysis purposes, commercial office uses include the additional 5,798 gsf programmed as mechanical space for the proposed building.

Alternate Commercial Scenario

Table A-4 below provides a comparison of the No-Action and the Alternate Commercial Scenario under With-Action conditions identified for analysis purposes. As shown, the incremental (net) change that would result from the Proposed Actions with the construction of the Alternate Commercial Scenario is the addition of a total of 237,072 gsf of residential uses, including approximately 337 DUs, of which up to approximately 101 would be affordable units at or below 80 percent AMI, 112,578 gsf of commercial office uses, and 31,673 gsf of local retail uses, as well as a net reduction in light industrial uses (-30,101 gsf). The Alternate Commercial Scenario would also result in a net increase of 152 below-grade accessory parking spaces. In terms of population, the Alternate Commercial Scenario is expected to generate approximately 873 incremental residents and 537 incremental employees, as compared to the 2024 No-Action condition.

TABLE A-4
Comparison of 2024 No-Action and With-Action Conditions (Alternate Commercial Scenario)

	No-Action	With-Action	Increment
Land Use			
Residential	0 gsf	273,072 gsf (337 DUs)	**+273,072 gsf (337 DUs)**
Market Rate	0 DUs	236 DUs	**+236 DUs**
Affordable[1]	0 DUs	101 DUs	**+101 DUs**
Commercial	8,245 gsf	152,496 gsf	**+144,251 gsf**
Local Retail	1,438 gsf	33,111 gsf	**+31,673 gsf**
Office	6,807 gsf	119,385 gsf[3]	**+112,578 gsf**
Light Industrial	30,101 gsf	0 gsf	**-30,101 gsf**
Parking Spaces	0 spaces	152 spaces	**+152 spaces**
Accessory Parking Garage	0 gsf	46,022 gsf	**+46,022 gsf**
Population[2]			
Residents	0	873	**+873**
Workers	65	602	**+537**

Notes:
[1] Estimate of the affordable housing units is based on Option 2, which assumes up to 30 percent of units would be affordable to households averaging 80 percent of AMI.
[2] Population estimates based on the following assumptions: 2.59 residents per unit (average persons per household for Brooklyn CD 3, 2010 Census); three retail employees per 1,000 sf of retail; one employee per 1,000 sf of light industrial; one employee per 50 parking spaces; and one residential employee per 25 DUs.
[3] For conservative analysis purposes, commercial office uses include the additional 5,798 gsf programmed as mechanical space for the proposed building.

VII. REQUIRED APPROVALS

As noted above, the proposed zoning map and text amendment are discretionary public actions that are subject to both the ULURP and CEQR. ULURP is a process that allows public review of Proposed Actions at four levels: the Community Board; the Brooklyn Borough President; the New York City Planning Commission; and the City Council. The procedure mandates time limits for each stage to ensure a maximum review period of seven months. Through CEQR, agencies review discretionary actions for the purpose of identifying the effects those actions may have on the environment.

Attachment B
Supplemental Screening

1045 Atlantic Avenue Rezoning EAS
Attachment B: Supplemental Screening

I. INTRODUCTION

This Environmental Assessment Statement ("EAS") has been prepared in accordance with the guidance and methodologies presented in the 2020 *City Environmental Quality Review ("CEQR") Technical Manual*. For each technical area, thresholds are defined, which if met or exceeded, require that a detailed technical analysis be undertaken. Using this guidance, preliminary screening assessments were conducted for the Proposed Actions and resultant reasonable worst-case development scenario (RWCDS) to determine whether detailed analysis of any technical area may be appropriate. Part II of the EAS Form identifies those technical areas that warrant additional assessment. For those technical areas that warranted a "Yes" answer in Part II of the EAS Form, including Land Use, Zoning, and Public Policy; Socioeconomic Conditions; Community Facilities; Open Space; Shadows; Historic and Cultural Resources; Urban Design and Visual Resources; Hazardous Materials; Water and Sewer Infrastructure; Transportation; Air Quality; Noise; Public Health; Neighborhood Character; and Construction; supplemental screening assessments are provided in this attachment. The remaining technical areas detailed in the *CEQR Technical Manual* were not deemed to require supplemental screening because they do not trigger initial CEQR thresholds and/or are unlikely to result in significant adverse impacts. These areas screened out from any further assessment include: Natural Resources; Solid Waste and Sanitation Services; Energy; and Greenhouse Gas Emissions and Climate Change.

The supplemental screening assessments contained herein identified that additional analyses are required in the areas of Land Use, Zoning, and Public Policy, Socioeconomic Conditions, Community Facilities, Open Space, Shadows, Historic and Cultural Resources, Urban Design and Visual Resources, Water and Sewer Infrastructure, Transportation, Air Quality, and Noise. These analyses are provided in Attachments C, D, E, F, G, H, I, J, K, L, and M, respectively, and are summarized in this attachment. Table B-1 presents a summary of analysis screening information for the Proposed Actions.

In the future with the Proposed Actions, the Applicant intends to demolish the existing buildings on Lots 68, 70, 73, 74, and 77 and redevelop the Proposed Development Site with a new 17-story (175-feet in height) mixed-use building with approximately 477,098 gsf of floor area (8.5 FAR). The Proposed Project will contain approximately 357,436 gsf (422 DUs, of which 126 units would be permanently affordable at or below 80 percent AMI under Option 2, or 126 units at or below 115 percent AMI under Option 4) of residential space, approximately 34,470 gsf of local retail space, approximately 28,334 gsf of commercial office space, and approximately 8,995 gsf of community facility space. Additionally, the Proposed Project would also include 152 below-grade, accessory off-street parking spaces (42,302 gsf) as well as approximately 5,561 gsf of mechanical uses.[1] No other tax lots are expected to be redeveloped or enlarged in the future with the Proposed Actions.

Compared to No-Action conditions (identified in **Attachment A, "Project Description"**), the incremental (net) change that would result from the Proposed Actions with the construction of the Proposed Project is the addition of a total of 357,436 gsf of residential uses, including approximately 422 DUs, of which up

[1] For reasonable worst-case analysis purposes, the 5,561 sf of mechanical uses will be conservatively assigned as commercial office uses.

to approximately 126 would be affordable units at or below 80 percent AMI, 27,088 gsf of commercial office uses, 33,032 gsf of local retail uses, and 8,995 gsf of community facility (child care) uses, as well as a net reduction in light industrial uses (-30,101 gsf). The Proposed Actions and resultant Proposed Project would also result in a net increase of 152 below-grade accessory parking spaces. In terms of population, the Proposed Project is expected to generate approximately 1,093 incremental residents and 235 incremental employees, as compared to the 2024 No-Action condition.

TABLE B-1
Summary of CEQR Technical Areas Screening

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

In addition, as the Proposed Actions would increase the maximum permitted commercial FAR to 6.0, a second reasonable worst-case development scenario (RWCDS) will be assessed (the "Alternate Commercial Scenario"). Under the Alternate Commercial Scenario, the Applicant could reasonably construct a mixed-use building containing approximately 113,587 gsf of commercial office uses, 33,111 gsf of commercial retail uses, 273,072 gsf (337 DUs) of residential uses (of which, a minimum of 84 units would be permanently affordable under the City's MIH program), approximately 152 accessory parking spaces (approximately 46,022 gsf), and 5,798 gsf of mechanical uses.[2]

As such, the incremental (net) change that would result from the Proposed Actions with the construction of the Alternate Commercial Scenario is the addition of a total of 237,072 gsf of residential uses,

[2] Similar to Footnote #1 above, for reasonable worst-case analysis purposes, the 5,798 gsf of mechanical uses will be conservatively assigned as commercial office uses.

including approximately 337 DUs, of which up to approximately 101 would be affordable units at or below 80 percent AMI, 112,578 gsf of commercial office uses, and 31,673 gsf of local retail uses, as well as a net reduction in light industrial uses (-30,101 gsf). The Alternate Commercial Scenario would also result in a net increase of 152 below-grade accessory parking spaces. In terms of population, the Alternate Commercial Scenario is expected to generate approximately 873 incremental residents and 537 incremental employees, as compared to the 2024 No-Action condition.

II. SUPPLEMENTAL SCREENING AND SUMMARY OF DETAILED ANALYSES

Land Use, Zoning, and Public Policy

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

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

Socioeconomic Conditions

The *CEQR Technical Manual* states that a socioeconomic assessment should be conducted if an action may be reasonably expected to create socioeconomic changes within the area affected by the action that would not be expected to occur without the action. In accordance with CEQR guidance, a socioeconomic analysis considers five specific elements that can result in significant adverse socioeconomic impacts: (1) direct displacement of residential populations from a development site; (2) direct displacement of existing businesses or institutions from a development site; (3) indirect displacement of residential populations in a study area; (4) indirect displacement of businesses or institutions in a study area; and (5) adverse effects on specific industries.

As indicated on the EAS Form, the Proposed Actions can be screened out from any consideration of direct displacement of existing residential populations and businesses/institutions. There are no existing residential uses on the Proposed Development Site, and of the existing businesses on the site that would be displaced by the Proposed Actions, none provide any goods or services that cannot be found within the trade area, and some of the existing commercial businesses could potentially be able to occupy the proposed commercial spaces in the newly constructed building on the Proposed Development Site once completed. The potential direct displacement of the existing businesses on the Proposed Development Site could result in the direct displacement of an estimated 51 employees. The amount of employment associated with that displacement would not exceed the 100-employee threshold outlined in the *CEQR Technical Manual*. Therefore, an assessment of direct business displacement is not warranted pursuant to CEQR guidance.

The Proposed Actions can also be screened out from any consideration of indirect business displacement or adverse effects on specific industries, per the EAS Form. The Proposed Actions would not introduce commercial development in excess of the CEQR threshold of 200,000 sf, nor would it add to, or create, a retail concentration that may draw a substantial amount of sales from existing businesses within the study area to the extent that certain categories of business close and vacancies in the area increase, thus resulting in a potential for disinvestment on local retail streets. Additionally, the Proposed Actions would not result in any effects on any specific industries, such as introducing a new concentration of a specific industry, affecting an area where a specific industry is concentrated, or indirectly substantially reduce employment in or impair the economic viability of a specific industry. Therefore, no assessment is warranted.

The Proposed Actions and associated RWCDS would introduce a net residential increment of 422 DUs (of which, up to approximately 126 units would be reserved as permanently affordable pursuant to MIH), which exceeds the CEQR threshold of 200 units. A preliminary analysis of indirect residential displacement is provided in **Attachment D, "Socioeconomic Conditions."** As discussed therein, the Proposed Actions would not result in significant adverse indirect residential socioeconomic impacts.

Community Facilities

Potential direct or indirect effects of a proposed action(s) can trigger the need for analysis of community facilities. Direct effects occur if a project would "physically alter a community facility, whether by displacement or other physical change." Indirect effects occur if a project would add population to an area, which may potentially affect service delivery. While no community facilities would be directly displaced by the Proposed Actions, the Proposed Actions and associated RWCDS could result in the development of 422 dwelling units, of which up to approximately 126 would be considered affordable under MIH. The *CEQR Technical Manual* provides density thresholds, which are used to make an initial determination of whether detailed studies are necessary to determine potential indirect impacts. These density thresholds are summarized in Table B-2.

TABLE B-2
Preliminary Screening Analysis Criteria for Community Facilities

Community Facility	Threshold for Detailed Analysis	Minimum Number of Residential Units in Brooklyn that Trigger Detailed Analyses
Public Elementary/Intermediate Schools	50 or more elementary/intermediate school students	834[1]
Public High Schools	150 or more high school students	3,000[1]
Libraries	More than five percent increase in ratio of residential units to libraries in the borough	734
Health Care Facilities (outpatient)	Introduction of sizeable new neighborhood	N/A
Child Care Centers (publicly funded)	More than 20 eligible children under age six based on number of low- to moderate-income units	110
Fire Protection	Introduction of sizeable new neighborhood	N/A
Police Protection	Introduction of sizeable new neighborhood	N/A

Sources: *CEQR Technical Manual; CEQR App.*
Notes:
[1] Based on school multipliers defined by the School Construction Authority (SCA) for Central School District (CSD) 13: 0.05 for Primary/Elementary School (age 4-10); 0.01 for Intermediate School (age 11-13); and 0.05 for High School (age 14-17); provided by NYCDCP (2020).

Child Care Facilities

As the Proposed Actions would result in the incremental development of more than 110 low- to moderate-income dwelling units, it is expected to generate more than 20 children under the age of six who are eligible for publicly-funded child care services per *CEQR Technical Manual* criteria, and a detailed assessment of the potential impacts of the Proposed Actions on publicly-funded child care facilities is provided in **Attachment E, "Community Facilities."** The 126 project-generated affordable units would expected to generate approximately 22 eligible children under age six. As discussed in **Attachment E**, the Proposed Actions would not result in a significant adverse impact to publicly-funded child care facilities.

Public Schools, Libraries, Health Care Facilities, and Fire and Police Protection

As the Proposed Actions would not result in the introduction of a sizeable new neighborhood, would not result in a more than five percent increase in the ratio of residential units to libraries in Brooklyn (i.e., would result in the development of fewer than 734 DU), and would not result in the generation of more than 50 elementary and intermediate school students or 150 high school students, analyses of fire and police protection, health care facilities, libraries, and public schools are not warranted, and significant adverse impacts are not anticipated in these technical areas.[3]

Open Space

Based on the *CEQR Technical Manual*, an open space assessment is typically warranted if an action would directly affect an open space, or if it would increase the population by more than 200 residents or 500 workers in an area of the city that has not been designated as either "underserved" or "well-served" by publicly accessible open space resources, or if it would increase the population by more than 50 residents or 125 workers in an area of the city that has been designated as "underserved" by publicly accessible open space resources.[4]

Based on the RWCD, the Proposed Actions would result in approximately 1,093 new incremental residents and 541 incremental employees.[5] As the Proposed Actions would result in an increase in residents above the *CEQR Technical Manual* threshold for analysis for both underserved open space areas and areas that are neither underserved nor well-served by open space, an open space analysis of both the residential and non-residential populations is provided in **Attachment F, "Open Space."** As discussed in detail in the attachment, no significant adverse impacts to open space are anticipated as a result of the Proposed Actions.

[3] Based on CEQRApp, the school multipliers for CSD 13 are 0.05 elementary school students per DU, 0.01 intermediate school students per DU, and 0.05 high school students per DU.

[4] According to the *CEQR Technical Manual*, underserved open space areas are areas of high population density in the City that are generally the greatest distance from publicly accessible parkland where the amount of open space per 1,000 residents is less than 2.5 acres. Well-served open space areas are those that either (i) have an open space ratio above 2.5 acres per 1,000 residents accounting for existing parks that contain developed recreational resources; or (ii) are located within 0.25 miles (approximately a 10-minute walk) from developed and publicly accessible portions of regional parks.

[5] For conservative analysis purposes, the open space assessment of the residential (0.5-mile) study area was based on the environmental effects of the Proposed Project, whereas the assessment of the non-residential (0.25-mile) study area was based on the environmental effects of the Alternate Commercial Scenario.

Shadows

A shadows assessment considers Proposed Actions that result in new shadows long enough to reach a publicly accessible open space or sunlight-sensitive historic resource (except within an hour and a half of sunrise or sunset). For Proposed Actions resulting in structures less than 50 feet high, a shadow assessment is generally not necessary unless the site is adjacent to a park, historic resource, or important natural feature (if the features that make the structure significant depend on sunlight). According to the 2020 *CEQR Technical Manual*, some open spaces contain facilities that are not sunlight-sensitive, and do not require a shadow analysis including paved areas (such as handball or basketball courts) and areas without vegetation.

As detailed in **Attachment A, "Project Description,"** as a RWCDS, the Proposed Actions would facilitate the construction of an approximately 175-foot tall building at the Applicant-owned Proposed Development Site, which is near sunlight-sensitive open space resources. Therefore, an assessment of shadows is warranted to determine whether the RWCDS would result in new shadows long enough to reach sunlight-sensitive resources as compared to the No-Action condition. As detailed in **Attachment G, "Shadows,"** while the RWCDS would cast new incremental shadows, the Proposed Actions would not result in significant adverse shadows impacts on sunlight-sensitive resources in the surrounding area.

Historic and Cultural Resource

The *CEQR Technical Manual* identifies historic resources as districts, buildings, structures, sites, and objects of historical, aesthetic, cultural, and archaeological importance. This includes designated NYCLs; properties calendared for consideration as landmarks by the LPC; properties listed in the State/National Registers of Historic Places (S/NR) or contained within a district listed in or formally determined eligible for S/NR listing; properties recommended by the New York State Board for listing on the S/NR; National Historic Landmarks (NHLs); and properties not identified by one of the programs listed above, but that meet their eligibility requirements. An assessment of historic/archaeological resources is usually needed for projects that are located adjacent to historic or landmark structures or within historic districts, or projects that require in-ground disturbance, unless such disturbance occurs in an area that has already been excavated.

As the Project Area encompasses a small portion of the S/NR-listed Clinton Hill South Historic District, an assessment of the effects of the Proposed Actions on historic and cultural resources is warranted and is provided in **Attachment H, "Historic & Cultural Resources."** As detailed therein, the Proposed Actions would not result in any significant adverse impacts to historic or cultural resources. The Proposed Actions are site-specific, and while the Project Area does contain a small portion of the S/NR-listed Clinton Hill South Historic District, the Proposed Development Site does not contain any identified historic resources. Therefore, the demolition of the existing buildings on the Proposed Development Site in the future with the Proposed Actions would not result in any direct impacts to historic architectural resources. Additionally, while small portions (approximately five percent) of Lots 35-40, 42-44, and 7503 are located in the S/NR-listed Clinton Hill South Historic District, each lot would retain their R6B zoning district designation in the future with the Proposed Actions, and thus, are not expected to be affected by the Proposed Actions. As no changes to these properties are expected in the future with the Proposed Actions, no direct impacts to historic architectural resources would occur. Additionally, as the Proposed Development Site is located within 90 feet of the S/NR-listed Clinton Hill South Historic District, the proposed new building would be subject to the New York City Department of Building's (DOB's) Technical Policy and Procedure Notice (TPPN) #10/88 during any construction in both the No-Action or With-Action

conditions. With the implementation of a Construction Protection Plan pursuant to TPPN #10/88, no construction-related impacts on historic resources would be expected as a result of the Proposed Actions.

As compared to No-Action conditions, the With-Action building on the Proposed Development Site would minimally alter the setting and visual context of surrounding historic resources. None of these changes would be significant or adverse. None of the proposed changes to building height or bulk would eliminate or substantially obstruct significant public views of architectural resources. No primary facades, significant architectural ornamentation, or notable features of surrounding historic buildings would be obstructed by the proposed building on the Development Site, and all significant elements of these resources would remain visible in view corridors on adjacent streets. The Proposed Actions would not alter the relationship of any identified historic resources to the streetscape as compared to No-Action conditions. Additionally, no incompatible visual, audible, or atmospheric elements would be introduced by the proposed building to any historic resource's setting in the future with the Proposed Actions.

The Proposed Actions would not result in development that would diminish the qualities that make the surrounding LPC-designated and/or S/NR-listed historic resources historically and/or architecturally important. As such, the Proposed Actions would not result in significant adverse indirect or contextual impacts to historic architectural resources. Additionally, the With-Action building on the Proposed Development Site would not cast incremental shadows on any sunlight-sensitive features of nearby historic resources as compared to No-Action conditions. While the St. Peter Claver Institute (S/NR-eligible) at 1 Jefferson Avenue and the St. Peter Claver Church (SN/R-eligible) at 21 Claver Place fall within the Tier I and Tier II shadow study area (refer to **Figure G-1** in **Attachment G, "Shadows"**), neither historic resource contain sunlight-sensitive features, as confirmed by a review letter received from the LPC on January 29, 2021 (see **Appendix F**). Therefore, the Proposed Actions would not result in any significant adverse shadows impacts on historic resources.

Urban Design and Visual Resources

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

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

The Proposed Actions include the rezoning of area from M1-1 to C6-3A (MIH), which would result in development that would differ from what is currently permitted as-of-right, and as such, an analysis of urban design and visual resources is appropriate. This analysis is provided in **Attachment I, "Urban Design and Visual Resources."** As discussed in **Attachment I**, there would be no significant adverse impacts to urban design and visual resources as a result of the Proposed Actions.

Hazardous Materials

As defined in the 2020 *CEQR Technical Manual*, a hazardous material is any substance that poses a threat to human health or the environment. Substances that can be of concern include, but are not limited to, heavy metals, volatile and semivolatile organic compounds (VOCs and SVOCs), methane, polychlorinated biphenyls (PCBs) and hazardous wastes (defined as substances that are chemically reactive, ignitable, corrosive, or toxic). According to the *CEQR Technical Manual*, the potential for significant adverse impacts from hazardous materials can occur when: (a) hazardous materials exist on a site, and (b) an action would increase pathways to their exposure; or (c) an action would introduce new activities or processes using hazardous materials.

Phase I Environmental Site Assessment (ESA)

As the Proposed Actions would result in new in-ground disturbance at the Proposed Development Site (Block 2020, Lots 68, 70, 73, 74, and 77), a Phase I Environmental Site Assessment (ESA) was prepared for each lot to determine whether hazardous materials exist on the site. The Phase I ESAs for each lot were both prepared by P.W. Grosser Consulting, Inc. (PWGC). The Phase I ESA for Lot 77 was prepared in March 2019, the Phase I ESA for Lots 68, 73, and 74 was prepared in April 2019, and the Phase I ESA for lot 70 was prepared in August 2020. Each Phase I ESA was prepared in conformance with the guidelines described in ASTM International's Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process – E1527-13. The Phase I ESAs consisted of visual observations, a review of historical information, environmental databases, information provided by the applicant, and interviews with current site representatives.

Phase I ESA – Lot 77

As outlined in the Phase I ESA for Lot 77, PWGC evaluated the findings associated with the subject property and identified three Recognized Environmental Conditions (RECs), and no Historic RECs (HRECs) or Controlled RECs (CRECs) with respect to the subject property (refer to Appendix A). Conditions determined to be RECs are identified below:

- The site appears to have been historically used for industrial purposes. Historic usage of the property for manufacturing, auto repair, and petroleum delivery services. Current operations include the storage and use of hazardous substances and petroleum products at the site. An oil water separator has historically been utilized at the property which has the potential to leak. No information has been provided regarding sampling of soils below or adjacent to the oil water separator. The oil water separator is reportedly out of service but has not been properly abandoned. Identified historical usages are likely to have used/stored hazardous substances and/or petroleum products at the site as well. Based on this historical usage of the site for industrial purposes, this represents a REC.
- The subject property is currently listed as a PBS site for one 3,000-gallon No- 2 Fuel oi AST located on the subject property. The tank is located in a subterranean vault with limited access for inspections. No violations or spills are associated with this tank. There are four additional ASTs that were identified during the site inspection, which are not included in the PWB listing, including one 275-gallon active diesel AST, one 275-gallon active waste oil AST, and two 275-gallon empty inactive ASTs. PWGC believes the PBS listing for the subject property should be updated to include these additional tanks.

- A significant amount of oil staining was observed at the exterior diesel oil AST believed to be the result of poor dispensing practices. A recommendation was made, in the previous Phase I ESA, to steam clean this area; however, since concrete is porous and significant staining was observed, sampling of the soil beneath the slab to determine if the subsurface has been impacted is warranted. Additionally, the conditions surrounding the waste oil tank, including staining and cracked concrete, indicates there may be a conduit to the subsurface, which warrants evaluation of the subsurface in this area. based on the presence of staining and poor housekeeping issues related to these ASTs, PWGC believes this represents a REC.
- The subject property is listed as a PBS, ERNS, and RCRA NonGen site. No violations or other issues were identified in the database report with respect to these listings; however, the site inspection did identify issues related to on-site petroleum storage and poor housekeeping practices which is a concern related to historic storage of chemicals. Based on this information, PWGC believes this represents a REC.

Based on the identified RECs, PWGC recommended a Phase II ESA be performed at the site and should include:

- An update to the PBS listing for the subject property to include the additional four tanks;
- A subsurface investigation of soils and soil vapor to determine if historical usage has impacted the subsurface; and
- A subsurface investigation of shallow soils to determine if diesel tank and waste oil housekeeping issues and the oil water separator have impacted the subsurface.

Phase I ESA – Lots 68, 73, and 74

As outlined in the Phase I ESA for Lots 68, 73, and 74, PWGC evaluated the findings associated with the subject property and identified three RECs and no HRECs or CRECs with respect to the subject property (refer to Appendix B). Conditions determined to be RECs are identified below:

- The subject properties all appear to have been historically used for auto repair/painting facilities, with 1065 Atlantic Avenue (Lot 68) being utilized as an auto repair facility until the present day. Current operations include the storage and use of hazardous substances and petroleum products at the 1065 Atlantic Avenue site. Identified historical usages are likely to have used/stored hazardous substances and/or petroleum products at the sites as well. Based on the historical usage of the sites for industrial purposes, this represents a REC.
- Five single piston underground hydraulic lifts were identified within the auto repair facility at the 1065 Atlantic Avenue site. Three of these lifts are still in use and two of the lifts are out of service. The subsurface structures affiliated with hydraulic lifts have the potential to leak. The condition of the subsurface structures of the lifts could not be verified. The two out-of-service lifts do not appear to have undergone proper abandonment. The presence of underground hydraulic lifts of unknown condition represents a REC.
- Two 275-gallon heating oil ASTs were identified in the basement of the 1065 Atlantic Avenue site. The ASTs appeared to have no evidence of leaking or a release, other than minor corrosion to the tank bodies. Both tanks reside on an in-tact concrete slab with minimal evidence of staining. However, the two ASTs are connected via approximately six feet of underground fill line with fills the one AST from the other. The fill line runs through the subsurface soils under the building and

has the potential to leak. The condition of the fill line could not be verified during the site inspection. The presence of the underground fill line of unknown condition represents a REC.

Based on the identified RECs, PWGC recommended a Phase II ESA be performed at the site and should include:

- A subsurface investigation of the subject properties including soil and soil vapor investigations;
- An advancement of soil borings to investigate historic site usage, hydraulic lifts and the underground fill line; and
- A performance of a geophysical survey across the site to investigate the discharge point of drains and pits and to identify underground anomalies.

Phase I ESA – Lot 70

As outlined in the Phase I ESA for Lot 70, PWGC evaluated the findings associated with the subject property and identified three RECs, and no HRECs or Controlled RECs CRECs with respect to the subject property (refer to Appendix C). Conditions determined to be RECs are identified below:

- The site appears to have been historically used for light industrial purposes, including auto repair/brake shops, a coal/fuel oil company, and a contracting/maintenance facility , since at least 1928. These types of historical property usages are likely to have utilized and stored both hazardous substances and petroleum products. The building is currently unoccupied. Evidence of an active spills or release such as an open NYSDEC spill record or an unresolved RCRA violation was not identified. In addition, active pathways for such substances to potentially have been released to the environment such as floor drains or an onsite sanitary system were not identified. However, the site's historical industrial usage preceded the existence of both NYSDEC spill records and RCRA violations and the building at the property has been altered/redeveloped multiple times. Based on this information, the long-standing historical usage of the site for industrial purposes represents a REC.
- FDNY tank records were acquired via a FOIA request identifying that two 275-gallon No. 2 Fuel oil tanks were located at 1061 Atlantic Avenue. The tanks were noted as being on floor "0," which PWGC believes is the ground floor; the location of the tanks themselves (aboveground or underground) was not identified. The records were established in 1984 and last inspected in 1986. The records say that the tank records are void as the site was converted to gas/other. No NYSDEC PBS registration was identified for the property and no spill records related to these tanks were identified for the property. In addition, no evidence of tanks was identified during the site reconnaissance inspection. However, out-of-service oil tanks can present a source of a release of petroleum products and no documentation was provided as to whether the tanks were appropriately abandoned and/or disposed of. Based on this information, PWGC believes that the historical fuel oil tanks represent a REC.
- Multiple nearby sites appear to have been historically uses for industrial purposes, including auto repair shopws, battery/welding company, a coal/lumber yard, and a transit depot, since at least 1928. The neighboring site to the east is also currently used as an auto repair garage with evidence of tanks. In addition, the neighbors to the north, west and east make up a single BCP site. The surrounding properties on Atlantic Avenue (Lots 68, 73, 74, and 77) contain identified soil, groundwater, and soil vapor contamination. The main contaminants of concern are chlorinated solvents identified in all three media, historical urban fill material with SVOCs identified in the soil,

and heavy metals identified in the soil. Based on this information, the historical and current usage of the nearby sites for industrial purposes are identified contamination (specifically with regards to lots that make up the BCP site) appears to represent a REC.

Based on the identified RECs, PWGC recommended a Phase II ESA be performed at the site and should include a subsurface investigation including an inspection of the inaccessible sidewalk vault, a geophysical survey to evaluate whether the historical tanks are still present at the site, and soil and soil vapor sampling to determine if the historical tanks and historical industrial usage of the site have impacted the subject property.

Phase II Environmental Site Assessment (ESA)

Phase II ESA – Lot 77

Based upon the recommendations of the March 2019 Phase I ESA for Lot 77 prepared by PWGC, a Phase II was conducted. As shown in Appendix D, the Phase II ESA for Lot 77, also prepared by PWGC, included an evaluation of soil and groundwater quality based on data collected through field work conducted between March and April 2019.

Results of the investigations indicated that chlorinated VOCs, including trichloroethene (TCE), were present in excess of their Unrestricted Use and Protection of Groundwater Soil Cleanup Objectives (SCOs) in the soil, in excess of ambient water quality standards (AWQS) in groundwater which was located at approximately 75 feet below grade, and United State Environmental Protection Agency (USEPA) Vapor Intrusion Screening Levels (VISLs) in the soil vapor. Impact in the soil was observed from grade to a depth of 12 feet below grade. Based on this information, PWGC has concluded that there is chlorinated volatile organic compound (CVOC) impact (mainly TCE) at the subject property that appears to be related to historic on-site activities. Generally, VOCs associated with petroleum impact were not observed at concentrations exceeding Unrestricted Use SCOs with the exception of xylene in one boring.

SVOCs were detected at concentrations that exceeded the Unrestricted, Restricted-Residential, and/or Commercial Use SCOs in soils from grade to seven feet below grade which generally corresponds to the depths that historic fill were observed at. The presence of SVOCs in this shallow interval appears to be related to the presence of historic fill material and not petroleum contamination as there was no visual or olfactory evidence or petroleum impact in these borings.

Metal impacts of lead, mercury, cadmium, and chromium which exceeded Unrestricted, restricted-Residential, and/or Commercial Use SCOs were observed in the shallow and deeper intervals in several of the soil borings. The concentrations of lead and mercury seem consistent with concentrations typically observed in historic fill material; however, concentrations of chromium and cadmium were higher and exceeded Commercial Use SCOs. The highest concentrations of cadmium and chromium are located just west of the warehouse building that was previously uses as a spray room. The source of the metal impacts is likely due to historic usage of the subject property and the presence of historic fill.

The Phase II ESA report concluded that there appeared to be minimal petroleum contamination at the site, but historic fill material is present. The main classes of contamination are chlorinated solvents which were detected in soils from 0 to 12 feet below grade, in groundwater at 75 feet below grade, and in sub-slab soil vapor samples and metals impact likely relating to the use of chromium and cadmium in the spray room. As a result of the Phase II ESA's findings, PWGC offered the following recommendations:

- Redevelopment and rezoning of the subject property will likely be impacted by the presence of TCE in the soil, groundwater, and soil vapor. This may include enrolling the site as an E-designation site or in the Brownfield Cleanup Program. Enrollment in either of these programs will likely include additional investigation to determine the source of, and a remediation plan to address, the chlorinated solvents and metals detected in the subsurface.
- Any future redevelopment plans should also include a vapor barrier and/or a subsurface depressurization system to mitigate the migration of TCE and other chlorinated solvents into the indoor air of the new structures.

Phase II Environmental Site Assessment (ESA) – Lots 68, 73, and 74

Based upon the recommendations of the April 2019 Phase I ESA for Lots 68, 73, 74 prepared by PWGC, a Phase II was conducted. As shown in Appendix E, the Phase II ESA for Lots 68, 73, 74, also prepared by PWGC, included an investigation of soil vapor based on data collected through field work conducted in 2019.

The results of the soil and soil vapor investigations indicate that VOCs, including TCE, tetrachloethene (PCE), and naphthalene are present on the site in concentrations that exceed their respective Unrestricted and/or Restricted-Residential SCOs. SVOCs were detected at concentrations that exceeded the Unrestricted and/or Restricted-Residential SCOs in two soil borings. Resource Conservation and Recovery Act (RCRA) Metals at concentrations exceeding Unrestricted and/or Restricted-Residential SCOs were not detected expect for lead and mercury in two soil borings. As a result of the Phase II ESA's findings, PWGC offered the following recommendations:

- Redevelopment and rezoning of the subject property will likely be impacted by the presence of VOCs in the soil and soil vapor as well as SVOCs and metals detected in the shallow subsurface soils at the site. This may include enrolling the site as an E-designation site or in the Brownfield Cleanup Program. Enrollment in either of these programs will likely include additional investigation to determine the source of, and a remediation plan to address, the VOCs, SVOCs, and metals detected in the subsurface.
- Any future redevelopment plans should also include a vapor barrier and/or a subsurface depressurization system to mitigate the migration of VOCs into the indoor air of the new structures.

Brownfield Cleanup Program

As stated above, the Applicant intends to enroll the Proposed Development Site in the New York State Department of Environmental Conservancy's (NYSDEC) Brownfield Cleanup Program (BCP). Under the BCP, the Applicant would be required to submit several documents to the NYSDEC and New York State Department of Health (NYSDOH) for review and approval, including, but not limited to the following: a Remedial Investigation Work Plan (RIWP), which provides the nature and extent of contamination within and emanating from the site boundaries for the investigation; an Interim Remedial Measures (IRM) Work Plan, which may be proposed in order to mitigate environmental or human health exposures before the completion of the RIWP and remedy selection; a Remedial Investigation Report (RIR), which documents the results of the remedial investigation performed pursuant to DER-10; a Remedial Action Work Plan (RAWP), which evaluates and recommends remedial actions and applicable technology to address site contamination; a Site Management Plan (SMP), which is submitted in order to manage contamination remaining at the site, and any engineering controls installed as part of the remedy; and a Final Engineering

Report (FER), which must be submitted following remediation to document that the remediation was performed in accordance with the approved RAWP, and must be approved by NYSDEC before a Certificate of Completion can be issued. In addition, a Citizen Participation Plan, which provides details on the citizen participation activities that will occur at several milestones during the BCP project, would also need to be submitted to NYSDEC for review and approval before any other work plans/reports can be approved.

Once a remedy has been determined based on the characterization of nature and extent of contamination on the site and qualitative exposure assessment, a fact sheet will be issued noticing the availability of the RAWP and presenting the proposed remedy for a 45-day public comment period. NYSDEC will consider the public comments for final remedy selection, have the Applicant revise the plan as necessary, and issue a final Decision Document (DD), which describes the selected remedy. Once a DD is issued, the Applicant may then design and perform the cleanup action to address the site contamination, with oversight by NYSDEC and NYSDOH. Once the NYSDEC determines that the remedial action objectives for the BCP site as defined in the DD have been achieved upon completion of the BCP project, the NYSDEC may then issue a Certificate of Completion.

With the enrollment of the Proposed Development Site into the BCP and the issuance of a Certificate of Completion, no significant adverse impacts related to hazardous materials would be expected to occur.

(E) Designation

To avoid the potential for significant adverse impacts related to hazardous materials in the event that the Applicant does not enroll in the BCP, an (E) designation (E-631) will be placed on the Proposed Development Site (Block 2020, Lots 68, 70, 73, 74, and 77). The (E) designation program is administered by the Mayor's Office of Environmental Remediation (OER). Approval of a hazardous materials remedy by OER is required prior to the granting of building permits by the New York City Department of Buildings (DOB). The text of the (E) designation (E-631) for hazardous materials is as follows:

> **Task 1:**
>
> **The Applicant submits to OER, for review and approval, a Phase I ESA for the Proposed Development Site along with a soil, soil gas, and groundwater 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 sample sites should be selected to adequately characterize the site, the specific source of suspected contamination (i.e., petroleum based contamination and non-petroleum based contamination), and the remainder of the site's condition. The characterization should be complete enough to determine what remediation strategy (if any) is necessary after review of sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by OER upon request.**
>
> **Task 2:**
>
> **A written report with findings and a summary of the data must be submitted to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by OER if the results indicate that remediation is necessary. If OER determines that no remediation is necessary, written notice shall be given by OER. If remediation is indicated from the 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. An OER-approved construction-related health and safety plan (CHASP) would be implemented during evacuation and construction activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil and/or groundwater. This plan would be submitted to OER for review and approval prior to implementation. All demolition or rehabilitation would be conducted in accordance with applicable requirements for disturbance, handling and disposal of suspect lead-paint and asbestos-containing materials. In addition to the requirements for lead-based paint and asbestos, requirements (including those of NYSDEC), should petroleum tanks and/or spills be identified and for off-site disposal of soil/fill, would need to be followed.

With either the enrollment of the Proposed Development Site into the BCP or the satisfying of the requirements of the (E) designation or comparable measures, no significant adverse impacts related to hazardous materials would be expected to occur. In the event that the Applicant does not enroll the Proposed Development Site into the BCP, the implementation of the preventative and remedial measures outlined in the (E) designation would reduce or avoid the potential of significant adverse hazardous materials impacts from potential construction at the projected development sites. Following such construction, there would be no potential for significant adverse impacts.

Water and Sewer Infrastructure

According to the 2020 *CEQR Technical Manual,* a preliminary water supply infrastructure analysis is needed if the project would result in an exceptionally large demand for water (e.g., more than one million gallons per day [mgd]), or is located in an area that experiences low water pressure (i.e., areas at the end of the water supply distribution system such as the Rockaway Peninsula or Coney Island). As the rezoning area is not located in an area that experiences low water pressure and the Proposed Actions would not result in an incremental water demand exceeding one mgd, a detailed analysis is not warranted.

The Project Area is located in a combined sewered area. A preliminary sewer assessment is warranted if a project located in a combined sewered area exceeds 400 residential units or 150,000 sf of commercial, public facility, and community facility space or more. As the Proposed Actions and resultant Proposed Project would meet this *CEQR Technical Manual* threshold, a preliminary sewer assessment is warranted and is provided in **Attachment J, "Water and Sewer Infrastructure."** As discussed in **Attachment J**, no significant adverse impacts would occur to water and sewer infrastructure as a result of the Proposed Actions.

Transportation

The *CEQR Technical Manual* identifies minimum development densities that have the potential to result in significant adverse impacts to traffic conditions and therefore require a detailed transportation analysis. The development densities shown in Table 16-1 of the *CEQR Technical Manual* generally result in fewer than 50 peak hour vehicle trips, 200 peak hour subway/rail or bus transit riders, and 200 peak hour pedestrian trips, where significant adverse impacts are considered unlikely. In Zone 2 (which include all areas within 0.25 miles of a subway station), the development thresholds are an increment of 200 residential units, 100,000 gsf of office space, 20,000 gsf of regional retail, 15,000 gsf of local retail, 20,000 gsf of restaurant uses, 25,000 gsf of community facility uses, or 85 off-street parking spaces.

According to the *CEQR Technical Manual*, if an action would result in development greater than one of the minimum development densities in Table 16-1, a Level 1 (Project Trip Generation) Screening Assessment should be prepared. Except in unusual circumstances, if a proposed action is projected to result in fewer than 50 peak hour vehicle trips, 200 peak hour subway/rail or bus transit riders, or 200 peak hour pedestrian trips, it is unlikely that further analysis would be necessary. If a proposed action would result in a mix of land uses, it may be appropriate to conduct a preliminary trip generation assessment for each land use or use a weighted average to determine whether the total site generated trips exceed the threshold for analysis. If the trip generation screening thresholds are exceeded, a Level 2 (Project-Generated Trip Assignment) Screening Assessment should be prepared to determine if a proposed action would generate or divert 50 peak hour vehicle trips through any intersection, 200 peak hour subway trips through a single station, 50 peak hour bus trips on a single bus route in the peak direction, or 200 peak hour pedestrian trips through a single pedestrian element. If any of these Level 2 screening thresholds are met or exceeded, a detailed analysis for the respective mode is required.

As the RWCDS net increment for the Proposed Actions would exceed the CEQR criteria described above, an assessment of the Proposed Actions' effect on the City's transportation system is required and has been provided in **Attachment K, "Transportation."** Per CEQR guidance, a screening assessment was completed to determine if the Proposed Actions warranted detailed analyses of traffic, parking, transit, or pedestrians. The screening assessment consisted of a Level 1 Project Trip Generation and a Level 2 Project-Generated Trip Assignment, presented in **Attachment K.**

As detailed in **Attachment K**, the Proposed Actions warrant a detailed traffic analysis as two intersections near the Project Area would exceed the 50-vehicle CEQR threshold for a detailed traffic analysis. Additionally, as per the CEQR Technical Manual, a detailed parking assessment is needed if the threshold for traffic analysis is exceeded. As such, refer to **Attachment K**, for an analysis of traffic and parking as a result of the Proposed Actions.

The Proposed Actions would likely exceed the CEQR threshold of 200 peak hour subway trips at a single subway station (Franklin Avenue station), and therefore, an analysis of subway station conditions is warranted and included in **Attachment K**. However, as the Proposed Actions would not exceed the CEQR threshold of 200 peak hour subway trips on any one subway line in any one direction, an analysis of subway line haul conditions is not warranted and no significant impacts related to subway line haul are expected. In addition, the Proposed Actions would likely exceed the CEQR threshold of 200 peak hour pedestrian trips at any pedestrian element (i.e., sidewalk, corner area, or crosswalk) within the vicinity of the Project Area, and as such, a detailed pedestrian analysis is warranted and included in **Attachment K**. As further discussed in **Attachment K**, the Proposed Actions would not result in any significant adverse impacts to transit (subway station) and pedestrian conditions.

Air Quality

Mobile Sources

According to *CEQR Technical Manual* guidance, air quality analyses are conducted to assess the effect of an action on ambient air quality (i.e., the quality of the surrounding air), or effects on the project because of ambient air quality. Air quality can be affected by "mobile sources," pollutants produced by motor vehicles, and by pollutants produced by fixed facilities, i.e., "stationary sources." As per the 2020 *CEQR Technical Manual*, an air quality assessment should be carried out for actions that can result in either significant adverse mobile source or stationary source air quality impacts. Per the EAS Form, and as shown

in **Table K-3a** and **K-4a**, the Proposed Action would not generate peak hour vehicle volumes in exceedance of the CEQR threshold of 170 vehicle trips, and would not generate peak hour vehicle volumes in exceedance of the CEQR thresholds for heavy-duty diesel vehicle (HDDV) traffic or the vehicular emissions equivalent on adjacent roadways (refer to **Table B-3** and **B-4**).[6] As shown below in **Tables B-3** and **B-4**, action-generated trips for both the Proposed Development and the Alternate Commercial RWCDS would pass the mobile screening along Principal and minor arterials (Atlantic Avenue). Therefore, further analysis of air quality mobile sources from action-generated vehicle trips has been screened out in accordance with 2020 *CEQR Technical Manual* guidance.

Table B-3: $PM_{2.5}$/PM_{10} Equivalent Truck Calculation – Proposed Development

Road Types	Equ. truck	Screen value	PM2.5 Screen
Paved road < 5000 veh/day	66	13	Fail Screen
Collector roads	28	20	Fail Screen
Principal and minor arterials	8	23	Pass Screen
Expressways and limited access roads	8	23	Pass Screen

Source: *CEQR Technical Manual* & NYS Department of Transportation Functional Class Viewer

Table B-4: $PM_{2.5}$/PM_{10} Equivalent Truck Calculation – Alternate Commercial RWCDS

Road Types	Equ. truck	Screen value	PM2.5 Screen
Paved road < 5000 veh/day	60	13	Fail Screen
Collector roads	29	20	Fail Screen
Principal and minor arterials	12	23	Pass Screen
Expressways and limited access roads	12	23	Pass Screen

Source: *CEQR Technical Manual* & NYS Department of Transportation Functional Class Viewer

Stationary Sources

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

To determine whether a detailed project-on-existing or project-on-project HVAC analysis is warranted, an air quality nomograph screening was performed using Figure 17-3 of the *CEQR Technical Manual*. The RWCDS resulting from the Proposed Actions would include either a 17-story (the Proposed Project) or a 16-story (the Alternate Commercial Scenario) building (both of which are expected to be approximately 175 feet tall) on the Proposed Development Site (Block 2020, Lots 68, 70, 73, 74, and 77). A review of existing land uses within approximately 400 feet of the Proposed Development Site via the New York City Open Accessible Space Information System (OASIS) Land Use interactive mapping application and Google

[6] Refer to Chapter 17, "Air Quality," Section 210 of the *CEQR Technical Manual* for applicable HDDV thresholds.

imaging map shows that no taller existing residential buildings are located within 400 feet of the Proposed Development Site– with the tallest nearby existing building being nine-stories tall at 1078 Fulton Street (Block 2016, Lot 7501) northwest of the Project Area. While the projected development sites associated with the ongoing 1034-1042 Atlantic Avenue Rezoning (currently under review and in ULURP) at 1034-1042 Atlantic Avenue and 1039-1041 Pacific Street would rise to approximately 175-feet and 95-feet in height, respectively, both projected development sites are located outside the 400 foot study area.

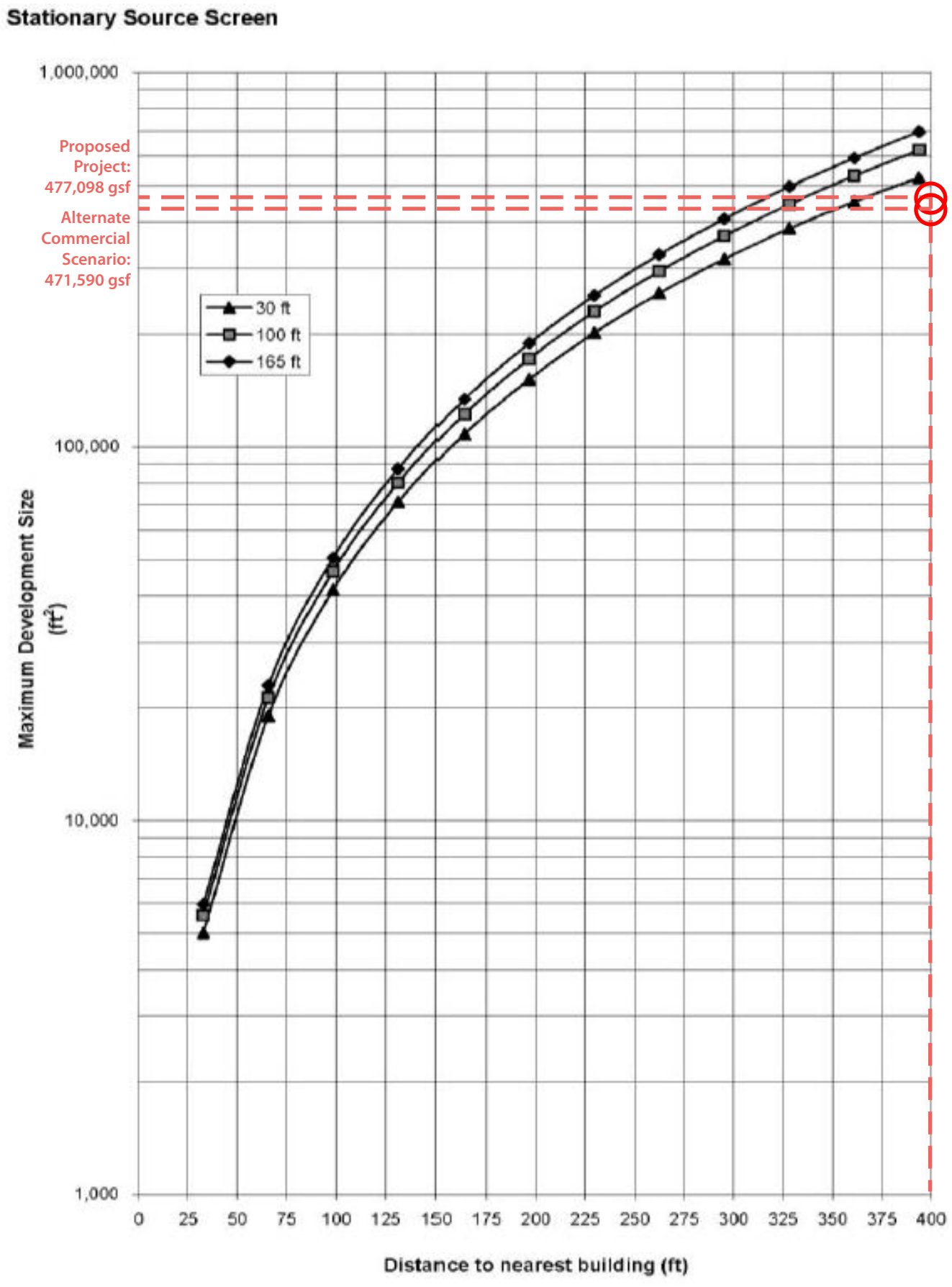
The air quality analysis of boiler HVAC emissions is based on the screening procedures and methodologies provided in Sub-Section 322.1 of the *CEQR Technical Manual.* This analysis uses a nomograph procedure based on the size of the development (i.e., floor area square footage), fuel type, and distance to the nearest receptor or buildings of a height similar to or greater than the stack height of the RWCDS. The nomograph figure was specifically developed through detailed mathematical modeling to predict the threshold of development size below which a project would not be likely to have a significant impact. This procedure is only appropriate for buildings at least 30 feet or more from the nearest building of similar or greater height. If a proposed project passes the screening analysis, then there is no potential for a significant adverse air quality impact from the project's boiler, and a detailed analysis may not need to be conducted. According to the *CEQR Technical Manual*, if a building of similar or greater height is beyond 400 feet of the development site, 400 feet is used.

Based on Figure 17-3 of the *CEQR Technical Manual*, the HVAC systems for the RWCDS would not result in any air quality impacts to existing or future planned sensitive receptors. As there are no existing or planned buildings that are taller than the RWCDS within 400 feet of the Project Area, emissions from the RWCDS would fall below the applicable curve and would therefore not result in any adverse air quality impacts (see **Figure B-1**). As such, a detailed analysis of emissions as a result of the Proposed Actions and associated RWCDS are not warranted. In order to ensure no stationary impact would occur due to HVAC systems. An E-Designation will be placed at the Proposed Development Site (E-631). The text of the (E) designation (E-631) for hazardous materials is as follows:

> **Block 2020, Lot 68, 70, 73, 74, 77 (Proposed Development Site): Any new residential, commercial, and/or community facility on the above-referenced property must ensure the heating, ventilating, and air conditioning (HVAC) systems and hot water equipment stack is located at the highest tier and at least 178 feet above grade to avoid any potential significant adverse air quality impacts.**

Industrial Sources

Additionally, in accordance with Section 220 (Stationary Sources) of the *CEQR Technical Manual*, "projects that would result in new uses (particularly schools, hospitals, and residences) located within 400 feet of manufacturing or processing facilities" may result in potentially significant impacts, and therefore require stationary source analyses. Based on a review of NYC OASIS mapping application land use, several industrial sources located within 400 feet of the Project Area were identified. Of the identified industrial sources, three have active permits, two of which are located at 1102 Atlantic Avenue (one for 'spraybooth' equipment, and one for 'other industrial' equipment), while the other is located at 1093 Pacific Street (for 'woodworking' equipment). The initial industrial source permits inquiry also found two expired permits, including an expired 'spraybooth' permit for 1093 Pacific Street and an expired 'other industrial' permit at 1025 Atlantic Avenue. As such, a formal industrial permits request was submitted to the New York City


Stationary Source Screen
1,000,000
Proposed Project: 477,098 gsf
Alternate Commercial Scenario: 471,590 gsf
30 ft
100 ft
165 ft
100,000
10,000
1,000
Maximum Development Size (ft²)
0
25
50
75
100
125
150
175
200
225
250
275
300
325
350
375
400
Distance to nearest building (ft)

Department of Environmental Protection (DEP) in November 2020. Utilizing the identified industrial permits provided by DEP, an industrial source analysis is warranted in order to determine whether the impact of the toxic emissions released from these facilities have the potential to significantly impact the Proposed Project and, as such, a detailed air toxics analysis is provided in **Attachment L, "Air Quality."**

Noise

The purpose of a noise analysis is to determine both a proposed project's potential effects on sensitive noise receptors and the effects of ambient noise levels on new sensitive uses introduced by the proposed project. The principal types of noise sources affecting the New York City environment are mobile sources (primarily motor vehicles), stationary sources (typically machinery or mechanical equipment associated with manufacturing operations or building HVAC systems) and construction noise (e.g. trucks, bulldozers, power tools, etc.).

As detailed in the detailed assessment provided in **Attachment M, "Noise,"** noise from the increased traffic volumes generated by the Proposed Actions would not cause significant adverse noise impacts as the relative increases in noise levels would fall below the applicable *2020 CEQR Technical Manual* significant adverse impact threshold (3.0 dBA).

Based on the calculated With-Action L_{10} noise levels, the following composite window/wall attenuations were determined for future residential/community facility uses as well as commercial office uses at the Proposed Development Site (Block 2020, Lots 68, 70, 73, 74, and 77):

- A minimum of 33 dBA composite window/wall attenuation is required for residential/community facility uses on any eastern frontage facing Franklin Avenue and any northern and southern frontages facing Atlantic Avenue and Lefferts Place, respectively, within 100 feet of the elevated Franklin Avenue Shuttle (Lot 46), as well as an alternate means of ventilation.
- A minimum of 31 dBA composite window/wall attenuation is required for residential/community facility uses on any southern frontage facing Atlantic Avenue beyond 100 feet of the elevated Franklin Avenue Shuttle (Lot 46) and any western frontage facing Classon Avenue within 100 feet of Atlantic Avenue, as well as an alternate means of ventilation.
- The required composite window/wall attenuation for commercial office uses would be 5 dBA less.
- No special attenuation measures beyond standard construction practices would be required for residential/community facility uses and commercial office uses on any other frontage at the Proposed Development Site.

The composite window/wall noise attenuations described above would be required through the assignment of an (E)-designation (E-631) for noise to the Proposed Development Site (Block 2020, Lots 68, 70, 73, 74, and 77)) in conjunction with the Proposed Actions. With implementation of the attenuation levels outlined above and described in **Attachment M**, the Proposed Actions and subsequent RWCDS buildings would provide sufficient attenuation to achieve the *CEQR Technical Manual* interior noise level guidelines. Therefore, the Proposed Actions would not result in any significant adverse impacts related to noise attenuation.

Public Health

Public health involves the activities that society undertakes to create and maintain conditions in which people can be healthy. Many public health concerns are closely related to air quality, water quality, hazardous materials, and noise.

According to the guidelines of the *2020 CEQR Technical Manual*, a public health assessment may be warranted if a project results in (a) increased vehicular traffic or emissions from stationary sources resulting in significant adverse air quality impacts; (b) increased exposure to heavy metals and other contaminants in soil/dust resulting in significant adverse impacts, or the presence of contamination from historic spills or releases of substances that might have affected or might affect groundwater to be used as a source of drinking water; (c) solid waste management practices that could attract vermin and result in an increase in pest populations; (d) potential significant adverse impacts to sensitive receptors from noise and odors; (e) vapor infiltration from contaminants within a building or underlying soil that may result in significant adverse hazardous materials or air quality impacts; (f) exceedances of accepted federal, state, or local standards; or (g) other actions that might not exceed the preceding thresholds but might, nonetheless, result in significant health concerns.

As detailed in the analyses provided in this EAS, the Proposed Actions would not result in significant adverse impacts in the areas of air quality, water quality, hazardous materials, or noise. Therefore, the Proposed Actions do not have the potential to result in significant adverse public health impacts, and further assessment is not warranted.

Neighborhood Character

As the EAS provides assessments of land use, zoning, and public policy (**Attachment C**), socioeconomic conditions (**Attachment D**), open space (**Attachment F**), shadows (**Attachment G**), historic and cultural resources (**Attachment H**), urban design and visual resources (**Attachment I**), transportation (**Attachment K**), and noise (**Attachment M**), a preliminary screening analysis is necessary to determine if a detailed neighborhood character analysis is warranted.

Neighborhood character is an amalgam of various elements that give neighborhoods their distinct "personality." According to the *CEQR Technical Manual*, a preliminary assessment may be appropriate if a project has the potential to result in any significant adverse impacts on any of the following technical areas: land use, zoning, and public policy; socioeconomic conditions; open space; historic and cultural resources; urban design and visual resources; shadows; transportation; or noise. Per the analyses provided in this EAS, although the Proposed Actions warranted supplemental screening or assessment of some of these technical areas, there would be no action-generated significant adverse impacts.

The *CEQR Technical Manual* also states that for projects not resulting in significant adverse impacts to any technical areas related to neighborhood character, additional analyses may be required to determine if the Proposed Actions would result in a combination of moderate effects to several elements that cumulatively may affect neighborhood character. However, the *CEQR Technical Manual* indicates that neighborhood character impacts are rare and it would be unusual that, in the absence of a significant adverse impact in any of the relevant technical areas, a combination of moderate effects in the neighborhood would result in any significant adverse impact to neighborhood character.

As the Proposed Actions would not be considered to have any significant effects on any of the technical areas relating to neighborhood character, a neighborhood character assessment can be screened out, and no significant adverse neighborhood character impacts would occur. Therefore, no additional analysis is warranted for neighborhood character.

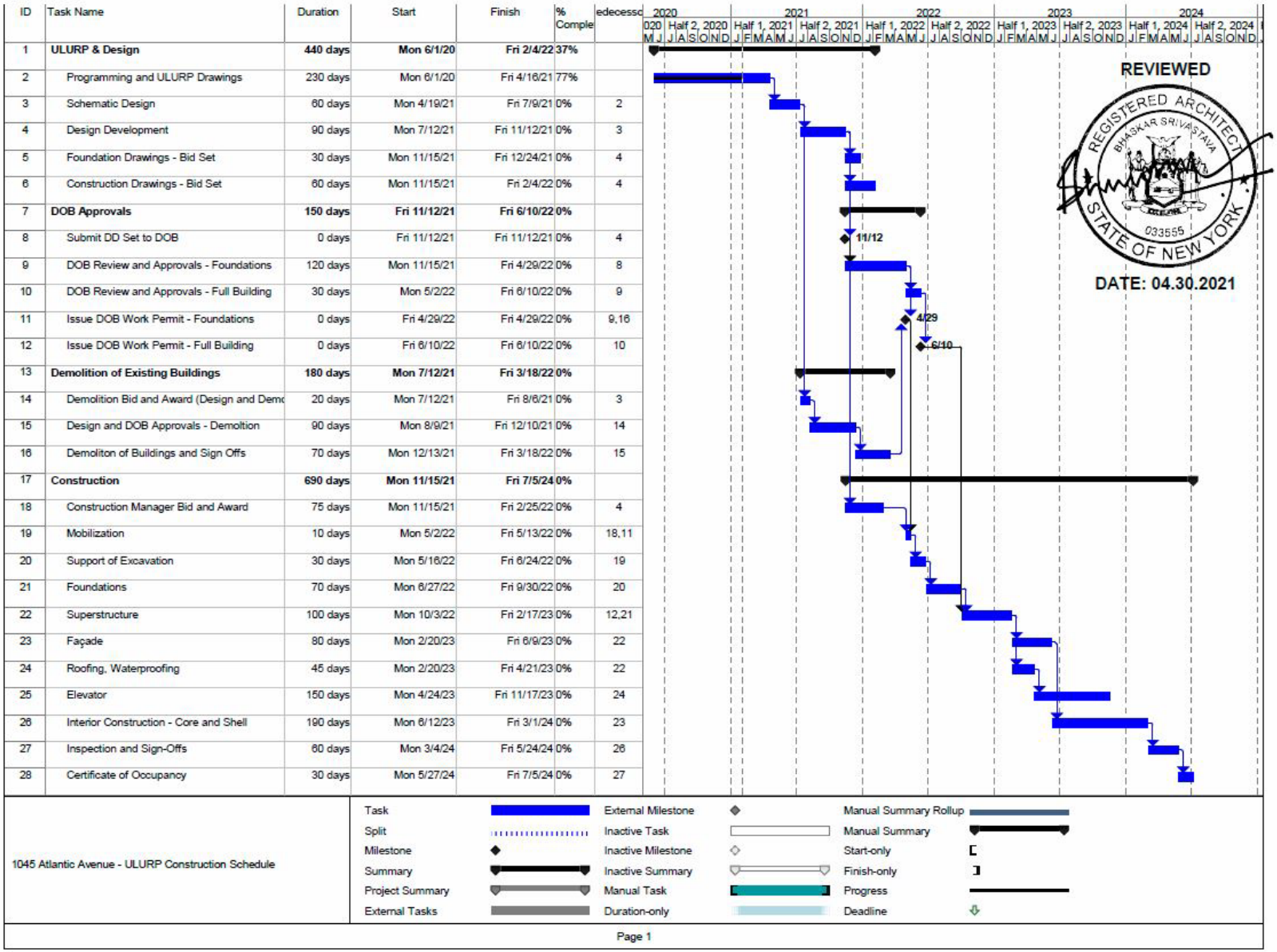
Construction

Although temporary, construction impacts can include noticeable and disruptive effects from an action that is associated with construction or could induce construction. Determination of the significance of the construction impacts and the need for mitigation is generally based on the duration and magnitude of the impacts. Construction impacts are usually important when construction activity could affect traffic conditions, archaeological resources, the integrity of historic resources, community noise patterns, and/or air quality conditions.

In the 2024 future with the Proposed Actions, the RWCDS building is expected to have a construction schedule of less than 24 months (see **Figure B-2**). Overall, any construction project could result in temporary disruption in the surrounding community, including occasional noise and dust. However, the Proposed Actions would not result in any prolonged high-intensity construction activities (i.e., excavation, foundation, or superstructure work) and the interior construction activities would not be disruptive to the area. As described in a letter from Rosenwasser Grossman Construction Engineers, P.C. dated June 11, 2021 (see Appendix G) regarding the construction schedule timeframe, the design considerations factored into the proposed construction schedule include, but are not limited to, the following:

- Although the Proposed Project is 17 stories tall, the aspect ratio is horizontal (and not vertical) due to the 370 feet of lot frontage, which results in higher efficiency for construction;
- The Proposed Development Site is located on a wide (120 feet) arterial roadway Atlantic Avenue), which allows for just-in-time deliveries and large flat beds to coordinate multiple deliveries to the site;
- Portions of the Proposed Development Site are approximately 130 feet deep which allow for ample staging areas and on-site warehousing of materials. Additionally, a large portion of the rear yard is not planned for development, which will allow for more spaces for construction shanties and trailers;
- Typical high rise construction has 10,000 sf floor plates, while the Proposed Project's floor plates are generally over 30,000 sf, which will allow for more streamlined site logistics and multiple trade teams to work concurrently;
- The building is cast-in-place concrete construction which is significantly faster than precast plank and beam, and carries less delay risk due to fabrication/delivery;
- Dewatering measures will not be required as groundwater is well below 40 feet of the site grade;
- The Proposed Project is contemplating off-site fabrication for a number of trades (e.g., façade);

Additionally, it should be noted that demolition of the existing structures at the Proposed Development Site would take place prior to approval of the application. As described in a letter from William Vitacco Associates LTD dated June 11, 2021 (see Appendix H), the Applicant has conducted preliminary discussions with the New York City Department of Buildings (DOB) regarding the Proposed Project. As a part of those discussions, DOB deemed the proposed construction schedule to be feasible. The existing building's full demolition filing and approval process should be able to be completed within the 60-day period, and there



ID	Task Name	Duration	Start	Finish	% Comple	edecessc
1	**ULURP & Design**	**440 days**	**Mon 6/1/20**	**Fri 2/4/22**	**37%**	
2	Programming and ULURP Drawings	230 days	Mon 6/1/20	Fri 4/16/21	77%	
3	Schematic Design	60 days	Mon 4/19/21	Fri 7/9/21	0%	2
4	Design Development	90 days	Mon 7/12/21	Fri 11/12/21	0%	3
5	Foundation Drawings - Bid Set	30 days	Mon 11/15/21	Fri 12/24/21	0%	4
6	Construction Drawings - Bid Set	60 days	Mon 11/15/21	Fri 2/4/22	0%	4
7	**DOB Approvals**	**150 days**	**Fri 11/12/21**	**Fri 6/10/22**	**0%**	
8	Submit DD Set to DOB	0 days	Fri 11/12/21	Fri 11/12/21	0%	4
9	DOB Review and Approvals - Foundations	120 days	Mon 11/15/21	Fri 4/29/22	0%	8
10	DOB Review and Approvals - Full Building	30 days	Mon 5/2/22	Fri 6/10/22	0%	9
11	Issue DOB Work Permit - Foundations	0 days	Fri 4/29/22	Fri 4/29/22	0%	9,16
12	Issue DOB Work Permit - Full Building	0 days	Fri 6/10/22	Fri 6/10/22	0%	10
13	**Demolition of Existing Buildings**	**180 days**	**Mon 7/12/21**	**Fri 3/18/22**	**0%**	
14	Demolition Bid and Award (Design and Dem	20 days	Mon 7/12/21	Fri 8/6/21	0%	3
15	Design and DOB Approvals - Demoltion	90 days	Mon 8/9/21	Fri 12/10/21	0%	14
16	Demoliton of Buildings and Sign Offs	70 days	Mon 12/13/21	Fri 3/18/22	0%	15
17	**Construction**	**690 days**	**Mon 11/15/21**	**Fri 7/5/24**	**0%**	
18	Construction Manager Bid and Award	75 days	Mon 11/15/21	Fri 2/25/22	0%	4
19	Mobilization	10 days	Mon 5/2/22	Fri 5/13/22	0%	18,11
20	Support of Excavation	30 days	Mon 5/16/22	Fri 6/24/22	0%	19
21	Foundations	70 days	Mon 6/27/22	Fri 9/30/22	0%	20
22	Superstructure	100 days	Mon 10/3/22	Fri 2/17/23	0%	12,21
23	Façade	80 days	Mon 2/20/23	Fri 6/9/23	0%	22
24	Roofing, Waterproofing	45 days	Mon 2/20/23	Fri 4/21/23	0%	22
25	Elevator	150 days	Mon 4/24/23	Fri 11/17/23	0%	24
26	Interior Construction - Core and Shell	190 days	Mon 6/12/23	Fri 3/1/24	0%	23
27	Inspection and Sign-Offs	60 days	Mon 3/4/24	Fri 5/24/24	0%	26
28	Certificate of Occupancy	30 days	Mon 5/27/24	Fri 7/5/24	0%	27

is no precursor to starting this aspect of the project, nor will it impact the DOB filing process related to the development of the Proposed Project. DOB has also confirmed that foundation permit issuance and foundation work can start before completion of demolition activities. Additionally, merging the existing lots within the Proposed Development Site is currently underway and scheduled to be completed in the late summer or early fall 2021.

Moreover, during construction of the Proposed Project or Alternate Commercial Scenario, all necessary measures would be implemented to ensure than the New York City Air Pollution Control Code regulating construction-related dust emissions and the New York City Noise Control Code regulation construction noise are followed. By implementing these management measures and controls, any effects associated with construction would be minimized. As such, the Proposed Actions would not result in significant adverse impacts during construction and further analysis is not required.

Attachment C
Land Use, Zoning & Public Policy

1045 Atlantic Avenue Rezoning EAS
Attachment C: Land Use, Zoning, and Public Policy

I. INTRODUCTION

Atlantic Brooklyn LLC (the "Applicant") is seeking discretionary actions to facilitate the development of a 17-story mixed-use building comprising approximately 477,098 gross square feet (gsf) of residential and commercial office and retail uses (the "Proposed Project") on Brooklyn Block 2020, Lots 68, 70, 73, 74, and 77 (the "Proposed Development Site") in the Bedford-Stuyvesant/Crown Heights neighborhood of Brooklyn Community District (CD) 3. As presented in Attachment A, "Project Description," under the reasonable-worst case development scenario (RWCDS), the Proposed Actions would facilitate the incremental development of up to 422 dwelling units (DUs) (including a net increase of up to approximately 126 affordable DUs[1]), 27,088 gsf of commercial office uses, 33,032 gsf of commercial retail uses, 8,995 gsf of community facility uses, and 152 below-grade accessory parking spaces, as well as a net reduction in light industrial uses (-30,101 gsf) by the 2024 Analysis Year. The Proposed Actions would also allow for streetwall flexibility along the Proposed Project's Atlantic Avenue frontage. However, as stated in Attachment A, the Proposed Actions could facilitate an Alternate Commercial Scenario, which has the potential to result in the incremental development of up to 337 DUs (including a net increase of up to approximately 101 affordable DUs), 112,578 gsf of commercial office uses, 31,673 gsf of commercial retail uses, and 152 below-grade accessory parking spaces, as well as a net reduction in light industrial uses (-31,101 gsf).

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

II. PRINCIPAL CONCLUSIONS

No significant adverse impacts on land use, zoning, or public policy, as defined by the guidance for determining impact significance set forth in the *CEQR Technical Manual*, are anticipated in the 2024 future with the Proposed Actions in the primary and secondary study areas. The Proposed Actions would result in changes to land use within the primary study area by introducing new residential, commercial, and community facility uses as-of-right and increasing the allowable residential, commercial, and community facility bulk. The Proposed Actions would not directly displace any land uses to adversely affect surrounding land uses, nor would they generate land uses that would be incompatible with land uses, zoning, or public policy in the secondary study area. The Proposed Actions would not create land uses or

[1]For CEQR analysis purposes, "affordable" refers to residential units set aside for households earning 80 percent or below of the Area Median Income (AMI) under Option 2 of the Mandatory Inclusionary Housing (MIH) Program.

structures that would be incompatible with the underlying zoning, nor would they cause a substantial number of existing structures to become nonconforming. Moreover, the Proposed Actions would not result in land uses that conflict with public policies applicable to the primary or secondary study areas.

III. METHODOLOGY

The purpose of this analysis is to examine the effects of the Proposed Actions and determine whether or not they would result in any significant adverse impacts on land use, zoning, or public policy. The analysis methodology is based on the guidelines of the *CEQR Technical Manual* and examines the Proposed Actions consistency with land use patterns and development trends, zoning regulations, and other applicable public policies.

According to the *CEQR Technical Manual*, a detailed assessment of land use, zoning, and public policy may be appropriate when a change in land use and zoning would occur and a preliminary assessment cannot succinctly describe land use conditions in the study area. As the Proposed Actions would result in changes to permitted use, density, and bulk on a site in an area where land uses on other sites will change under No-Action conditions, a detailed assessment is necessary to provide a sufficient description and assessment of the effects on conditions. In addition, a detailed assessment is needed to sufficiently inform other technical reviews and determine whether changes in land use could affect conditions analyzed in those technical areas. Therefore, this attachment includes a detailed analysis that involves a thorough description of existing land uses within the directly affected area and the broader study area. Following the guidelines of the *CEQR Technical Manual*, the detailed analysis describes existing and anticipated future conditions to a level necessary to understand the relationship of the Proposed Actions to such conditions, assesses the nature of any changes on these conditions that would be created by the Proposed Actions, and identifies those changes, if any, that could be significant or adverse.

As noted above, the Proposed Actions include zoning map and text amendments, which would affect land use, zoning and public policy. Land use, zoning, and public policy are addressed and analyzed for two geographical areas for the proposed actions. For this assessment, the primary study area encompasses the Project Area (comprising Lots 68, 70, 73, 74, and 77 in their entirety on Brooklyn Block 2020, as well as portions of Lots 35-40, 42-44, 46, and 7503). The secondary study area encompasses areas that have the potential to experience indirect impacts as a result of the Proposed Actions. The secondary study area extends an approximate 400-foot radius from the boundary of the primary study area. The secondary study area is generally bound by Fulton Street to the north, Bedford Place to the east, Pacific Street to the south, and Classon Avenue to the west. Both the primary and secondary study areas have been established in accordance with *CEQR Technical Manual* guidance and can be seen in Figure C-1.

Existing land uses were identified through review of a combination of sources including field surveys and secondary sources (such as the *1010 Pacific Street Zoning Map and Text Amendment EAS* (2019) and the *1050 Pacific Street Rezoning EAS* (2018)), as well as the City's Primary Land Use Tax Lot Output (PLUTO™) data files for 2020 and websites, such as NYC Open Accessible Space Information System (OASIS, www.oasisnyc.net) and NYCityMap (http://gis.nyc.gov/doitt/nycitymap/). New York City Zoning Maps and the Zoning Resolution (ZR) of the City of New York were consulted to describe existing zoning districts in the study areas and provided the basis for the zoning evaluation of the future No-Action and future With-Action conditions. Relevant public policy documents, recognized by the New York City Department of City Planning (DCP) and other City agencies were utilized to describe existing public policies pertaining to the primary and secondary study areas.

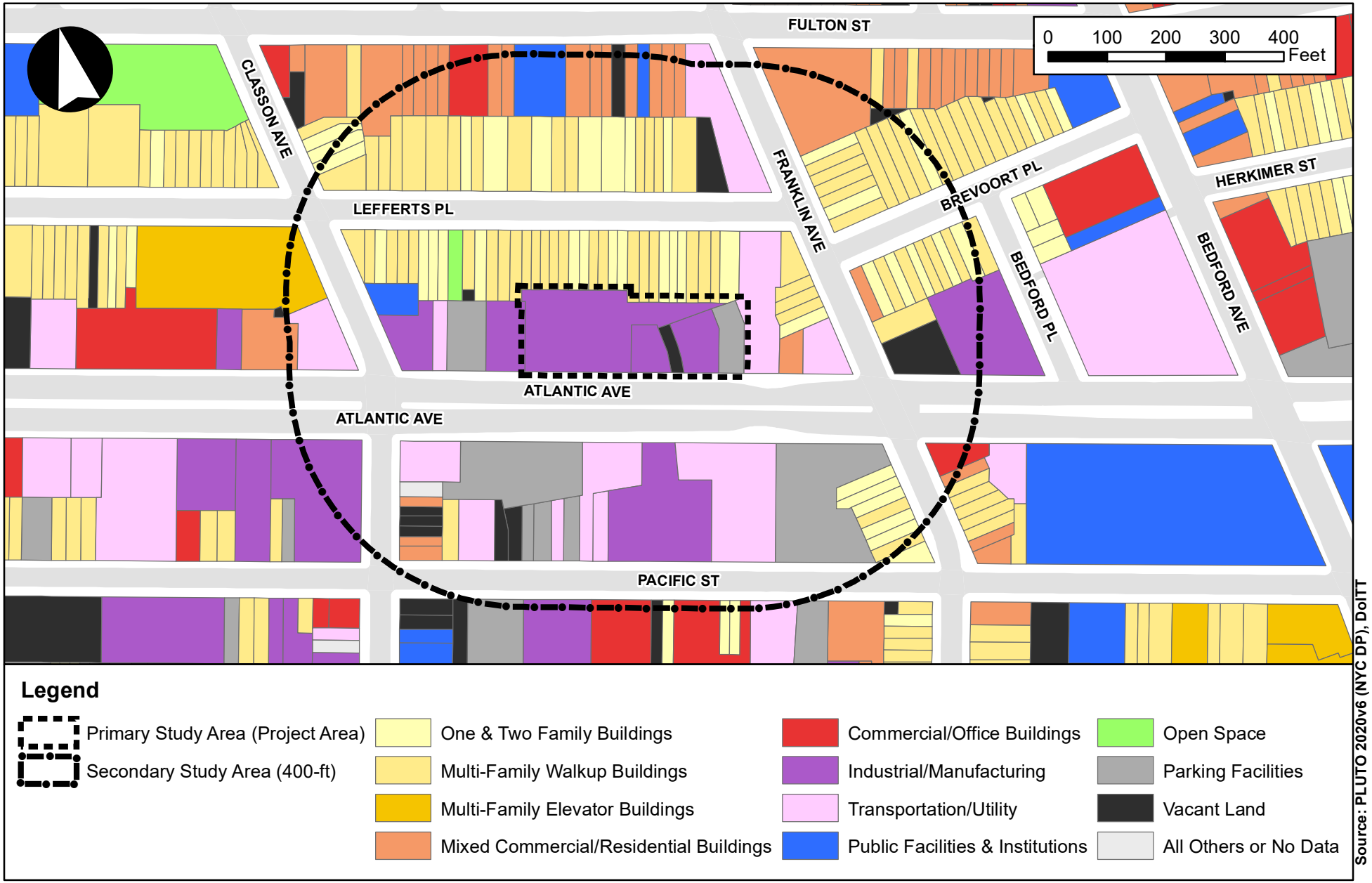


Figure C-1
Land Use Map

As described in Attachment A, "Project Description," in order to assess the possible effects of the Proposed Actions, an RWCDS was established for the future without the Proposed Actions (the No-Action condition) and future with the Proposed Actions (the With-Action condition) for the Project Area in the 2024 analysis year. The analysis projects land use, zoning, and public policy conditions in the 2024 analysis year without the Proposed Actions. The No-Action conditions is developed by identifying proposed developments and other relevant changes anticipated to occur in the primary and secondary study areas within this time frame. The No-Action condition describes the baseline conditions in the study areas against which the Proposed Actions' incremental changes are measured. Finally, the analysis projects land use, zoning, and public policy conditions in 2024 with the completion of the RWCDS development(s). This is the "With-Action" or "future with the Proposed Actions" condition.

IV. PRELIMINARY ASSESSMENT

Land Use and Zoning

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

Public Policy

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

The primary study area is not located in an urban renewal area, a designated Industrial Business Zone (IBZ), a Business Improvement District (BID), a designated historic district, or within an area defined by an adopted 197-a plan. The land use study area also falls outside of New York City's coastal zone boundary and therefore would not be subject to the City's Waterfront Revitalization Program. Applicable public policies to the study areas include the Food Retail Expansion to Support Health (FRESH) Program, Housing New York, and One New York: The Plan for a Strong and Just City (OneNYC).

The primary and secondary study areas are located within a FRESH-designated area. The FRESH Program promotes the establishment and retention of neighborhood grocery stores in underserved communities by providing zoning and financial incentives to eligible grocery store operators and developers. The land use study area is located within a FRESH program area that provides discretionary financial incentives to promote the establishment and retention of neighborhood grocery stores, including real estate tax reductions, sales tax exemption, and mortgage recording tax deferral (note that the FRESH Program, as applicable to the primary and secondary study area, does not provide zoning incentives). Stores that benefit from the FRESH program must also meet the following criteria: a) provide a minimum of 6,000 sf

of retail space for a general line of food and non-food grocery products intended for home preparation, consumption and utilization; b) provide at least 50 percent of a general line of food products intended for home preparation, consumption and utilization; c) provide at least 30 percent of retail space for perishable goods that include dairy, fresh produce, fresh meats, poultry, fish and frozen foods; and d) provide at least 500 sf of retail space for fresh produce.

Under the proposed C6-3A commercial district in the With-Action condition, FRESH supermarkets as well as other food stores would be permitted as-of-right in the Project Area. However, there are no current plans to include a supermarket as part of the proposed 34,470 gsf of commercial retail uses on Proposed Development Site. As the site's FRESH Program designation does not provide zoning incentives, it is reasonable to believe that a supermarket would not be included on this site in the future With-Action condition. As such, the Proposed Actions would not alter or conflict with the objectives of the FRESH program, and no significant adverse impacts would result.

In addition, a portion of the Bedford-Stuyvesant (Bed-Stuy) Gateway BID – which is generally mapped along Fulton Street between Classon Avenue to the west and Lewis Avenue to the east – is located in the secondary study area. Specifically, the portion of the Bed-Stuy Gateway BID is located in the northernmost sections of the secondary study area (see Figure C-2). The Bed-Stuy Gateway BID is a public-private partnership which offers supplemental public services to the commercial districts that generally run along Fulton Street between Classon and Lewis avenues and Nostrand Avenue between Atlantic Avenue and Halsey Street. The services provided by the BID, along with a variety of other economic development tools, help to revitalize, stimulate, and grow local businesses and improve the quality of life for residents, visitors and merchants within the community. The BID's goal is to enrich the Bedford-Stuyvesant community through economic development while promoting the neighborhood's unique cultural diversity. The Proposed Actions would support the BID's goals by encouraging economic development and providing new commercial office and retail uses within the Bedford-Stuyvesant neighborhood, and would therefore be consistent with the policy goals and objectives of the Bed-Stuy Gateway BID.

The Proposed Actions would support the policies and goals of *Housing New York* by establishing a MIH Area encompassing the area to be rezoned, which would require development in the With-Action Condition to include permanent affordable dwelling units. Pursuant to the MIH Option 2, a minimum 30 percent of residential floor area (approximately 126 units) in the With-Action Condition would be allocated to affordable housing units for low, moderate, and middle-income families. The affordable dwelling units under the With-Action Condition would provide the area with a mix of new affordable housing and market-rate units and would support the City's efforts to increase the overall amount of affordable housing. Based on this information, the development under the With-Action Condition would be consistent with the policy goals and objectives of *Housing New York*.

One New York: The Plan for a Strong and Just City (OneNYC; formerly known as PlaNYC) is the City's long-term sustainability plan to address New York City's long-term challenges: the forecast of nine million residents by 2040, changing climate conditions, an evolving economy, and aging infrastructure. The plan sets goals and targets that are both aspirational and achievable, encompassing both short-term actions and ambitious plans to address future challenges. Originally released in 2007, and updated most recently in 2011 and 2015 under Local Law 84 (2013), a long-term plan that considers population projections, housing, air quality, coastal protections, and other sustainability and resiliency factors is required every four years on Earth Day. The plan is divided into four visions for a stronger, more equitable, more sustainable, and more resilient New York City, and includes over 200 new initiatives, with over 80 specific new metrics and targets. OneNYC represents a unified vision for a sustainable, resilient, and equitable city and charts the path for collectively achieving this goal. The Proposed Actions are consistent with the goals

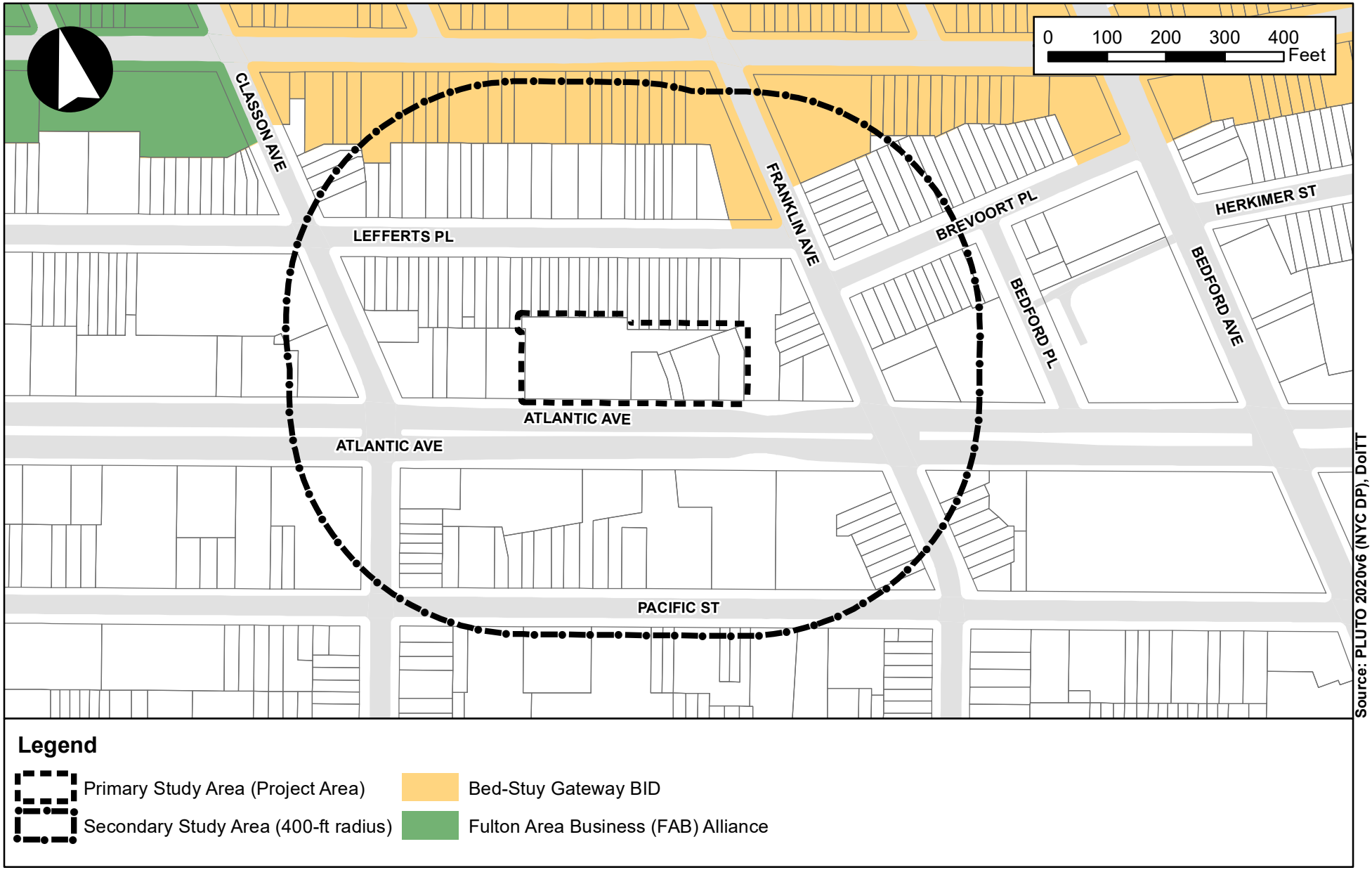


Figure C-2
Business Improvement Districts

of OneNYC, as it would result in the creation of affordable housing and commercial uses in a transit-accessible area and contribute to the economic development of Bushwick and the greater Brooklyn area.

V. DETAILED ASSESSMENT

Existing Conditions

Land Use

Primary Study Area (Project Area)

The approximately 47,527-sf Project Area, which is coterminous with the primary study area, comprises the 46,752-sf Applicant-owned Proposed Development Site (Brooklyn Block 2020, Lots 68, 70, 73, 74, and 77), and portions of Lots 35-40, 42-44, 46, and 7503 in the Buskwick neighborhood of Brooklyn CD 3. The Project Area has frontage on Atlantic Avenue to the south.

The Proposed Development Site is an irregular-shaped lot with approximately 370 feet of frontage along the north side of Atlantic Avenue (a wide street) and has a total lot area of 46,752 sf. Lot 68 is currently occupied by a two-story auto-body mechanic shop containing 10,526 sf of industrial space on a 5,720-sf lot; Lot 70 is currently occupied by a former two-story warehouse building containing 12,240 sf on a 6,833-sf lot that is now vacant; Lot 73 is vacant and unimproved, and is utilized by the neighboring auto-body mechanic shop on Lot 68 as an accessory open space; Lot 74 is currently occupied by a single-story building that includes a bar and an extension of the auto-body mechanic shop on Lot 68 with 3,273 sf of floor area on a 5,120-sf lot; and Lot 77, which is the largest parcel within the Proposed Development Site, is currently occupied by two single-story buildings with 6,807 sf of commercial office space and 5,500 sf of industrial uses (plumbing and heating supply story) on a 27,400-sf lot.

The remaining non-Applicant-owned sites that are partially within the Project Area include Lots 35-40 (p/o), 42-44 (p/o), 46 (p/o), and 7503 (p/o). Lot 46 is currently occupied by the elevated Franklin Avenue Shuttle subway line, which is owned and controlled by the New York City Transit Authority (NYCT); Lot 35, where less than five percent of the lot area is located within the Project Area, is currently vacant and unimproved; and Lots 36-40, 42-44, and 7503, where less than five percent of each lot is located within the Project Area, are each currently occupied by three- to four-story residential brownstone buildings ranging in built FAR from 0.65 to 1.57.

Secondary Study Area

As shown in Figure C-1 and Table C-1, existing land uses within the study area are mostly residential, mixed residential and commercial, and industrial with some transportation/utility and parking facility uses. There are several vacant lots and few public facility or commercial office buildings spread throughout the study area. Residential uses, including attached and detached one- and two-family homes and higher-density walkup apartment buildings, are primarily located north of the Project Area along Lefferts Place and Brevoort Place, as well as a small pocket of one- and two-family homes to the southeast along Franklin Avenue. Industrial, parking, and transportation/utility uses are generally located in the southern half of the secondary study area along Atlantic Avenue and Pacific Street. In addition, several mixed-use commercial and residential buildings are located in the northernmost portions of the secondary study area, which are generally concentrated along Fulton Street.

TABLE C-1
Existing Land Uses within the Secondary Study Area

Land Use	Number of Lots	Percentage of Total Lots (%)	Lot Area (sf)	Percentage of Total Lot Area (%)	Building Area (sf)	Percentage of Total Building Area (%)
Residential	106	58.6%	279,175	32.7%	454,559	40.2%
One & Two-Family Residential	41	22.7%	91,834	10.8%	124,742	11.0%
Multi-Family Walkup Buildings	64	35.4%	145,671	17.1%	243,617	21.5%
Multi-Family Elevator Buildings	1	0.6%	41,670	4.9%	86,200	7.6%
Mixed Commercial/Residential Buildings	22	12.2%	88,824	10.4%	349,558	30.9%
Commercial/Office Buildings	4	2.2%	61,394	7.2%	44,619	3.9%
Industrial/Manufacturing	9	5.0%	142,008	16.6%	172,398	15.2%
Transportation/Utility	12	6.6%	115,811	13.6%	35,961	3.2%
Public Facilities & Institutions	3	1.7%	17,038	2.0%	48,828	4.3%
Open Space	1	0.6%	2,975	0.3%	0	0.0%
Parking Facilities	9	5.0%	112,971	13.2%	23,605	2.1%
Vacant Land	14	7.7%	31,085	3.6%	0	0.0%
All Others or No Data	1	0.6%	1,779	0.2%	2,090	0.2%
Total	181	100.0%	853,060 sf	100.0%	1,129,828 sf	100.0%

Source: 2020v6 PLUTO Data

Much of the residential uses are located on small lots, with an average lot size of approximately 2,600 sf. Community facility uses include a house of worship (Bethel Church of the Nazarene) located east of the Project Area on the east side of Classon Avenue and a charter school (Brooklyn Prospect Clinton Hill Charter School) located north of the Project Area on the south side of Fulton Street. Fulton Street is an active commercial corridor featuring low- to mid-rise commercial and mixed residential and commercial uses including restaurants, laundromats, liquor stores, clothing/accessory stores, and other services.

As mentioned above, low-rise light industrial and transportation/utility uses, as well as parking uses, are primarily located along Atlantic Avenue and Pacific Street. The light-industrial buildings are generally one- to two-story warehouse and light manufacturing buildings set on large, irregular-shaped lots. Some light-industrial uses in this area include workshops, distributors, and auto-repair shops.

Within the secondary study area, the Franklin Avenue subway station is located directly northeast of the primary study area, with entrances located at the intersection of Franklin Avenue and Fulton Street. The Franklin Avenue subway station provides access to both Manhattan- and Ozone Park/Rockaway Beach-bound service along the A/C subway lines, as well as north- and southbound service along the Franklin Avenue Shuttle line. The Franklin Avenue-Medgar Evers subway station is located approximately 0.6 miles south of the Project Area, which provides Manhattan- and Flatbush/East New York-bound service along the 2/3/4/5 subway lines. In addition, several local bus services are provided within the 400-foot radius, including the B25 (connecting Brownsville/East New York and Dumbo) and the B26 (connecting Bushwick and Downtown Brooklyn) which both run along Fulton Street two blocks north of the Project Area; the B48 (connecting Greenpoint and Crown Heights) which runs along Franklin and Classon avenues which are directly east and west of the Project Area, respectively; and the B49 (connecting Bedford-Stuyvesant and Manhattan Beach) which runs along Franklin Avenue directly east of the Project Area. There are also two CitiBike stations located within 400-feet of the Project Area: one to the northeast at the intersection

of Franklin Avenue and Lefferts Place, and one to the southwest at the intersection Classon Avenue and Pacific Street.

Zoning

Primary Study Area

As shown in Figure C-3, a majority of the Project Area is located in a M1-1 zoning district, while a smaller, northern portion of the Project Area is located in a R6B district. The M1-1 district was established as part of the 1961 Zoning Resolution, whereas the R6B district was established as a result of the Bedford-Stuyvesant South Rezoning and Text Amendment (ULURP No. C 070447 ZMK), which was approved in 2007. Prior to the 2007 rezoning, the R6B district was originally zoned as a R6 zoning district, which was also established as part of the 1961 Zoning Resolution.

M1 districts are often buffers between M2 or M3 districts and adjacent residential or commercial districts. M1 districts typically include light industrial uses, such as woodworking shops, repair shops, and wholesale service and storage facilities (Use Groups 4 to 14, 16, and 17). High performance industrial uses are allowed, as well as a range of commercial uses. Pursuant to the recently-approved M1 Hotel Text Amendment, hotels are only permitted by special permit. Additional Use Group 4 community facilities are allowed in M1 districts by special permit.[2] Residential development is generally not permitted as-of-right in M1 districts. M1-1 districts have a maximum floor area ratio (FAR) of 1.0 for manufacturing and commercial uses and 2.4 for community facility uses (Use Group 4, only).[3] Buildings in M1-1 districts are governed by the sky exposure plane, which begins 30 feet above the street line. Within M1-1 districts, off-street parking is required and varies by use.

R6B districts often contain traditional row house districts, which preserve the scale and harmonious streetscape of neighborhoods of four-story attached buildings, much of which were constructed during the 19th century. Many of these houses are set back from the street with stoops and small front yards that are typical of Brooklyn's "brownstone" neighborhoods. Generally, only Use Groups 1 through 4 are permitted as-of-right in R6B districts. R6B districts have a maximum floor area ratio (FAR) of 2.0 for residential and community facility uses and 2.2 for buildings that participate in the City's Inclusionary Housing program. The City's Quality Housing program, which sets special height and lot coverage regulations, as well as special requirements related to interior space, recreation areas, and landscaping, is mandatory in R6B districts. Buildings in R6B districts must have a base height before setback (i.e., 10 feet fronting a wide street; 15 feet fronting a narrow street) between 30 and 40 feet, and are permitted a maximum building height of 50 feet (or 55 feet for building that include a qualifying ground floor). Curb cuts are prohibited on zoning lot frontages less than 40 feet. The street wall of a new development, on any lot up to 50 feet wide, must be as deep as one adjacent street wall but no deeper than the other. The minimum required lot width is 18 feet, and a minimum lot area of 1,700 sf. Off-street parking is generally required for 50 percent of a building's dwelling units (DUs).

The existing buildings on the Applicant-owned Lots 74 and 77 have a built FAR of 0.64, and 0.45, respectively, and are therefore underbuilt for the allowable industrial/commercial FAR of up to 1.0; the Applicant-owned Lot 68 has a built FAR of 1.84 and is therefore non-compliant based on the existing M1-

[2] Pursuant to the ZR, section 42-11, Use Group 4A containing health facilities and houses of worship are permitted as-of-right and do not require a special permit; Use Group 4B (which includes open uses, such as agriculture, cemeteries, golf courses, parks, and railroad right-of-ways and Use Group 4C (which includes accessory uses to Use Groups 4A and 4B) are not permitted as-of-right and thus, would require a special permit.

[3] See footnote 2.

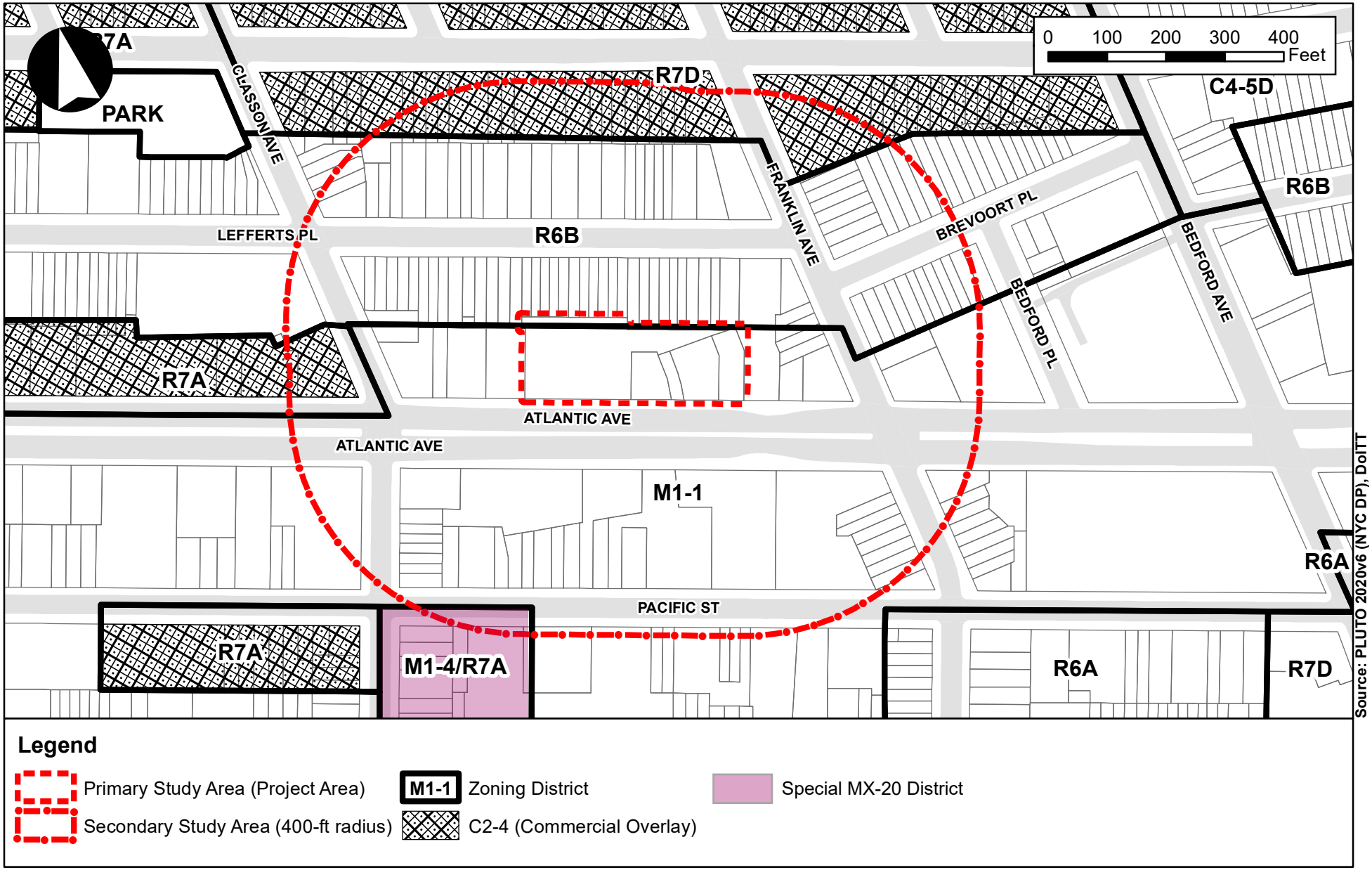


Figure C-3
Existing Zoning Map

1 district. Lots 70 and 73 are both vacant and unimproved. Of the non-Applicant-owned lots that are partially located within the Project Area, Lots 36-40, 42-44, and 7503 (where less than five percent of each lot is located within the Project Area) have a built FAR that range from 0.65 to 1.57, whereas Lot 35 is vacant and unimproved.

BEDFORD-STUYVESANT SOUTH REZONING AND TEXT AMENDMENT (2007)

The Bedford-Stuyvesant South Rezoning and Text Amendment (ULURP No. C 070447 ZMK) rezoned an approximately 206-block area in the southern half of the Bedford-Stuyvesant neighborhood generally bounded by Lafayette Avenue and Quincy Street to the north, Classon Avenue to the west, Saratoga Avenue and Broadway to the east, and Atlantic Avenue to the south. The intent of the 2007 rezoning and text amendment was to preserve neighborhood scale and character, maintain opportunities for mid-rise apartment building construction along appropriate corridors, and allow for residential growth with incentives for affordable housing along the Fulton Street transit and retail corridor. In regards to the Project Area, prior to the rezoning, the R6B district located on the northernmost edge of the Project Area was originally zoned as a R6 zoning district, which was established as part of the 1961 Zoning Resolution.

Secondary Study Area

As shown in Figure C-3, the surrounding area is predominately zoned M1-1 in the southern half of the secondary study area and predominately zoned R6B in the northern half. Immediately north of the R6B district is an R7D district with a C2-4 commercial overlay, which is generally mapped on the north and south side of Fulton Street at a depth of 100 feet. Additionally, a small portion of the secondary study area west of Classon Avenue is mapped with a R7A/C2-4 district. This R7A/C2-4 district is generally mapped on the north side of Atlantic Avenue at a depth of 100 feet. Lastly, a small portion of the Special Mixed Use District (MX-20) is located on the southwestern edge of the secondary study area. The Special MX Districts were designed to promote and protect public health, safety and general welfare and encourage investment in, and enhance the vitality of, existing neighborhoods with residential and industrial uses in close proximity to one another and create expanded opportunities for new mixed-use communities. This MX-20 district is zoned M1-4/R7A. A summary of the general uses and maximum FARs of the secondary study area zoning districts is provided in Table C-2, below.

R7A are contextual higher-density residential districts (Use Groups 1-4) that typically result in high lot coverage residential buildings of roughly seven- to nine-stories, set at or near the street line, with a maximum residential FAR of 4.6 (with Inclusionary Housing). Above a base height of 40 to 65 feet, a development must set back to a depth of 10 feet on a wide street and 15 feet on a narrow street before rising to a maximum building height of 80 feet.[4] Quality Housing bulk regulations are mandatory in R7A districts. Off-street parking is generally required for 50 percent of a building's dwelling units.

R7D are contextual higher-density residential districts (Use Groups 1-4) that typically produce high lot coverage residential buildings of roughly 10-stories, set at or near the street line, with a maximum residential FAR of 5.6 (with Inclusionary Housing). Above a base height of 60 to 85 feet, a development must set back to a depth of 10 feet on a wide street and 15 feet on a narrow street before rising to a

[4] R7A contextual districts generally permit base heights of 40 to 65 feet and a maximum permitted building height of 80 feet. However, for sites outside the Manhattan core, R7A districts permit base heights of 40 to 75 feet and a maximum permitted building height of 85 feet for developments with a Qualifying Ground Floor; for MIH sites, R7A districts permit base heights of 40 to 75 feet and a maximum building height of 95 feet.

maximum building height of 100 feet.[5] Quality Housing bulk regulations are mandatory in R7A districts. Off-street parking is generally required for 50 percent of a building's dwelling units.

TABLE C-2
Secondary Study Area Zoning Districts

Name	Definition/General Use	Maximum FAR
Manufacturing Districts		
M1-1	M1 districts are often buffers between M2 or M3 districts and adjacent residential or commercial districts. M1 districts typically include light industrial uses, which must meet the stringent M1 performance standards. Residential uses may be permitted by CPC authorization pursuant to ZR 42-47.	R: 0.0; C: 1.0; CF: 2.4; M: 1.0
Residential Districts		
R6B	R6B districts are contextual residential districts and are often traditional rowhouse districts. The base height must be between 30 and 40 feet, and a maximum building height after setback is 50 feet.	R: 2.0/2.2 (IH); C: 0.0; CF: 2.0; M: 0.0
R7A	In R7A contextual residential districts, the mandatory Quality Housing regulations typically produce high lot coverage, seven- to nine-story residential buildings.	R: 4.0/4.6 (IH); C: 0.0; CF: 4.0; M: 0.0
R7D	R7D districts promote new contextual development along transit corridors; the mandatory Quality Housing regulations typically produce high lot coverage, ten-story residential buildings.	R: 4.2/5.6 (IH); C: 0.0; CF: 4.2; M: 0.0
Commercial Districts		
C2-4 (overlays)	C2 commercial overlays are mapped within residential districts along streets that serve local retail needs. In mixed-use buildings, commercial uses are limited to one or two floors and must always be located below the residential uses. C2 commercial overlay districts permit a slightly wider range of uses than C1 districts.	R & CF: same as underlying R district; C: 1.0 within R1-R5 districts & 2.0 within R6-R10 districts; M: 0.0
Special Districts		
MX-20	The MX-20 (M1-4/R7A) district allows new residential and non-residential (commercial, community facility, and light industrial) uses to be located side-by-side or within the same building.	R: 4.0/4.6 (IH); C: 2.0; CF: 4.0; M: 2.0

Source: Zoning Resolution of the City of New York.
Notes: R=Residential; C=Commercial; CF=Community Facility; M=Manufacturing; IH=Inclusionary Housing

Commercial overlays are often mapped along streets that serve local retail needs, including neighborhood grocery stores, restaurants, and beauty parlors. C2 districts permit a slightly wider range of uses, such as funeral homes and repair services. In mixed buildings, commercial uses are limited to one or two floors and must always be located below the residential use. When C2-4 overlays are mapped in R6 through R10 districts, the maximum commercial FAR is 2.0. C2-4 commercial overlays are generally mapped at a depth of 100 feet.

BEDFORD-STUYVESANT SOUTH REZONING AND TEXT AMENDMENT (2007)

As described above, the Bedford-Stuyvesant South Rezoning and Text Amendment (ULURP No. C 070447 ZMK) rezoned an approximately 206-block area in the southern half of the Bedford-Stuyvesant neighborhood generally bounded by Lafayette Avenue and Quincy Street to the north, Classon Avenue to the west, Saratoga Avenue and Broadway to the east, and Atlantic Avenue to the south. In regards to the secondary study area, prior to the rezoning, the R6B and R7D/C2-4 districts located in the northern half of the secondary study area was originally zoned as a R6 zoning district, which was established as part of the 1961 Zoning Resolution.

[5] R7D contextual districts generally permit base heights of 60 to 85 feet and a maximum permitted building height of 100 feet. However, for sites outside the Manhattan core, R7A districts permit base heights of 60 to 85 feet and a maximum permitted building height of 105 feet for developments with a Qualifying Ground Floor; for MIH sites, R7A districts permit base heights of 60 to 95 feet and a maximum building height of 115 feet.

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

Land Use and Zoning

Primary Study Area (Project Area)

As presented in Attachment A, "Project Description," in the 2024 future without the Proposed Actions, it is anticipated that the Project Area would retain its M1-1/R6B zoning designation, and it is assumed that while no new construction is planned for the Proposed Development Site, it is assumed that the currently vacant, approximately 12,240 gsf former industrial building on Lot 70 would be reoccupied with light industrial/warehousing uses in the No-Action condition. As a result, the Applicant-owned Proposed Development Site would be occupied by approximately 30,101 gsf of light industrial uses, 6,807 gsf of office uses, and 1,438 gsf of retail uses. No other changes to the remaining Project Area lots are anticipated in the future without the Proposed Actions.

Secondary Study Area

There is one known development (173 Lefferts Place) within the 400-foot radius secondary study area anticipated to be completed and operational by the 2024 Analysis Year. As presented in Table C-3, this no-build development would introduce a four-story residential building containing approximately 5,673 gsf (8 DUs). Additionally, for the purposes of other technical analyses that assess conditions in larger study area, developments anticipated within an approximate 1/4-mile of the Project Area are also summarized in Table C-3 and shown graphically in Figure C-4. As presented in Table C-3, in the future without the Proposed Actions, it is anticipated that a total of 370 DUs (of which, 45 units would be affordable), approximately 41,503 gsf of commercial floor area (of which, 13,773 gsf would be office and 27,695 gsf would be retail), and approximately 12,730 gsf of community facility space would be developed within a 1/4-mile of the Project Area at 11 sites.[6]

[6] It should be noted that the No-Action Developments at 1034-1042 Atlantic Avenue (#10) and 1039-1041 Pacific Street (#11) are sites that are projected for redevelopment as a part of the 1034-1042 Atlantic Avenue Rezoning, which is currently being reviewed under ULURP and has not yet been approved. However, for conservative analysis purposes, the two projected development sites are included into this No-Build list and considered in each technical analysis area throughout the EAS, where applicable.

TABLE C-3
No-Action Developments within the Secondary Study Area (400-ft Radius) and 1/4-Mile Radius

Map No.[1]	Block	Lot(s)	Address	Residential (GSF)	DUs Total	DUs Affrodable	Commercial Office (GSF)	Commercial Retail (GSF)	Community Facility (GSF)	Parking Spaces	# of Floors	Build Year
Secondary Study Area (400-ft Radius)												
1	2016	68	173 Lefferts Pl	5,673	8	0	0	0	0	0	4	2021
Quarter-Mile Radius												
2	2016	5	573 Classon Ave	3,574	4	0	0	0	0	0	4	
3	1997	60	1111 Fulton St	13,416	18	0	0	1,283	0	0	7	2021
4	2015	24	1010 Fulton St	6,463	8	0	0	1,665	0	0	7	
5	1991	1	108 Downing St	41,678	50	0	0	9,196	0	0	8	
6	1149	31	906 Bergen St	16,579	18	0	0	0	0	0	8	
7	1860	85	37 Herkmier St	3,960	6	0	0	0	0	0	4	2021
8	1860	6	1245 Bedford Ave	26,392	30	0	13,773	0	0	0	8	
9	1996	24	172 Putnam Ave	2,032	1	0	0	0	0	0	3	2021
10	1125	29,33	1034-1042 Atlantic Ave	206,353	210	42	0	12,850	12,730	20	17	2024
11	1125	52,53	1039-1041 Pacific St	17,064	17	3	0	2,704	0	7	9	2024
			Totals:	***343,184***	***370***	***45***	***13,773***	***27,698***	***12,730***	***27***		

Source: New York City Department of Buildings 'Building Information Systems (BIS)' filing records.
Notes: [1] Refer to Figure C-4.

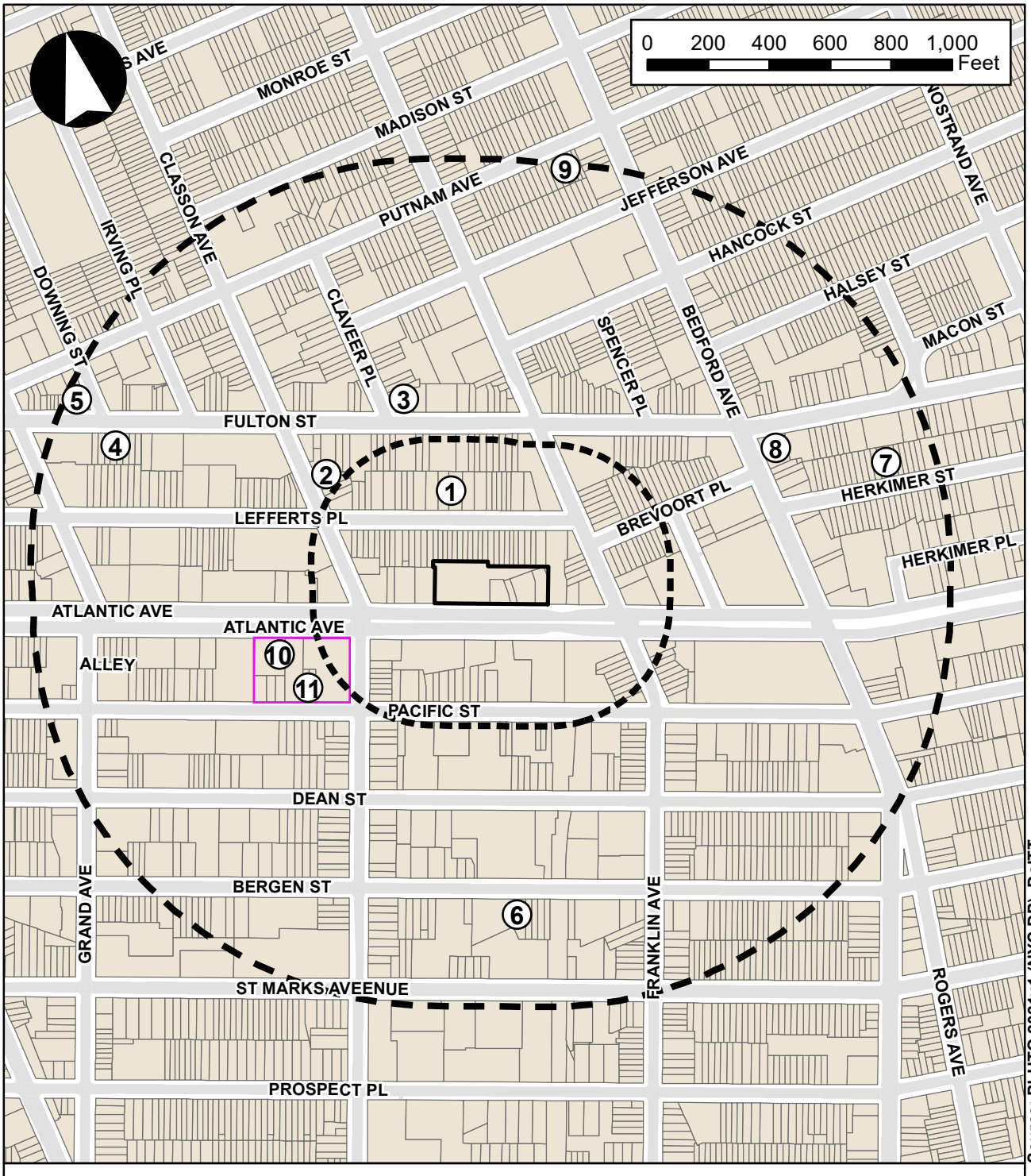
1034-1042 ATLANTIC AVENUE REZONING

The 1034-1042 Atlantic Avenue Rezoning (CEQR No. 21DCP170K) is an ongoing rezoning that is expected to be approved before the 2024 Analysis Year. The proposed rezoning would affect a portion of a block (Block 1125, Lots 29, 33, 40, 52, 53, 57, 59, and 61) generally bounded by Atlantic Avenue to the north, Classon Avenue to the east, Pacific Street to the south, and Grand Avenue to the west, a portion of which would be located within the secondary study area southwest of the Project Area (see Figure C-4). The proposed rezoning would rezone the affected area from M1-1 to C6-3A and R7A/C2-4, and would include a zoning text amendment to designate the proposed C6-3A and R7A/C2-4 district as a MIH Area. It is anticipated that the proposed rezoning would result in two projected developments (1034-1042 Atlantic Avenue and 1039-1041 Pacific Street) and one potential development (1050 Atlantic Avenue). The projected development sites at 1034-1042 Atlantic Avenue and 1039-1041 Pacific Street would result in a 17-story and a nine-story mixed-use building, respectively, whereas the potential development site at 1050 Atlantic Avenue could result in a 17-story mixed-use building. If approved, it is anticipated that the projected development sites would complete and fully operational by 2024.

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

In the 2024 future with the Proposed Actions, the Proposed Actions, which include zoning map and text amendments, would be approved. As presented in Attachment A, "Project Description," with approval of the Proposed Actions, the Proposed Project would introduce the incremental development of approximately 422 DUs (including a net increase of up to approximately 126 affordable DUs), approximately 27,088 gsf of commercial office uses, approximately 33,032 gsf of commercial local retail uses, approximately 8,995 gsf of community facility uses, and approximately 152 accessory parking spaces, as well as a net reduction of 30,101 gsf of industrial uses. Additionally, as described in Attachment A, the Applicant could potentially construction the Alternate Commercial Scenario, which would introduce the incremental development of approximately 337 DUs (of which, a minimum of 84 units would be affordable), approximately 112,578 gsf of commercial office uses, approximately 31,673 gsf of local retail

Figure C-4
No-Build Development Sites



uses, and approximately 152 accessory parking spaces, as well as a net reduction of 30,101 gsf of light industrial spaces.

Land Use

Primary Study Area (Project Area)

The Proposed Actions would result in changes to land use within the primary study area by introducing new residential uses, as well as commercial uses at a greater density along a wide street corridor than would be allowed in the No-Action condition. While residential uses are not permitted within the Project Area under existing or No-Action conditions, the residential and commercial uses anticipated as a part of the RWCDS within the Project Area would be consistent with uses already present in the surrounding area. Notably, in the immediate vicinity of the Project Area, all the adjacent lots directly north of the Project Area contain residential uses. In addition, several mixed-use residential and commercial buildings are located along the north side of Atlantic Avenue to the east and west of the Project Area. Further, generally along Lefferts Place, Brevoort Place, and Fulton Street, the surrounding area is characterized by a combination of one- and two-family residential buildings that occupy small, narrow lots (Lefferts Place and Brevoort Place), and larger multi-unit mixed-use residential and commercial buildings that occupy similar sized or larger lots (Fulton Street).

In addition, certain industrial uses (i.e., Use Groups 13, 14, 16, and 17) would no longer be permitted as-of-right in the Project Area under With-Action conditions (see Table C-4). These uses include heavier manufacturing, semi-industrial, and automotive uses, as well as certain amusement establishments and boating related facilities, which would generally be permitted in M1-1 districts under No-Action conditions.

Under the RWCDS, the Proposed Development Site would be improved with a 17-story, 477,098 gsf mixed-use development with a residential FAR of 7.01, a commercial FAR of 1.3, and a community facility FAR of 0.19 (for a total FAR of 8.5 which would be the maximum FAR permitted), as well as 152 accessory parking spaces that would be provided below-grade (a.k.a. the Proposed Project). Proposed uses include 422 DUs, including up to approximately 126 permanently affordable DUs, approximately 33,895 gsf of commercial office space, approximately 34,470 gsf of local retail space, and approximately 8,995 gsf of community facility space. 152 accessory parking spaces, of which approximately 119 are required for the market-rate residential units, would be provided on a single cellar level. Parking requirements would be waived for affordable DUs pursuant to ZR Section 25-251. Accessory parking requirements for the proposed commercial uses would be waived pursuant to ZR Section 36-232. Access to the below-grade parking garage would be provided from Atlantic Avenue.

By comparison, under the RWCDS's Alternate Commercial Scenario, the Proposed Development Site could be improved with a 16-story, 471,590 gsf mixed-use development with a residential FAR of 5.5 and commercial FAR of 3.0 (for a total FAR of 8.5 which would be the maximum FAR permitted). The mixed-use development would include approximately 337 DUs, including a minimum of 84 permanently affordable DUs, and approximately 112,578 gsf of commercial office space and 31,673 gsf of local retail space. 152 accessory parking spaces would also be included in the Alternate Commercial Scenario, and would be provided on a single cellar level accessed from Atlantic Avenue.

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

Secondary Study Area

The secondary study area would not undergo any changes as a result of the Proposed Actions. The Proposed Actions would have no direct effect on zoning in the secondary study area. As noted above, a large portion of the secondary study area north of Atlantic Avenue is predominantly comprised of residential and mixed residential and commercial uses, whereas industrial, parking, and transportation/utility uses are generally concentrated along and south of Atlantic Avenue. Therefore, the Proposed Actions would not introduce any new land uses that would be incompatible with their surroundings, and the Proposed Actions would not represent a significant adverse impact on land use in the secondary study area in accordance with the criteria set forth in the *CEQR Technical Manual.*

Zoning

Primary Study Area (Project Area)

In the future with the Proposed Actions, the existing zoning in a large portion of the primary study area would change. The Proposed Rezoning Area would be rezoned from M1-1 to C6-3A (with MIH), whereas the portions of the R6B district located within the Project Area would remain unchanged (see Figure C-5). As shown in Table C-4, the proposed C6-3A (MIH) zoning would increase the maximum permitted FAR of the Proposed Rezoning Area to 8.5 FAR with MIH for residential uses, 7.5 for community facility uses, and up to 6.0 for commercial uses, which would facilitate new housing development including affordable housing units, as well as new commercial office and retail development.

TABLE C-4
Comparison of Existing/No-Action and Proposed Zoning in the Primary Study Area

	Existing/No-Action	Proposed
	M1-1D	**C6-3A (MIH)**
Use Groups	4-14, 16, 17	1-12
Maximum FAR		
Residential	0.0	7.5/8.5[1]
Community Facility	2.4	7.5
Commercial	1.0	6.0
Manufacturing	1.0	0.0

Source: *Zoning Resolution of the City of New York.*
Notes:
[1] The MIH area sets a new maximum permitted residential FAR that supersedes the FAR permitted by the underlying C6-3A (R9A equivalent) zoning district. With both the designation of the Project Area as an MIH area and its rezoning to C6-3A zoning districts, the maximum permitted residential FAR within the Proposed Rezoning Area would be 8.5, and the maximum building height would be 175 feet with a qualifying ground floor.

The proposed zoning map and text amendments would create additional zoning capacity in a transit-accessible area to support new housing creation and increase the number of affordable housing units available in New York City. While the proposed C6-3A (MIH) district would permit residential and commercial development at a density greater than permitted under existing or No-Action conditions, the Project Area's location along a wide street, Atlantic Avenue, in a transit accessible area is well-suited for additional development.

As such, the Proposed Actions would not result in significant adverse impacts to zoning in the primary study area.

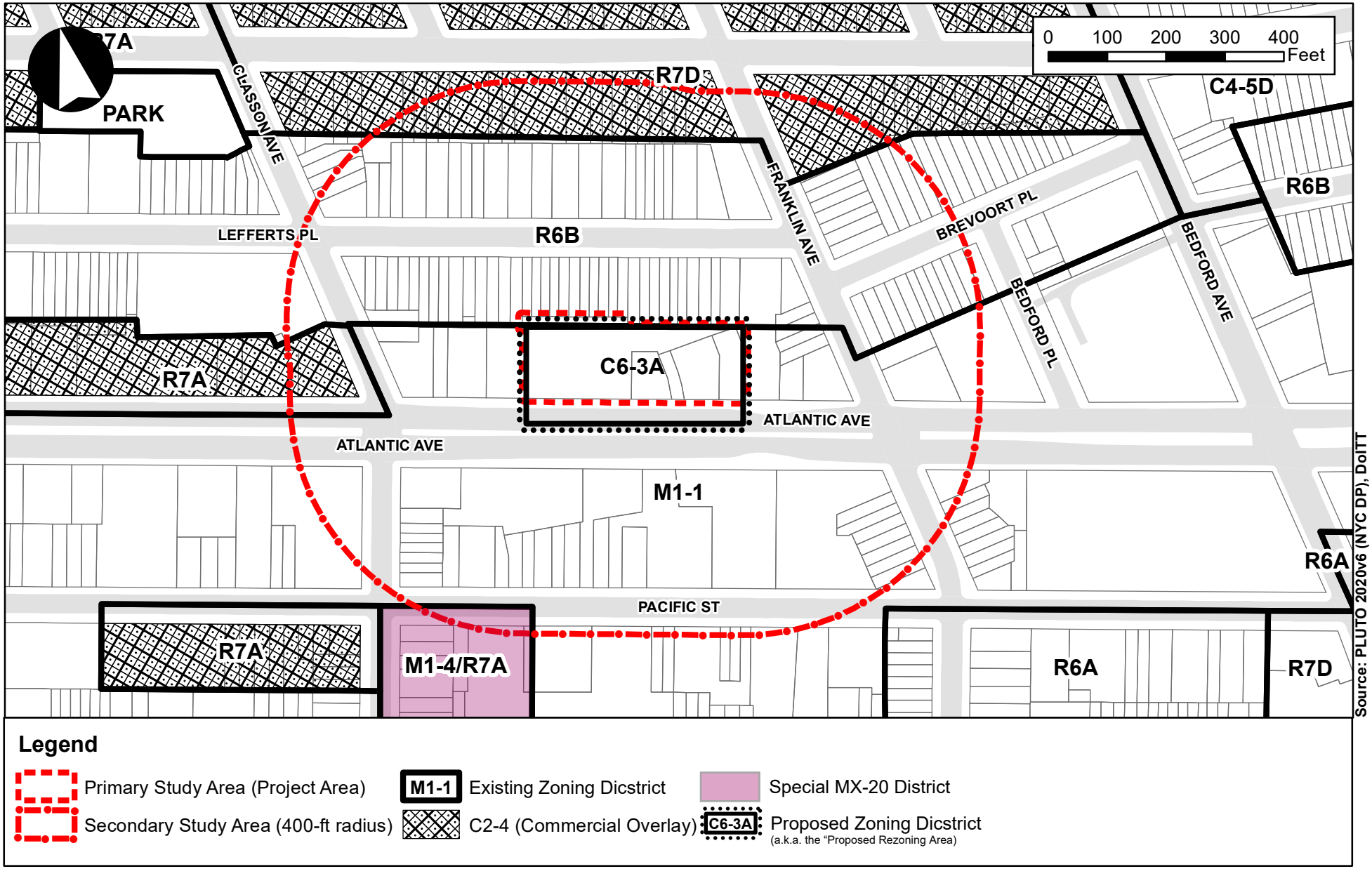


Figure C-5
Proposed Zoning Map Amendment

Secondary Study Area

The secondary study area would not undergo any zoning changes as a result of the Proposed Actions. The Proposed Actions would have no direct effect on zoning in the secondary study area. The proposed zoning map and text amendments would be in keeping with the City's land use, zoning, and public policy objectives for the area to encourage higher density development on wide streets served by public transit. The proposed C6-3A (MIH) district would also facilitate the development of affordable housing. In addition, the proposed zoning map and text amendments would be consistent with the pending 1034-1042 Atlantic Avenue Rezoning (approximately one block southwest of the Project Area), which would also include a map amendment that would rezone an existing M1-1 district to a C6-3A (MIH) district.

For these reasons, the Proposed Actions would not represent a significant adverse impact on zoning in the secondary study area, in accordance with the criteria set forth in the *CEQR Technical Manual.*

Attachment D
Socioeconomic Conditions

1045 Atlantic Avenue Rezoning EAS
Attachment D: Socioeconomic Conditions

I. INTRODUCTION

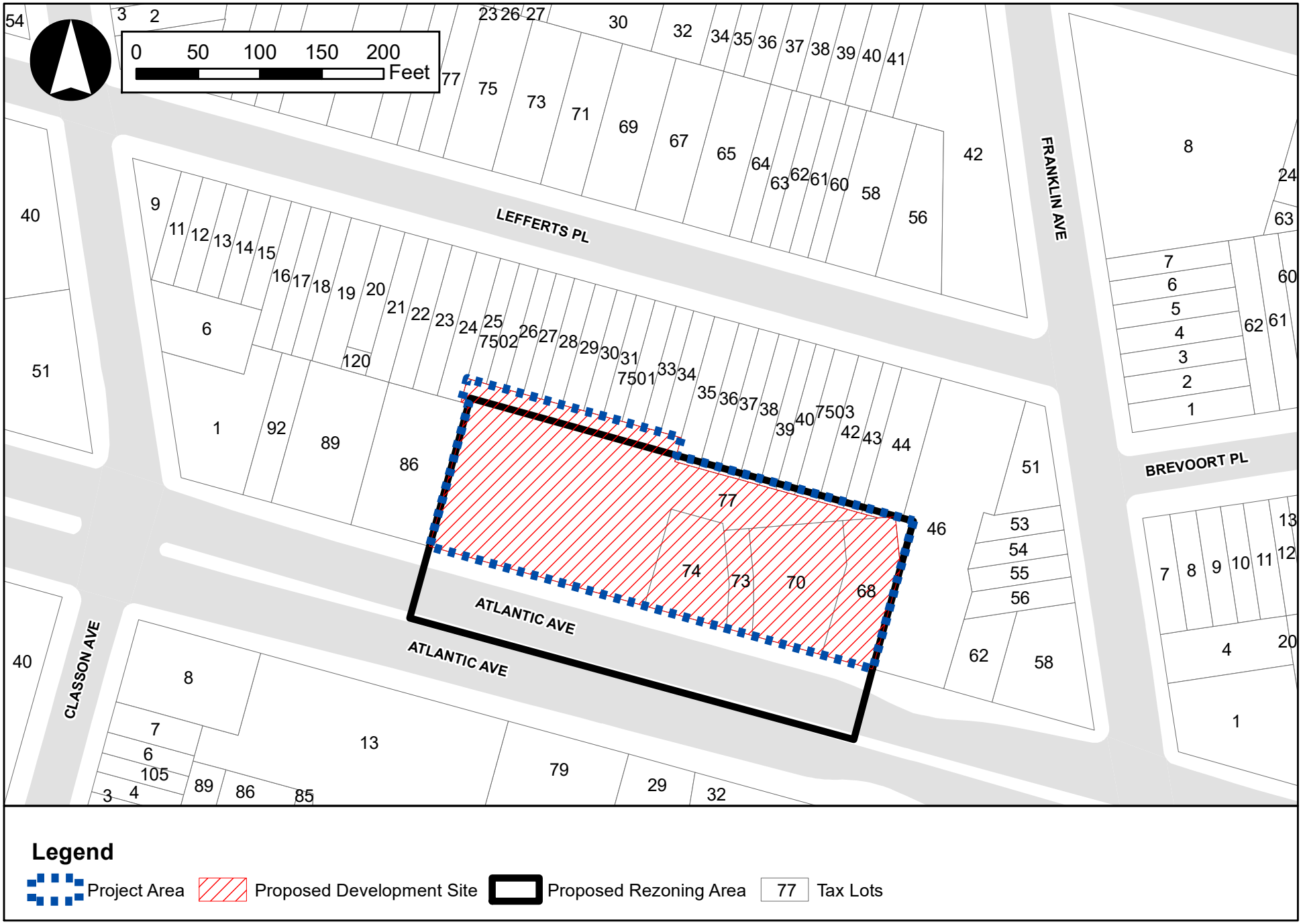
This attachment assesses whether the Proposed Actions would result in significant adverse impacts to the socioeconomic character of the area within and surrounding the Project Area. As described in the 2014 *City Environmental Quality Review* (CEQR) *Technical Manual*, the socioeconomic character of an area includes its population, housing, and economic activities. Socioeconomic changes may occur when a project directly or indirectly affects any of these elements. Although some socioeconomic changes may not result in environmental impacts under CEQR, they are disclosed if they would affect land use patterns, low-income populations, the availability of goods and services, or economic investment in a way that changes the socioeconomic character of the area.

As detailed in **Attachment A, "Project Description,"** the Applicant is seeking several discretionary actions to facilitate the development of a new, 17-story, mixed-use building comprising approximately 477,098 gross square feet (gsf) of residential and commercial office and retail uses (the "Proposed Project") on Brooklyn Block 2020, Lots 68, 70, 73, 74, and 77 (the "Proposed Development Site") in the Bedford-Stuyvesant/Crown Heights neighborhood of Brooklyn Community District (CD) 3 (see **Figure D-1a**). The reasonable worst-case development scenario (RWCDS) for the Proposed Project would contain a total of approximately 422 dwelling units (DUs), approximately 33,032 gsf of commercial retail space, approximately 27,088 gsf of commercial office space, and approximately 8,995 gsf of community facility (child care) space, as well as approximately 152 accessory parking spaces. Of the proposed residential units, 30 percent or up to 126 units would be designated as permanently affordable pursuant to either Option 2 or Option 4 (the "Workforce" option) of the City's Mandatory Inclusionary Housing (MIH) program.[1]

As the Proposed Actions would increase the maximum permitted commercial FAR to 6.0, a second RWCDS was prepared in **Attachment A** (the "Alternate Commercial Scenario"). Under the Alternate Commercial Scenario, the Applicant could reasonably construct a mixed-use building on the Proposed Development Site in the future with the Proposed Actions containing approximately 337 DUs (of which, up to 101 units would be permanently affordable under Option 2 of the MIH program), approximately 31,673 gsf of local retail space, approximately 112,578 gsf of office space, and approximately 152 accessory parking spaces.

It is expected that the Proposed Project or Alternate Commercial Scenario would be constructed and fully occupied by 2024. Absent the Proposed Actions, it is assumed that the currently vacant, approximately 12,240 gsf former industrial building on Lot 70 in the Project Area would be reoccupied with light industrial/warehousing uses. As a result, the Applicant-owned Proposed Development Site would be occupied by approximately 30,101 gsf of light industrial uses, 6,807 gsf of office uses, and 1,438 gsf of

[1] Pursuant to Option 2 of the City's MIH program, 30 percent or up to 126 units would be affordable at or below 80 percent of the area median income (AMI). By comparison, pursuant to Option 4 (the "Workforce" option), 30 percent or up to 126 units would be affordable at or below 115 percent of AMI (of which up to 21 units would be affordable at or below 70 percent of AMI).



1045 Atlantic Avenue Rezoning

Figure D-1a
Project Area

retail uses under No-Action conditions. No other changes to the remaining Project Area lots are anticipated in the futures without or with the Proposed Actions.

In accordance with *CEQR Technical Manual* guidance, this analysis considers whether development of the proposed uses could result in significant adverse socioeconomic impacts due to: (1) direct displacement of residential population; (2) indirect displacement of residential population; (3) direct displacement of existing businesses/institutions; (4) indirect displacement of businesses/institutions; and (5) adverse effects on a specific industry.

II. PRINCIPAL CONCLUSIONS

As detailed below and summarized here, the Proposed Actions and associated RWCDS would not result in any significant adverse socioeconomic impacts.

Direct Residential Displacement

The Proposed Development Site is currently zoned M1-1 and does not contain any residential uses. Additionally, the remaining sites in the Project Area would not be affected by the Proposed Actions. Therefore, the Proposed Actions would not directly displace any residents.

Direct Business/Institutional Displacement

The businesses on the Proposed Development Site that would be directly displaced by the Proposed Actions do not provide any goods or services that cannot be found within the trade area, and some of the existing commercial (office and retail) businesses could potentially be able to occupy the proposed commercial spaces in the newly constructed building on the Proposed Development Site once completed. In addition, the Proposed Actions are site-specific and do not include any citywide regulatory changes that would adversely affect the economic and operational conditions of certain types of businesses or processes. Therefore, the Proposed Actions and associated RWCDS are not expected to result in significant adverse impacts due to direct business or institutional displacement.

Indirect Residential Displacement

As detailed further below, the population generated by the Proposed Actions is expected to have a mix of incomes that are similar to the existing and future study area populations. The Proposed Actions are not expected to introduce a new concentration of higher-income housing that could substantially alter rental market conditions in the study area. Therefore, the Proposed Actions are not expected to result in significant adverse impacts due to indirect residential displacement.

Indirect Business/Institutional Displacement

The Proposed Actions and associated RWCDS would not introduce commercial development in excess of 200,000 sf. The Proposed Actions would not add to, or create, a retail concentration that may draw a substantial amount of sales from existing businesses within the study area to the extent that certain categories of business close and vacancies in the area increase, thus resulting in a potential for disinvestment on local retail streets. Therefore, the Proposed Actions would not result in significant adverse impacts due to indirect business or institutional displacement.

Adverse Effects on a Specific Industry

The Proposed Actions and associated RWCDS are not expected to result in significant adverse impacts due to direct or indirect business or institutional displacement. The Proposed Actions are site-specific to the Project Area, and do not include any citywide regulatory changes that would adversely affect the

economic or operational conditions of certain types of businesses or processes. Therefore, the Proposed Actions would not result in significant adverse impacts on specific industries.

III. METHODOLOGY

Under CEQR, the socioeconomic character of an area is defined by its population, housing, and economic activities. Socioeconomic changes may occur when a project directly or indirectly changes any of these elements. Although socioeconomic changes may not result in impacts under CEQR, they are disclosed if they would affect land use patterns, low-income populations, the availability of goods and services, or economic investment in a way that changes the socioeconomic character of the area. In some cases, these changes may be substantial but not adverse. In other cases, these changes may be good for some groups but bad for others. The object of the CEQR analysis is to disclose whether any changes created by the Proposed Actions would have a significant impact compared with what would happen in the future without the Proposed Actions (i.e., the "No-Action" condition).

The assessment of socioeconomic conditions distinguishes between the socioeconomic conditions of an area's residents and businesses, although projects may affect both in similar ways. Direct displacement is defined as the involuntary displacement of residents, businesses, or institutions from the actual site of (or sites directly affected by) a proposed action. Examples include the proposed redevelopment of a currently occupied site for new uses or structures, or a proposed easement or right-of-way that would take a portion of a parcel and thus render it unfit for its current use. Since the occupants of a particular site are usually known, the disclosure of direct displacement focuses on identifying the specific businesses and estimating current employment levels, and an identifiable number of residents and workers.

Indirect or secondary displacement is the involuntary displacement of residents, businesses, or employees in an area adjacent or close to a project site that results from changes in socioeconomic conditions created by a proposed project. Examples include rising rents that result from a new concentration of higher-income housing introduced by a project, which ultimately could make existing housing unaffordable to lower income residents; a similar turnover of industrial to higher-rent commercial tenancies induced by the introduction of a successful office project in an area; or the flight from a neighborhood that can occur if a proposed project creates conditions that break down the community (such as a highway dividing the area).

Even if projects do not directly or indirectly displace businesses, they may affect the operation of a major industry or commercial operation in the City. An example would be new regulations that prohibit or restrict the use of certain processes that are critical to certain industries. In these cases, CEQR may assess the economic impacts of the project on the industry in question.

Determining Whether a Socioeconomic Assessment is Appropriate

According to the *CEQR Technical Manual*, a socioeconomic assessment should be conducted if an action may be reasonably expected to create socioeconomic changes in the area affected by the action that would not be expected to occur in the absence of the Proposed Actions (No-Action condition). The following screening assessment considers threshold circumstances identified in the *CEQR Technical Manual*, and bulleted below, that can lead to socioeconomic changes warranting further assessment.

As detailed above and discussed further in **Attachment A, "Project Description,"** the Applicant intends to redevelop the Proposed Development Site (Lots 68, 70, 73, 74, and 77 in **Figure D-1a**) with a 17-story

predominantly residential building with commercial uses in the future with the Proposed Actions. In addition to the Applicant's property, the Project Area also includes portions of Lots 35-40, 42-44, 46, and 7503 which are not controlled by the Applicant. Lot 46 is owned and controlled by New York City Transit (NYCT) and is currently occupied by the elevated Franklin Avenue Shuttle subway line. Only approximately one percent of this lot would be affected by the proposed C6-3A zoning district. Therefore, Lot 46 is not a projected development site. Additionally, as less than approximately five percent of Lots 35-40, 42-44, and 7503 are located within the Proposed Rezoning Area, and as the greatest distance from the proposed C6-3A district boundaries do not exceed 25 feet, these lots will each retain their R6B zoning district designation in the future with the Proposed Actions, and, thus, are not expected to be affected by the Proposed Actions. Therefore, Lots 35-40, 42-44, and 7503 are not considered projected development sites (refer to **Attachment A, "Project Description"** for further discussion).

- *Direct Residential Displacement: Would the proposed 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.*

The Proposed Development Site is currently zoned M1-1 and does not contain any residential uses. Additionally, as detailed above, the remaining sites in the Project Area would not be affected by the Proposed Actions. Therefore, the Proposed Actions would not directly displace any residents, and an assessment of direct residential displacement is not warranted.

- *Direct Business/Institutional Displacement: Would the project directly displace more than 100 employees, or 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, assessments of direct business displacement and indirect business displacement are appropriate.*

The Proposed Actions and associated RWCDS have the potential to result in some direct business displacement on the Proposed Development Site. Active uses on the Proposed Development Site include Tarmac, an auto-body mechanic shop (Lot 68); Diamond Reef, a bar (Lot 74); and Gaffney Plumbing and Heating Supply (Lot 77). Additionally, in the future without the Proposed Actions, it is expected that the vacant building on Lot 70 would be reoccupied with light industrial/warehousing uses. In total, these businesses employ fewer than 100 workers. The businesses on the Proposed Development Site would be directly displaced as a result of the Proposed Actions and associated RWCDS. As detailed above, the remaining lots in the Project Area would not be affected by the Proposed Actions.

The businesses on the Proposed Development Site that would be directly displaced by the Proposed Actions do not provide any goods or services that cannot be found within the trade area, and some of these businesses could potentially be able to occupy the proposed commercial spaces in the newly constructed building on the Proposed Development Site once completed. In addition, the Proposed Actions are site-specific and do not include any citywide regulatory changes that would adversely affect the economic and operational conditions of certain types of businesses or processes. Therefore, the Proposed Actions and associated RWCDS are not expected to result in significant adverse impacts due to direct business or institutional displacement, and no further analysis is warranted.

- *Indirect Residential and/or Business 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, an assessment of indirect residential displacement and indirect business displacement is appropriate.

As detailed in **Attachment A, "Project Description,"** the Proposed Project would introduce an increment of approximately 60,120 gsf of commercial space on the Proposed Development Site, including approximately 33,032 gsf of local retail space and approximately 27,088 gsf of office space. In the Alternate Commercial Scenario, the Proposed Actions would facilitate an increment of approximately 144,251 gsf of commercial space on the Proposed Development Site, including approximately 31,673 gsf of local retail space and approximately 112,578 gsf of office space. No changes to the remaining lots in the Project Area are expected in the future with the Proposed Actions in either scenario. As the Proposed Actions would not introduce commercial development in excess of 200,000 sf in either scenario, they would not result in significant adverse impacts due to indirect business or institutional displacement per *CEQR Technical Manual* guidance, and further analysis is not warranted.

As detailed in **Attachment A**, the Proposed Actions would facilitate an increment of up to approximately 422 DUs on the Proposed Development Site. No changes to the remaining lots in the Project Area are expected in the future with the Proposed Actions. As the Proposed Actions would introduce more than 200 residential units on the Proposed Development Site, exceeding the CEQR preliminary screening assessment threshold, a preliminary assessment indirect residential displacement is warranted, and is provided below.

- *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 regional-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.*

An assessment of indirect business displacement due to market saturation (i.e., competition) is not warranted based on *CEQR Technical Manual* guidance. The Proposed Actions would not introduce retail uses in excess of 200,000 sf in the Project Area in either the Proposed Project or Alternate Commercial Scenario. As such, an assessment of potential indirect business displacement due to retail market saturation is not warranted. The Proposed Actions would not add to, or create, a retail concentration that may draw a substantial amount of sales from existing businesses within the study area to the extent that certain categories of business close and vacancies in the area increase, thus resulting in a potential for disinvestment on local retail streets.

- *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 or 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 discussed above, the Proposed Actions and associated RWCDS are not expected to result in significant adverse impacts due to direct or indirect business displacement. The Proposed Actions are site-specific to the Project Area, and do not include any citywide regulatory changes that would adversely affect the economic or operational conditions of certain types of businesses or processes. Therefore, the Proposed Actions would not result in significant adverse impacts on specific industries, and no further analysis is warranted.

Based on the initial screening assessment presented above, the Proposed Actions warrant analysis of indirect residential displacement.

Analysis Format

Based on *CEQR Technical Manual* guidance, the analysis of indirect residential displacement begins with a preliminary assessment. The objective of the preliminary assessment is to learn enough about the potential effects of the Proposed Actions to either rule out the possibility of significant adverse impacts or conclude that a more detailed analysis is required to determine fully the extent of the impacts. A detailed analysis, when required, is framed in the context of existing conditions and evaluates the changes to those conditions in the With-Action condition as compared with the changes that would be expected in absence of the Proposed Actions. In conjunction with the land use task, specific development projects expected to occur by the build year of the Proposed Project are identified. These projects are described in terms of the possible changes to socioeconomic conditions that they would cause, including potential population increases, changes in income characteristics of the affected area, changes to the rents or sale prices of residential units, new commercial or industrial uses, or changes to employment or retail sales. Those conditions are then compared with the future with the Proposed Actions to determine the potential for significant adverse impacts.

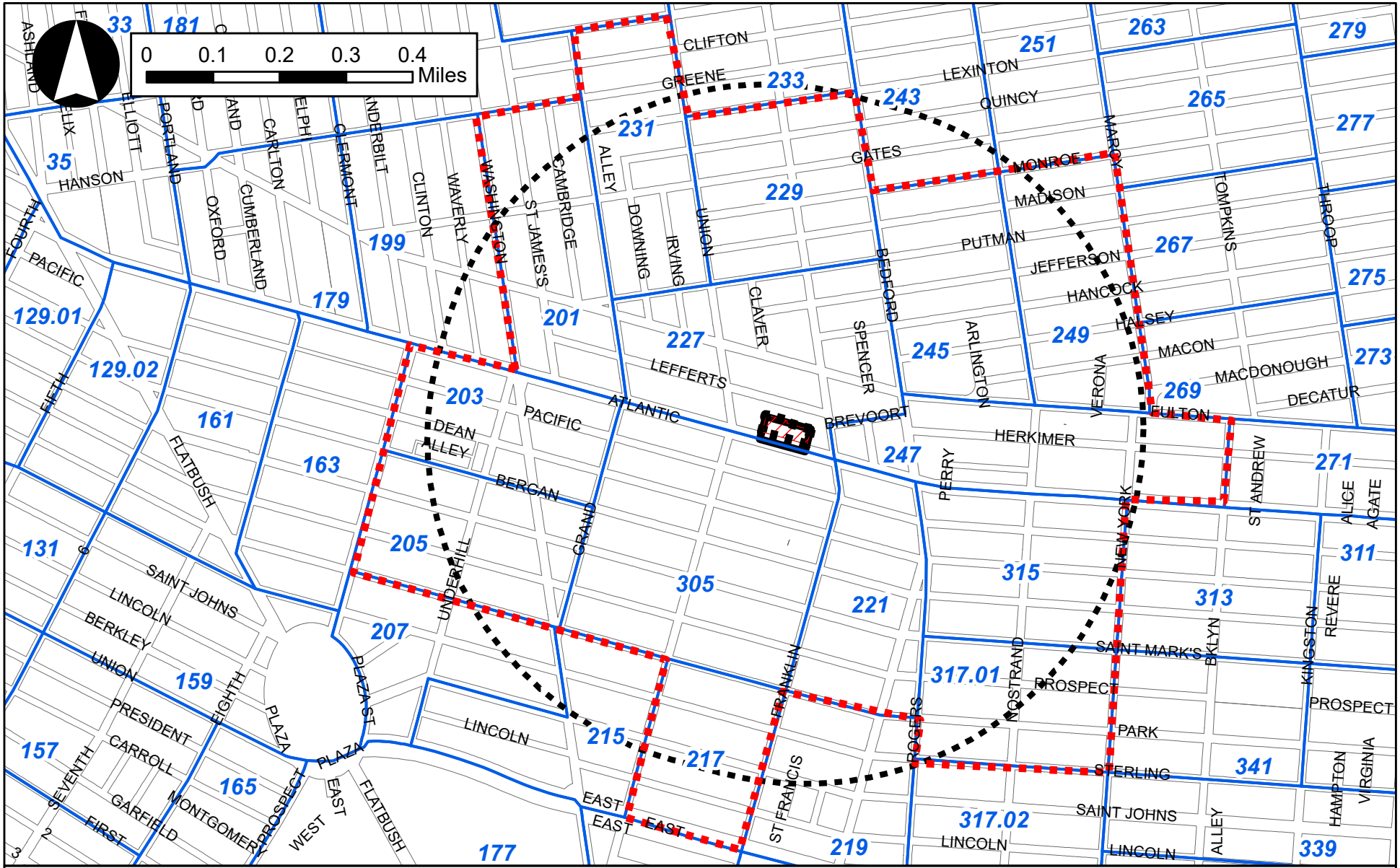
As presented below, a preliminary assessment was sufficient to conclude that the Proposed Actions would not result in any significant adverse socioeconomic impacts due to indirect residential displacement.

Study Area Delineation

Indirect residential displacement impacts are considered to be significant if changes are large enough to adversely affect the character of the neighborhood. Typically, the socioeconomic conditions study area boundaries are similar to those of the land use study area. The study area encompasses the Project Area and an adjacent area within 400 feet, a ¼-mile, or a ½-mile, depending on project size and area characteristics. The socioeconomic assessment seeks to assess the potential to change socioeconomic character relative to the study area population. For projects that result in an increase in residential population, the scale of the relative change is typically represented as a percent increase in population (i.e., a project that would result in a relatively large increase in population may be expected to affect a larger study area).

The *CEQR Technical Manual* explains that for actions that would increase the residential population by more than five percent as compared to the population expected to reside in the ¼-mile study area in the future No-Action condition, a ½-mile study area is appropriate. The incremental population introduced by the Proposed Actions (1,093 residents[2]) would result in an increase in the ¼-mile study area residential population of more than five percent. As such, a ½-mile study area is the appropriate study area for assessing the potential for indirect residential displacement, in accordance with *CEQR Technical Manual* methodology. The socioeconomic conditions study area includes those census tracts that most closely describe (i.e., are at least 50 percent within) the ½-mile perimeter around the Project Area, and therefore include census tracts 201, 203, 205, 217, 221, 227, 229, 231, 245, 247, 249, 305, 315, and 317.01 (see **Figure D-1b**).

[2] Population estimate based on the average persons per household in Brooklyn CD 3, 2010 Census (2.59 residents per unit).



1045 Atlantic Avenue Rezoning

Figure D-1b
Socioeconomic Study Area

Data Sources

Data related to residential conditions, including population, housing, and income data, were obtained from the U.S. Census Bureau's 2000 and 2010 Census, and 2014-2018 Five-Year American Community Surveys (ACS) and the New York City Department of City Planning (DCP) Census FactFinder online mapping tool and DCP Housing Database Files. In addition, land use and parcel data were collected from the City's Primary Land Use Tax Lot Output (PLUTO) data files and online Geographic Information Systems (GIS) databases, including the New York City Open Accessible Space Information System (http://www.oasisnyc.net) and NYCityMap (http://gis.nyc.gov/doitt/nycitymap/) as well as field visits to the study area by PHA staff. Real estate data were obtained from real estate market reports prepared by M.N.S. Real Estate.

IV. PRELIMINARY INDIRECT RESIDENTIAL DISPLACEMENT ASSESSMENT

Indirect residential displacement usually results from substantial new development that is markedly different from existing uses and activity in an area, which causes increased property values in the area. Increased property values can lead to increased rents, which can make it difficult for some existing residents to afford their homes. The indirect residential displacement assessment aims to determine whether the Proposed Actions would either introduce a trend or accelerate an existing trend of changing real estate market conditions that may have the potential to displace a vulnerable residential population and substantially change the socioeconomic character of the neighborhood. This preliminary assessment follows the step-by-step preliminary assessment guidelines described in Section 322.1 of Chapter 5 of the *CEQR Technical Manual* and listed in bold text below.

Step 1: Determine if the proposed project would add new population with higher average incomes compared with the average incomes of the existing populations and any new population expected to reside in the study area without the project.

Household income characteristics for the study area population are described using the average (or mean) and median household incomes. The median household income represents the mid-point of all household incomes in a study area, and the mean household income is calculated by dividing aggregate income by the total number of households in a study area. The presence of higher income households raises the area's mean income, sometimes substantially higher than the median (or mid-point) of household incomes in a study area.

TABLE D-1: Household Income Characteristics[1,2]

	Median Household Income			Mean Household Income		
	2006-2010 ACS	2014-2018 ACS	Change	2006-2010 ACS	2014-2018 ACS	Percent Change
Study Area	***$52,004***	***$75,511***	***+ $23,507***	***$68,288***	***$99,433***	***+ 45.6%***
Brooklyn	$50,452	$56,446	+ $5,994	$72,315	$85,910	+ 18.8%
New York City	$58,109	$60,762	+ $2,653	$89,899	$97,647	+ 8.6%

Sources: Bureau of the Census, 2014-2018 Five-Year ACS Estimates, as reported on DCP's Population FactFinder (https://popfactfinder.planning.nyc.gov/profile/44098/demographic in November 2020)

Notes:

[1] The statistical reliability of the data included in this table has been vetted using DCP's NYC Population FactFinder. For the study area, only the directionality of change over time was statistically reliable and therefore reported for both mean household income. The median household income change reports direction.

[2] All dollar figures are in 2018 dollars.

As shown in **Table D-1**, current household incomes in the study area are higher than the borough of Brooklyn and comparable to New York City as a whole. According to 2014-2018 Five-Year ACS estimates, the mean annual household income of residents living in the socioeconomic study area is approximately $99,433, an approximately 45.6 percent increase as compared to 2006-2010, when the mean household income in the study area was an estimated $68,288.

As shown in **Table D-1**, the mean annual household income of the socioeconomic study area exceeds the mean annual household income in Brooklyn ($85,910) and in New York City ($97,647). Trends in the household income indicate that the mean household income is increasing. As shown in **Table D-1**, the average household income in Brooklyn has increased by close to nineteen percent since 2006-2010, and the average annual household income in New York City increased by almost nine percent during the same time.

In terms of median household income, study area households have a higher median household income compared to Brooklyn and New York City (see **Table D-1**). According to 2014-2018 Five Year ACS data, the median household income for the study area is an estimated $75,511 as compared to $56,446 for Brooklyn and $60,762 for New York City households, respectively. Consistent with trends in mean household income, median household income levels have also increased in the study area, borough and greater city in the past decade. As shown in **Table D-1**, between the 2006-2010 and the 2014-2018 Five Year ACS, the median household income in New York City increased by almost five percent.

Mean household income levels in all three geographic areas are higher than median household income levels indicating the presence of higher income households in the respective areas. **Table D-2** illustrates the distribution of household incomes within the study area, Brooklyn and in New York City. As shown in **Table D-2**, approximately 37 percent of households in the study area earned $100,000 or more, while approximately 35.6 percent of households earned less than $50,000. In comparison, approximately 28.5 percent of households in the borough of Brooklyn earned more than $100,000, while approximately 45.9 percent of households in the borough earned less than $50,000.

TABLE D-2: Household Income Distribution (2014-2018)[1]

	Total Households	Households Earning Less than $25,000		Households Earning $25,000 to $49,999		Households Earning $50,000 to $99,999		Households Earning $100,000 to $199,999		Households Earning $200,000 or more	
		#	%	#	%	#	%	#	%	#	%
Study Area	***23,316***	***4,443***	***19.1%***	***3,864***	***16.6%***	***6,371***	***27.3%***	***6,328***	***27.1%***	***2,310***	***9.9%***
Brooklyn	950,856	249,320	26.2%	187,532	19.7%	242,693	25.2%	192,094	20.2%	79,217	8.3%
New York City	3,154,103	772,160	24.5%	590,856	18.7%	807,932	25.6%	662,176	21.0%	320,979	10.2%

Source: Bureau of the Census, 2014-2018 Five-Year ACS Estimates, as reported on DCP's Population FactFinder (https://popfactfinder.planning.nyc.gov/profile/44098/demographic in November 2020)
Notes: [1] The statistical reliability of the data included in this table has been vetted using DCP's NYC Population FactFinder.

Although ACS estimates do not provide specific rent information according to regulation status or unit size, these data can provide a general picture about the rate at which housing costs are changing in a neighborhood. According to 2014-2018 Five-Year ACS estimates, the median gross rent in the study area was an estimated $1,619 per month in 2014-2018, as compared to $1,232 per month in 2006-2010 (see **Table D-3**). The current median gross rent in the study area is higher than the larger borough ($1,374) and the City as whole ($1,396). As shown in **Table D-3**, in terms of existing residential rents and trends, residential rents have increased in the study area, Brooklyn, and the City since 2006-2010.

TABLE D-3: Median Gross Rent[1,2]

	2006-2010	2014-2018	Percent Change
Study Area	***$1,232***	***$1,619***	***+ 31.41%***
Brooklyn	$1,178	$1,374	+ 16.6%
New York City	$1,237	$1,396	+ 12.9%

Source: Bureau of the Census, 2006-2010 and 2014-2018 Five-Year ACS Estimates, as reported on DCP's Population Factfinder (https://popfactfinder.planning.nyc.gov/profile/44098/demographic in November 2020)
Notes:
[1] The statistical reliability of the data included in this table has been vetted using DCP's NYC Population FactFinder.
[2] All dollar figures are in 2018 dollars.

The gap between how much households are earning and how much households are paying for housing is growing in the study area, as household income levels are largely rising at faster rates as compared to rent increases (see **Tables D-1** and **D-3**). This is somewhat comparable to Brooklyn, where incomes are also increasing a bit faster than rents. However, as shown in **Tables D-1** and **D-3**, incomes in New York City as a whole are not increasing as quickly as median gross rents.

U.S. Census and ACS data do not provide specific rent information according to regulation status or unit size, but instead paint a general picture about the rate at which housing costs are changing in a neighborhood. Average neighborhood rents are therefore used (below) to provide a fuller understanding of where the market is today.

As shown in **Figure D-1b**, the socioeconomic study area encompasses portions of several Brooklyn neighborhoods: Prospect Heights to the southwest, Crown Heights to the southeast, Bedford-Stuyvesant to the northeast, and Clinton Hill to the northwest. **Table D-4** summarizes the current average rents for apartments in the neighborhoods that comprise the study area. The average rents presented in **Table D-4** are generally higher than the data presented in the 2014-2018 Five Year ACS estimates in **Table D-3**.

Table D-4: Average Rents in the Study Area in October 2020

	Studio	One-Bedroom	Two-Bedroom
Bedford-Stuyvesant	$1,791	$2,144	$2,400
Clinton Hill	$2,050	$2,578	$3,147
Crown Heights	$1,771	$2,042	$2,420
Prospect Heights[1]	N/A	N/A	N/A
Study Area Average	$1,871	$2,255	$2,656

Source: M.N.S. Real Impact Real Estate, *Brooklyn Rental Market Report*, October 2020.
Note: [1] Data for Prospect Heights was not available.

As detailed above, the Applicant is seeking several discretionary actions to facilitate the development of a new, 17-story, mixed-use building on the Proposed Development Site. The Proposed Project would result in the development of more residential units than the Alternate Commercial Scenario; therefore, for conservative analysis purposes, the RWCDS for the Proposed Project is analyzed below. In the future with the Proposed Actions, the Proposed Rezoning Area would be mapped as a MIH Area, which would set mandatory affordable housing requirements pursuant to the MIH program and require a share of new housing be permanently affordable. Under the Proposed Actions, the production of affordable housing would be a condition of any residential development in the Proposed Rezoning Area, and is expected to

help preserve affordable housing in the area. There would be no expiration to the affordability requirement of housing units created through MIH, making these units a permanent reservoir of affordable housing in the area, a key policy to meet the city's *Housing New York* goal of fostering diverse livable communities.

As detailed further in **Attachment A, "Project Description,"** in the future with the Proposed Project, the Applicant would develop approximately 477,098 gsf of residential and commercial office and retail uses on the Proposed Development Site, including approximately 422 DUs, approximately 33,032 gsf of commercial retail space, approximately 27,088 gsf of commercial office space, and approximately 8,995 gsf of community facility (child care) space, as well as approximately 152 accessory parking spaces. Of the proposed residential units, 30 percent, or up to 126 units, would be designated as permanently affordable pursuant to either Option 2 or Option 4 (the "Workforce" option) of the City's MIH program. Pursuant to Option 2 of the City's MIH program, 30 percent or up to 126 units would be affordable at or below 80 percent of the area median income (AMI). By comparison, pursuant to Option 4 (the "Workforce" option), 30 percent or up to 126 units would be affordable to households making an average of 115 percent of AMI (of which up to 21 units would be affordable at or below 70 percent of AMI). For conservative analysis purposes, as 115 percent AMI is the average income of affordable units in this option, Option 4 is analyzed below with the assumption that all 126 units would be at 115 percent of AMI.

The levels of affordability would be based on percentages of AMI defined by the U.S. Department of Housing and Urban Development (HUD) for the region (New York, NY HUD Metro Fair Market Area [FMA]); the 2020 income limits by family size for the New York City region are presented in **Table D-5**. These levels will change over time and their future levels cannot conclusively be established at this time.

TABLE D-5: 2020 New York City Area AMI

Family Size	30% of AMI	50% of AMI	70% of AMI	80% of AMI	100% of AMI	115% of AMI	130% of AMI
1 Person	$23,880	$39,800	$55,720	$63,680	$79,600	$91,540	$103,480
2 Persons	$27,300	$45,500	$63,700	$72,800	$91,000	$104,650	$118,300
3 Persons	$30,720	$51,200	$71,680	$81,920	$102,400	$117,760	$133,120
4 Persons	$34,110	$56,850	$79.590	$90,960	$113,700	$130,755	$147,810

Source: NYCHPD, https://www1.nyc.gov/site/hpd/services-and-information/area-median-income.page

To estimate the average household income of residents introduced by the Proposed Actions, the incomes of future residents in both the market-rate and affordable units on the Proposed Development Site have been projected. Housing is considered affordable if it costs about one-third or less of total annual income. HUD defines families who pay more than 30 percent of their income for housing as rent-burdened.

DCP's Population FactFinder 2014-2018 Five-Year ACS data identifies the average household size of renter-occupied units in the socioeconomic study area as 2.12 persons per household. As shown in **Table D-5**, according to HUD, two-person and three-person families in the New York City region would be eligible for the 126 units at 115 percent of AMI if they were earning between $104,650 and $117,760 annually, respectively (see **Table D-5**).

For the 296 market-rate units of the Proposed Project, research into current market-rate asking rents in the study area (summarized in **Table D-6**) and the assumption that incoming market-rate renters would be spending approximately 30 percent of their household income on rent have been used to estimate the expected income level of future market-rate tenants on the Proposed Development Site.

TABLE D-6: Estimated Income for the Proposed Market-Rate Units

Unit Type	Average Rent	Estimated Average Monthly Income[1]	Estimated Average Yearly Income
Studio	$1,871	$6,236	$74,832
One-Bedroom	$2,255	$7,516	$90,192
Two-Bedroom	$2,656	$8,853	$106,236
Average	$2,261	$7,535	$90,420

Note: [1] Average household incomes were imputed using HUD's 30 percent guideline and were rounded to nearest hundredth.
Source: M.N.S. Real Impact Real Estate, *Brooklyn Rental Market Report*, October 2020

Assuming that the incoming market-rate renters would be spending approximately 30 percent of their income on rent, a person renting a market-rate unit in the Proposed Project is expected to have an income between approximately $74,832 and $106,236, depending on the unit type (see **Table D-6**). Assuming that the mix of unit types would be similar to the current distribution within the study area, a household renting a market-rate unit that would be available as a result of the Proposed Actions would have an average income of approximately $90,420.

As detailed above, the socioeconomic study area's mean annual household income is approximately $99,433 (see **Table D-1**). The Proposed Actions and associated RWCDS would result in an increment of 442 DUs, of which it is assumed that up to 126 would be affordable to families making 115 percent of AMI or below; and the remaining 296 units would be market-rate. As shown in **Table D-7**, the average annual income of the units at 115 percent of AMI would be approximately $111,205, above the study area's mean income. The average annual income of the remaining 296 market-rate units would be approximately $90,420, slightly below the study area's mean income. Overall, the proposed 422 units on the Proposed Development Site would have an average annual income of approximately $96,626, slightly below the study area's mean income.

TABLE D-7: Estimated Annual Income for the Proposed Project and Study Area

Unit Type	Average Annual Income
Affordable at or below 115 percent AMI (approx. 126 DUs)	$111,205
Market-Rate (approx. 296 DUs)	$90,420
Proposed Project Average	$96,626
Study Area Average	$99,433

Note: Refer to **Tables D-1, D-5,** and **D-6**.

Based on the *Step 1 Analysis*, the Proposed Actions' generated population would be expected to have a mix of incomes that are similar to the existing and future study area populations. The Proposed Actions are not expected to introduce a new concentration of higher-income housing that could substantially alter rental market conditions in the study area. As it is possible that some of the proposed affordable residential units would be targeted to income levels above those of the existing population in the study area (i.e., targeted to households at or below 115 percent of AMI, or the equivalent of a median household income of $117,760 for a family of three), some of the project-generated residents could have household incomes higher than that of the existing population in the study area. Although the Proposed

Development would expand housing options available in the study area, given the potential difference between the study area's existing average household income and that of the project-generated population, Step 2 of the preliminary assessment is warranted.

Step 2: Determine if the proposed project's increase in population is large enough relative to the size of the population expected to reside in the study area without the project to affect real estate market conditions in the study area.

Based on DCP's Housing Database Files, which primarily utilize the New York City Department of Buildings (DOB) Open Data Files, the socioeconomic study area's population is approximately 56,730 people (refer to **Table D-8**).

TABLE D-8: Existing Study Area Population

Census Tract	Estimate
201	3,913
203	2,099
205	2,992
217	4,196
221	4,079
227	5,114
229	3,871
231	3,548
245	4,049
247	2,633
249	3,895
305	7.374
315	5,342
317.01	3,625
Total Population	**56,730**

Source: DCP's Housing Database Files.

As discussed in detail in Attachment C, "Land Use, Zoning, & Public Policy," and Attachment F, "Open Space," multiple development projects are anticipated to be added to the ½-mile study area in the absence of the Proposed Action. Based on information about these planned projects, as well as all active, permitted project permits in the DOB Open Data Files, a total of approximately 2,060 residents are expected to be introduced within the study area by the 2024 build year. **Table D-9** shows the total projects

in the future without the Proposed Action by adding the population from the No-Action projects to the existing study area population.

TABLE D-9: Projected Incremental Population by 2024 in the Future without the Proposed Actions

	Residential Population	No-Action Development Projected Population Increase in the Future Without the Proposed Actions	2024 Population Projections in Future Without the Proposed Actions
½-Mile Study Area	56,730	2,060	58,790

Source: DCP's Housing Database Files, utilizing DOB Open Data Files.

The Proposed Development would introduce incremental 422 DUs to the site by 2024. Assuming an average household size of 2.59 persons per DU, as well as 100 percent occupancy rates, these incremental DUs would add an estimated 1,093 residents. **Table D-10** shows this new population and its size relative to the population in the future without the Proposed Actions.

TABLE D-10:
Projected ½-Mile Study Area Incremental Population by 2024 in the Future with the Proposed Actions

2024 No-Action Population Projection	Number of Incremental DUs	Projected Population Increase from the Proposed Actions	2024 With-Action Population Projections	Percent Change from 2024 No-Action Condition
58,790	422	1,093	59,883	1.86%

Notes: The estimated number of residents assumes 100 percent occupancy and 2.59 persons per DU for residential units (based on 2010 average household size for Brooklyn CD 3.

As shown in **Table D-10**, the residential population of the ½-mile study area would increase by less than five percent. Therefore, in accordance with the guidance of the *CEQR Technical Manual*, further analysis is not warranted as this change in population would not be expected to affect real estate market conditions. The Proposed Actions are not expected to result in significant adverse impacts due to indirect residential displacement.

Attachment E
Community Facilities

1045 Atlantic Avenue Rezoning EAS
Attachment E: Community Facilities

I. INTRODUCTION

This chapter examines the potential effects of the Proposed Actions on community facilities in the vicinity of the Project Area. The *City Environmental Quality Review* (CEQR) *Technical Manual* defines community facilities as public or publicly-funded facilities including schools, libraries, day care centers, healthcare facilities, and fire and police protection services.

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

As there are no community facility uses currently occupying the Project Area, no community facilities would be directly displaced by the Proposed Actions. Accordingly, as there would be no direct effects to existing community facilities resulting from the Proposed Actions, this analysis concentrates on the potential for indirect effects due to increased density. The analysis of community facilities has been conducted in accordance with the guidelines established in the *CEQR Technical Manual* and the latest data and guidance from agencies such as the New York City Department of Education (DOE), the New York City Administration for Children's Services (ACS), the New York City School Construction Authority (SCA), and the New York City Department of City Planning (DCP).

As described in **Attachment A, "Project Description,"** compared to No-Action conditions, the future with the Proposed Actions would result in an increment of 422 dwelling units (DUs), of which up to approximately 126 units would be reserved as permanently affordable at or below 80 of area median income (AMI) pursuant to the City's Mandatory Inclusionary Housing (MIH) program. As no affordable units would be developed absent the Proposed Actions (the No-Action condition) the increment of analysis for the parts of the community facilities analysis that specifically consider affordable dwelling units is 126 affordable dwelling units. As such, an assessment of publicly funded child care centers is warranted. For analyses which do not differentiate between affordable and market-rate units the increment is 422 dwelling units.

As stated in **Attachment B, "Supplemental Screening,"** the Proposed Actions would not result in the introduction of a sizeable new neighborhood, would not result in a more than five percent increase in the ratio of residential units to libraries in Brooklyn (i.e., would result in the development of fewer than 734 DUs), and would not result in the generation of more than 50 elementary and intermediate school students or 150 high school students. As such, analyses of fire and police protection, outpatient health care facilities, libraries, and public schools are not warranted, and significant adverse impacts are not anticipated in these technical areas.

II. PRINCIPAL CONCLUSIONS

Pursuant to *CEQR Technical Manual* guidance, a detailed analysis of potential indirect impacts on publicly funded child care centers was conducted. Based on the *CEQR Technical Manual* screening methodology and as described in Attachment B, "Supplemental Screening," detailed analyses of public schools, libraries, outpatient health care facilities, and police and fire protection services are not warranted. As described in the following analysis and summarized below, the Proposed Actions would not result in significant adverse impacts on community facilities and services.

Publicly Funded Child Care Centers

As described above, the Proposed Actions would introduce an increment of up to 126 affordable DUs. According to the *CEQR Technical Manual*, a significant adverse impact may occur if a proposed action would result in: (1) a utilization rate of the group child care/Head Start center in the study area that is greater than 100 percent in the With-Action scenario; and (2) an increase in five percent of more in the collective utilization rate of the child care/Head Start centers in the study area between the No-Action and With-Action Scenarios.

Under With-Action conditions, the Proposed Actions would introduce up to 22 children under the age of six who are eligible for publicly-funded child care services. The addition of these 22 children would raise the enrollment rate within the 1.5-mile study area by 1.1 percent as compared to No-Action conditions, which is below the 5 percent impact threshold. Additionally, the utilization rate of child care facilities within the 1.5-mile study area would not exceed 100 percent, and would continue to have approximately 190 available slots. Therefore, the Proposed Actions would not result in an adverse significant impact for publicly funded child care services.

III. PRELIMINARY SCREENING

The purpose of the preliminary screening is to determine whether a community facilities assessment is required. As recommended by the *CEQR Technical Manual*, a community facilities assessment is warranted if a project has the potential to result in either direct or indirect effects on community facilities. If 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 physical change may have on that service delivery. New population added to an area as a result of an action would use existing services, which may result in 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 schools, libraries, or child care centers.

Direct Effects

As stated in the *CEQR Technical Manual*, the community facilities (or resources) that may be addressed in environmental assessments include public schools, libraries, child care centers, health care facilities, fire protection, police protection, and/or "other community facilities." The *CEQR Technical Manual* defines other community facilities as homeless shelters, jails, community centers, colleges and universities, or religious and cultural facilities. As stated in the *CEQR Technical Manual*, these "other community facilities" are analyzed only if the facility itself is the subject of the proposed project or would be physically displaced or altered by the project.

As the Proposed Development Site (Block 2020, Lots 68, 70, 73, 74, and 77) does not currently contain any existing community facilities or services, and as there would be no community facilities or services located on the Development Site in the future 2024 No-Action condition, the Proposed Actions are not expected to result in the direct displacement of any community facilities or services and an analysis of direct effects is not warranted.

Indirect Effects

The *CEQR Technical Manual* includes thresholds that provide guidance in making an initial determination of whether a detailed analysis is necessary to determine potential impacts. **Table E-1** lists those *CEQR Technical Manual* thresholds for each community facility analysis area. If a proposed project exceeds the threshold for a specific facility, a more detailed analysis is warranted. A preliminary screening analysis was conducted to determine if the Proposed Actions would exceed established *CEQR Technical Manual* thresholds warranting further analysis. Based on that screening, the Proposed Actions would trigger a detailed analysis for child care services.

TABLE E-1
Preliminary Screening Analysis Criteria

Community Facility	Threshold for Detailed Analysis
Public Schools	More than 50 or more elementary/intermediate school students or 150 or more high school students.
Libraries	More than five percent increase in ratio of residential units to libraries in the borough.
Health Care Facilities (Outpatient)	Introduction of a sizeable new neighborhood where none existed before.
Child Care Centers (Publicly Funded)	More than 20 eligible children under age six based on the number of low- to moderate-income units.
Fire Protection	Introduction of a sizeable new neighborhood where none existed before.
Police Protection	Introduction of a sizeable ne neighborhood where none existed before.

Source: 2014 *CEQR Technical Manual.*

Public Schools

The *CEQR Technical Manual* recommends conducting a detailed analysis of public schools if a proposed action would generate 50 or more elementary/intermediate school students and/or 150 or more high school students. The Proposed Actions would facilitate the incremental development of approximately 422 DUs, and, based on the pupil generation ratios provided by the New York City Department of City Planning (NYCDCP) for Brooklyn Community School District (CSD) 13 (i.e., 0.05, 0.01, and 0.05 per dwelling unit for elementary, intermediate, and high school students, respectively), would result in the increment of 21 elementary school students, 4 intermediate school students, and 21 high school students. As such, the Proposed Actions would not exceed the analysis thresholds for elementary/intermediate or high schools (50 and 150 students, respectively), and thus would not warrant a detailed public schools analysis in accordance with CEQR guidance. Therefore, no significant adverse impact on public schools are anticipated as a result of the Proposed Actions.

Libraries

Potential impacts on libraries can result from an increased user population. According to the *CEQR Technical Manual*, a proposed action that generates a five percent increase in the average number of residential units served per branch (equivalent to a 734-unit increase in Brooklyn) may cause significant adverse impacts on library services and require further analysis. The Proposed Actions are expected to

add approximately 422 incremental DUs over the No-Action condition. Therefore, the Proposed Actions would not exceed the threshold, and a detailed analysis of libraries is not warranted.

Child Care Services

According to the *CEQR Technical Manual*, if a proposed action would add 20 or more children under age six eligible for child care, a detailed analysis of its impact on publicly funded child care facilities is warranted. This threshold is based on the number of low-income and low- to moderate-income units generated by a proposed action (110 units in Brooklyn). As described previously, the Proposed Actions are expected to add a net increment of approximately 422 total DUs, and for the child care analysis it is conservatively assumed would result in an increase of up to 126 affordable DUs (pursuant to Option 2 of the City's MIH program, where 30 percent of total units would be reserved as permanently affordable) as compared to the No-Action Condition [affordable DUs are defined as those units reserved for households earning at or below 80 percent of the area median income (AMI)]. As the Proposed Actions would yield up to approximately 24 children under the age of six eligible for publicly-funded child care, which is more than the 20 child threshold for detailed analysis, a detailed analysis of child care services is included below.[1]

Police, Fire, and Health Care Services

The *CEQR Technical Manual* recommends a detailed analysis of indirect impacts on police, fire, and health care services in cases where a proposed action would create a sizeable new neighborhood where none existed before. The Project Area is a developed area with an existing and well-established community that is served by existing police, fire, and health care services. Therefore, the Proposed Actions would not create a neighborhood where none existed before and a detailed analysis of indirect effects on these community facilities is not warranted. For informational purposes, a description of existing police, fire, and health care facilities serving the project site is provided below.

The Project Area is served by the New York City Police Department's (NYPD's) 79th Precinct, which encompasses approximately 1.6 square miles of the northern portion of Brooklyn containing Bedford-Stuyvesant. NYPD's 79th Precinct serves approximately 111,000 residents. The 79th Precinct House is located at 263 Tompkins Avenue, approximately one mile northeast of the Project Area. As stated in the *CEQR Technical Manual*, the NYPD independently reviews staffing levels against a precinct's population, area coverage, crime levels, and other local factors, and makes service and resource adjustments as necessary.

The Project Area is served by Battalion 57 of the Fire Department of New York's (FDNY's) Division 11. Division 11 covers the northern and eastern portions of Brooklyn encompassing approximately 17.9 square miles and serves approximately 700,000 residents. Fire Battalion 57 of Division 11 encompasses 2.8 square miles encompassing the Brooklyn neighborhoods of Bedford-Stuyvesant, Crown Heights, Prospect Heights, and Broadway Triangle; Fire Battalion 57 of Division 11 serves approximately 163,000 residents. The Project Area is also served by Engine Company 219/Ladder Company 109 (located at 494 Dean Street, less than 0.9 miles west of the Project Area). FDNY continually evaluates the need for changes in personnel, equipment, or locations of fire stations and makes any necessary adjustments.

[1] Based on the multipliers for estimating the number of children eligible for publicly funded child care and Head Start presented in Table 6-1b of the *CEQR Technical Manual*.

There are two types of ambulances in the City—911 providers and those providing inter-facility transport. Municipal FDNY and hospital-based ambulances are the sole providers of 911 services, and they operate that system under contract with Emergency Medical Services (EMS). The closest EMS stations to the Project Area are the Cumberland EMS Station (EMS Station 31) located at 39 Auburn Place and the Bedford-Stuyvesant EMS Station (EMS Station 57) located at 131 Throop Avenue, which are approximately 1.4 miles northwest and 1.5 miles northeast of the Project Area, respectively.

Under *CEQR Technical Manual* guidelines, health care facilities include public, proprietary, and nonprofit facilities that accept government funds (usually in the form of Medicare and Medicaid reimbursements) and that are available to any member of the community. Examples of these types of facilities include hospitals or public health clinics. The closest hospitals to the Project Area are the Interfaith Medical Center located at 1545 Atlantic Avenue (approximately one mile east of the Project Area) and the Brooklyn Hospital Center located at 121 DeKalb Avenue (approximately 1.2 miles northwest of the Project Area).

IV. INDIRECT EFFECTS ON PUBLICLY FUNDED CHILD CARE CENTERS

Methodology

This analysis assesses the potential effects of the Proposed Actions on publicly funded child care/Head Start centers around the Proposed Development Site and surrounding area. According to the guidelines presented in the *CEQR Technical Manual*, an analysis of publicly funded child care centers focuses on facilities for income-eligible children aged 12 and under. Families eligible for subsidized child care must meet financial and social eligibility criteria established by ACS. In general, children in families that have incomes at or below 200 percent of the federal poverty level, depending on family size, are financially eligible for subsidized child care, although in some cases eligibility can go up to 275 percent. The family must also have an approved "reason for care," such as involvement in a child welfare case or participation in a "welfare-to-work" program. Head Start is a federally funded child care program that provides children with half-day and full-day early childhood education; program eligibility is limited to families with incomes at 130 percent or less than the federal poverty level.

The City's affordable housing market is pegged to the Area Median Income (AMI), rather than the federal poverty level. Since family incomes at or below 200 percent of the federal poverty level fall under 80 percent of AMI, for the purposes of CEQR analysis, the number of housing units expected to be subsidized and targeted for incomes at or below 80 percent AMI is used as a proxy for eligibility. This provides a conservative assessment of demand, since eligibility for subsidized child care is not defined strictly by income, but also takes into account family size and other reasons for care (e.g., low-income parent(s) in school; low-income parent(s) training for work; or low-income parent(s) who is/are ill or disabled).

Most children are served through enrollment in contracted Early Learn programs or by vouchers for private and non-profit organizations that operate child care programs throughout the City. Registered or licensed providers can offer family-based child care in their homes. Informal child care can be provided by a relative or neighbor for no more than two children. Children aged 6 weeks through 13 years old can be cared for either in group child care centers licensed by the New York City Department of Health and Mental Hygiene (DOHMH) (or in homes of registered child care providers) or by the ACS which issues vouchers to eligible families, which may be used by parents to pay for child care from any legal child care provider in the City.

Consistent with the methodologies of the *CEQR Technical Manual*, this analysis of child care centers focuses on services for children under age 6, as older eligible children are expected to be in school for most of the day. Publicly funded child care centers, under the auspices of the Early Care and Education (ECE) within ACS, provide care for the children of income-eligible households. Space for one child in such child care centers is termed a "slot." These slots may be in group child care or Head Start centers, or they may be in the form of family-based child care in which up to 16 children are placed under the care of a licensed provider and an assistant in a home setting.

As there are no locational requirements for enrollment in child care centers, and some parents or guardians choose a child care center close to their place of employment rather than their residence, the service area of these facilities can be quite large and are not subject to strict delineation to identify a study area. However, for the purposes of this child care center analysis, publicly funded group child care centers within approximately 1.5 miles of the Project Area were identified, reflecting the fact that the centers closest to a given development site are more likely to be subject to increased demand. DOE provided the most recent information regarding publicly funded group child care facilities within the study area, including their current capacity, enrollment, and number of available slots. Family child care and voucher slots were not included in the analysis, in accordance with the *CEQR Technical Manual.*

The child care center enrollment in the future without the Proposed Actions was estimated by multiplying the number of new low-income and low- and moderate-income housing units expected in the 1.5-mile child care study area by the appropriate multiplier from Table 6-1b of the *CEQR Technical Manual*. In Brooklyn, the multiplier for estimating the number of children eligible for publicly funded child care is 0.178. The estimate of new publicly funded child care-eligible children was added to the existing child care enrollment to estimate enrollment in the future without the Proposed Actions (No-Action Condition). The action-generated publicly funded child-care eligible population was then added to the No-Action child care enrollment to determine future With-Action enrollment. According to the *CEQR Technical Manual*, a significant adverse impact on publicly funded child care may result if there would be a demand for slots greater than the remaining capacity of child care facilities (i.e., more than 100 percent utilization), and if the proposed actions would generate demand constituting an increase of 5 percentage points or more of the collective capacity of the child care facilities serving the study area.

Existing Conditions

As shown in **Table E-2** above and **Figure E-1**, there are 25 publicly funded child care centers within the 1.5-mile study area. Together these 25 child care centers have a capacity of 2,087 slots, of which 255 are open (87.8 percent utilization). **Table E-2** shows the current capacity and enrollment for each of these facilities. As noted above, while family-based child care facilities and informal care arrangements provide additional slots in the study area, these slots are not included in the quantitative analysis.

Table E-2
Publicly Funded Child Care Centers Serving the 1.5-mile Study Area

Map No.[1]	Name	Address	Capacity	Enrollment	Available Slots	Utilization
1	Strong Place for Hope Day Care – Atlantic Avenue	460 Atlantic Ave	100	90	10	90.0%
2	B'Above Worldwide Institute/Krula	799 Kent Ave	112	104	8	92.9%
3	Billy Martin Child Development Center	333 Classon Ave	49	43	6	87.8%
4	Brooklyn Kindergarten Society - Tompkins Children's Center	730 Park Ave	82	80	2	97.6%
5	Community Parents Head Start	90 Chauncey St	55	55	0	100.0%
6	Cornerstone Day Care Center	289 Lewis Ave	37	17	20	45.9%
7	Friends of Crown Heights 20	34-52 Kosciusko St	175	144	31	82.3%
8	Lutheran Social Services of New York – Marcus Garvey	265 Marcus Garvey Blvd	69	64	5	92.8%
9	Our Children the Leaders of Tomorrow 1	756 Myrtle Ave	50	47	3	94.0%
10	Sheltering Arms Day Care Services – March Children's Center	494 Marcy Ave	49	43	6	87.8%
11	The Salvation Army – Bedford Day Care Center	110 Kosciusko St	32	19	13	59.4%
12	Alonzo A. Daughtry Memorial Day Care Center	565 Baltic St	34	31	3	91.2%
13	Strong Place for Hope Day Care	333 Second St	70	66	4	94.3%
14	University Settlement – Helen Owen Carey Child Development Center	71 Lincoln Pl	85	78	7	91.8%
15	Brooklyn Kindergarten Society – Edward L. Cleveland Day Care Center	1640 Pacific St	70	58	12	82.9%
16	Friends of Crown Heights – 10	1491 Bedford Ave	77	65	12	84.4%
17	Friends of Crown Heights – 2	671-675 Prospect Pl	142	129	13	90.8%
18	Friends of Crown Heights – 29	1435 Prospect Pl	95	79	16	83.2%
19	Friends of Crown Heights – 9	813 Sterling Pl	165	144	21	87.3%
20	Friends of Crown Heights – Park Place Day Care Center	963 Park Pl	80	72	8	90.0%
21	Prospect Heights Academy – Sunny Skies	720 Washington Ave	30	17	13	56.7%
22	All My Children Daycare – 10	420 Lefferts Ave	153	130	23	85.0%
23	All My Children Daycare – 11	317 Rogers Ave	80	79	1	98.8%
24	Be Above 37 – United Lubavitcher Yeshivoth	570 Crown St	119	107	12	89.9%
25	Friends of Crown Heights – 11	995 Carroll St	77	71	6	92.2%
		Total:	**2,087**	**1,832**	**255**	**87.8%**

Notes:
[1]Refer to Figure E-1
Source: DOE, June 2018 (via DCP)



1045 Atlantic Avenue Rezoning EAS

Figure E-1
Study Area Child Care Facilities

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

Although no affordable residential development is anticipated on the Proposed Development Site in the No-Action condition, there are several residential development projects planned or under construction in the surrounding area expected to be completed by 2024. These planned or proposed development projects–-i.e., No-Build projects–-in the child care study area (1.5 miles from the Project Area) will introduce approximately 237 new affordable DUs by the 2024 build year.[2]

Based on the *CEQR Technical Manual* generation rates for developments in Brooklyn, these approximately 237 new affordable DUs are expected to generate 43 additional publicly funded child care-eligible children under the age of six in the study area, increasing the total child care enrollment to 1,875. No changes to child care center capacity are anticipated in the 2024 No-Action condition. As presented in **Table E-3**, the future No-Action child care utilization rate is expected to increase by 2.1 percentage points to 89.8 percent and the number of available slots would decrease from 255 under existing conditions to 218.

Table E-3
Comparison of Budget Capacity, Enrollment, Available Slots, and Utilization – 2024 No-Action Condition

	Budget Capacity	Enrollment	Available Slots	Utilization
Existing Conditions	2,087	1,832	255	87.8%
No-Action Increment	0	+43	-43	+2.1%
2024 No-Action Condition	2,087	1,875	212	89.8%

Sources: *CEQR Technical Manual*, Table 6-1b

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

As discussed previously, a detailed analysis of child care centers is necessary when a proposed action would produce a substantial amount of low- to moderate-income family housing units that may therefore generate a sufficient number of children eligible to affect the availability of slots at area publicly funded child care centers. Under With-Action conditions, 126 affordable housing units for families with incomes at or below 80 percent AMI would be constructed on the Proposed Development Site. Using Table 6-1b of the *CEQR Technical Manual*, these additional 126 affordable housing units would generate approximately 22 children under the age of six eligible for publicly funded child care services (refer to **Table E-4**).

Table E-4
Comparison of Budget Capacity, Enrollment, Available Slots, and Utilization – 2024 With-Action Condition

	Budget Capacity	Enrollment	Available Slots	Utilization
2023 No-Action Condition	2,087	1,875	218	89.8%
With-Action Increment	0	+22	-22	+1.1%
2023 With-Action Condition	2,087	1,897	190	90.9%

Sources: *CEQR Technical Manual*, Table 6-1b

[2] Some of the planned or proposed developments are known to contain affordable DUs; in such cases, the specific number of anticipated affordable DUs has been accounted for. For other proposed developments where information on affordable DUs is not available at this time, employing a conservative analysis, this analysis assumes that 20 percent of DUs in developments of 20 or more DUs would be occupied by low- or low/moderate-income households meeting the financial and social criteria for publicly funded child care.

Based on these assumptions, the collective utilization rate of study area child care centers would increase to 90.9 percent in the 2024 With-Action condition, with an approximate 1.1 percent increase over the No-Action utilization rate (refer to **Table E-4**). Additionally, the number of available slots would decrease from 218 under No-Action conditions to 190.

According to the *CEQR Technical Manual*, a significant adverse child care center impact could result if a proposed action results in: (1) a collective utilization rate greater than 100 percent in the With-Action condition; and (2) the demand constitutes an increase of five percent or more in the collective capacity of child care centers serving the study area over the No-Action condition. As shown in **Table E-4**, in the 2024 With-Action Condition, the additional 22 children eligible for publicly funded child care services as a result of the Proposed Actions would increase the study area utilization rate to 90.9 percent, a 1.1 percent increase from No-Action conditions. As public child care facilities within the study area are expected to operate under capacity (90.9 percent) in the 2024 With-Action condition with approximately 190 available slots, and as the increase in demand (1.1 percentage points) would not exceed the five percent CEQR threshold, the Proposed Actions would not result in significant adverse impacts to child care.

Attachment F
Open Space

A. INTRODUCTION

This attachment assesses the potential impacts of the Proposed Actions on open space resources. Open space is defined in the 2020 *City Environmental Quality Review* (CEQR) *Technical Manual* as publicly accessible, publicly or privately owned land that is available for leisure, play, or sport or serves to protect or enhance the natural environment. According to the guidance established in the *CEQR Technical Manual*, an open space analysis should be conducted if an action would result in a direct effect, such as the physical loss or alteration of public open space, or an indirect effect, such as when a substantial new population could overburden an area's available open spaces. Direct effects include a proposed action's effects on open spaces due to increased noise, air pollutant emissions, odor, or shadows. Indirect effects consist of the increase in the residential, worker, and other non-residential populations resulting from the Proposed Actions, which have the potential to diminish the capacity of open space in the area to serve the future population.

As discussed in **Attachment A, "Project Description,"** under the reasonable worst-case development scenario (RWCDS), compared to No-Action conditions, the Proposed Project would introduce an increment of 357,436 gsf of residential uses, including approximately 422 DUs, 27,088 gsf of commercial office uses, 33,032 gsf of local retail uses, and 8,995 gsf of community facility uses, as well as a net reduction in light industrial uses (-30,101 gsf). The Proposed Project is expected to generate approximately 1,093 incremental residents and 235 incremental employees, as compared to the 2024 No-Action condition. In addition, according the RWCDS, there is also an Alternate Commercial Scenario that could potentially be constructed as a result of the Proposed Actions. As presented in **Attachment A**, the incremental change that could result from the Alternate Commercial Scenario is the incremental development of 237,072 gsf of residential uses, including approximately 337 DUs, 112,578 gsf of commercial office uses, and 31,673 gsf of local retail uses, as well as a net reduction in light industrial uses (-30,101 gsf). The Alternate Commercial Scenario is expected to generate approximately 705 incremental residents and 537 incremental employees, as compared to the 2024 No-Action condition.

As such, for conservative analysis purposes, the open space assessment assumes the Proposed Actions would generate approximately 537 workers and 1,093 residents.

B. PRINCIPAL CONCLUSIONS

Based on the methodology set forth in the *CEQR Technical Manual*, the analysis finds that the Proposed Actions would not result in a significant adverse impact on the City's open space resources.

According to the *CEQR Technical Manual*, a proposed action may result in a significant adverse impact on open space resources if (a) there would be direct displacement/alteration of existing public open space within the study area that would have a significant adverse effect on existing users; or (b) it would reduce the open space ratio and consequently result in the overburdening of existing facilities or further exacerbating a deficiency in open space. A five percent or greater decrease in the open space ratio is considered to be "substantial," and a decrease of less than one percent is generally considered to be

insignificant unless open space resources are extremely limited. The open space study area analyzed in this attachment is located in an area that is split and considered both underserved and neither underserved nor well-served by open space as defined in the 2020 *CEQR Technical Manual Appendix: Open Space Maps*.

As the Proposed Actions and resultant RWCDS are expected to introduce up to approximately 1,093 residents (under the Proposed Project) and up to approximately 537 workers (under the Alternate Commercial Scenario), a detailed open space analysis for a non-residential (0.25-mile) and residential (0.50-mile) study area was conducted, pursuant to the *CEQR Technical Manual*. The detailed analysis determined that the Proposed Actions would not result in any significant adverse impacts.

In the 2024 With-Action condition, the non-residential study area passive open space ratio would decrease by 12.63 percent but it would continue to meet the *CEQR Technical Manual* guideline goals for passive open space (0.15 acres per 1,000 non-residents). The residential study area's total, passive, and active open space ratios would each decrease by approximately 1.81 percent, compared to No-Action conditions. While the total, passive, and active open space ratios in the residential study area would remain below the *CEQR Technical Manual* guideline goals, as under existing and No-Action conditions, the reduction in the open space ratio would not exceed the five percent impact threshold identified by CEQR.

The dearth of open space resources within the study area would be offset by several factors, including the good condition of the existing open space resources and private space to be included in the Proposed Project. The Applicant intends to include a 10,665 gsf private indoor amenity gym and 31,503 gsf of private rooftop deck space. The Proposed Project would also include 62 DUs with outdoor balconies (a total of 3,782 gsf of private outdoor space). In addition, there are a number of open space resources that fall just outside the study area boundary, which are not included in the quantitative analysis but could be used by people willing to travel slightly farther. These include the 526-acre Prospect Park, the 7.79-acre Mt. Prospect Park, the 52-acre Brooklyn Botanic Garden, the 14.26-acre Grand Army Plaza, and the 1.36-acre Dr. Ronald McNair Park. Although these open spaces are located just south of the residential open space study area boundary, it is likely that residents at least occasionally take advantage of the recreation resources that these parks have to offer.

Therefore, while the Proposed Actions would decrease the total and passive open space ratios in both the residential and non-residential study areas at varying degrees, given the existing good condition of most of the study area's open spaces, the availability of additional open spaces within and just outside the study area that were conservatively not included in the quantitative analysis, open space amenities provided in the Proposed Project, and that neither open space study area simultaneously experienced both a reduction in the open space ratio in exceedance of five percent or an open space ratio that fell below the *CEQR Technical Manual* optimal planning goals, the Proposed Actions would not result in a significant adverse impact on open space.

C. METHODOLOGY

The analysis of open space resources has been conducted in accordance with the guidance established in the *CEQR Technical Manual*. Using CEQR methodology, the adequacy of open space in the study area is assessed quantitatively using a ratio of usable open space acreage to the study area population, referred to as the open space ratio. This quantitative measure is then used to assess the changes in the adequacy of open space resources by the analysis year of 2024, both without and with the Proposed Actions. In

addition, qualitative factors such as utilization and condition are considered in making an assessment of the Proposed Action's effects on open space resources.

Open Space Study Areas

The first step in assessing potential open space impacts is to establish the appropriate study areas for the new population(s) to be added as a result of the Proposed Actions. In accordance with the guidance established in the *CEQR Technical Manual,* the open space study area is generally defined by a reasonable walking distance that users would travel to reach local open space and recreational resources, which differs by user. Workers typically use passive open spaces within a short walking distance of their workplaces. Residents are more likely to travel farther to reach parks and recreational facilities, and they use both passive and active neighborhood open spaces. While they may also visit certain regional parks (like Brooklyn Bridge Park or Prospect Park), such open spaces were not included in the study area's quantitative analysis but are described qualitatively. Workers are assumed to walk up to a 0.25-mile distance to reach neighborhood open spaces, and residents are assumed to walk up to a 0.5-mile distance.

As the incremental worker population generated by the Alternate Commercial Scenario would exceed the CEQR threshold analysis of 500 employees (in a neither underserved nor well-served area) or the threshold analysis of 125 employees (in an underserved area), a non-residential (worker) analysis is warranted. The *CEQR Technical Manual* states that the non-residential open space study area be comprised of all census tracts that have at least 50 percent of their area located within a 0.25-mile of the Project Area. As the incremental residential population generated by the Proposed Project would exceed the CEQR threshold analysis of 200 residents (in a neither underserved nor well-served area) or the threshold analysis of 50 residents (in an underserved area), a residential analysis is warranted. The *CEQR Technical Manual* states that the residential open space study area be comprised of all census tracts that have at least 50 percent of their area located within a 0.5-mile of the project site.

The non-residential and residential study areas are shown in **Figure F-1**. The non-residential study area includes census tracts 227 and 305, and is generally bounded by Putnam Avenue to the north, Bedford and Franklin avenues to the east, Park Place to the south, and Grand Avenue to the west.

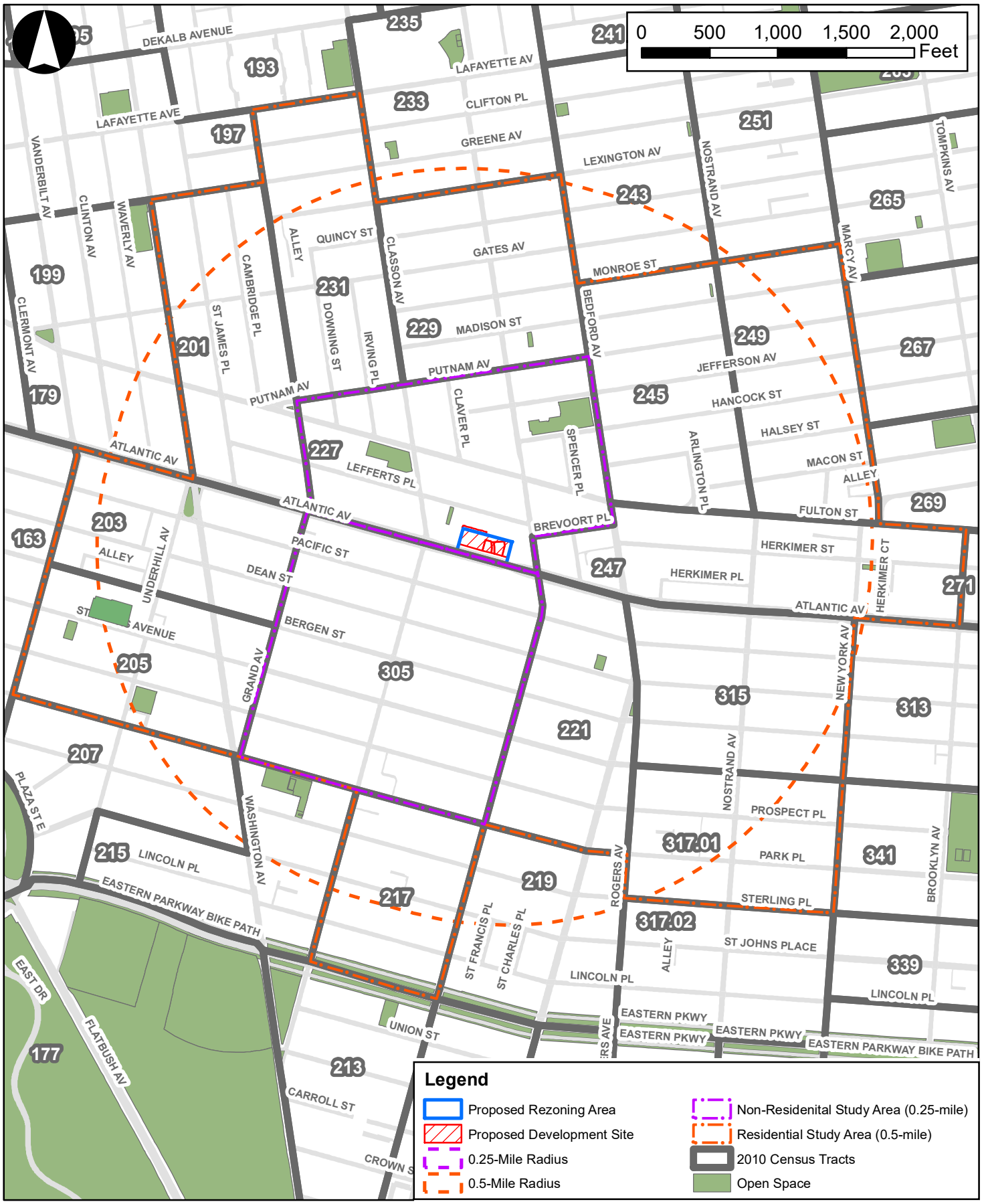
The residential study area includes census tracts 201, 203, 205, 217, 219, 221, 227, 229, 231, 245, 247, 249, 305, 315, and 317.01. The residential study area is generally bounded by Lafayette Avenue, Lexington Avenue, Greene Avenue, and Monroe Street to the north, New York, Marcy, and Brooklyn avenues to the east, Sterling Place, Park Place, and Eastern Parkway to the south, and Vanderbilt and Washington avenues to the west.

Analysis Framework

Direct Effects Analysis

According to the *CEQR Technical Manual*, a project would have a direct effect on an open space if it causes the physical loss of public open space because of encroachment onto the space or displacement of the space; changes the use of an open space so that it no longer serves the same user population; limits public access to an open space; or causes increased noise or air pollutant emissions, odors, or shadows that would affect its usefulness, whether on a permanent or temporary basis. As there are no existing publicly accessible open spaces within the Project Area, the Proposed Actions would not have any direct effects on open space and no further analysis is warranted. Additionally, this attachment used information from

Figure F-1
Open Space Study Area



Attachment F, "Shadows," Attachment I, "Air Quality," and **Attachment J, "Noise,"** to determine whether the Proposed Actions would directly affect any open spaces within, or in close proximity to, the Project Area.

Indirect Effects Analysis

As described in the *CEQR Technical Manual*, open space can be indirectly affected by a proposed action if the project would add enough population, either workers or residents, to noticeably diminish the ability of an area's open space to serve the existing or future population. Typically, an assessment of indirect effects is conducted when a project would introduce more than 200 residents or 500 workers to an area; however, the thresholds for assessment are slightly different for areas of the City that have been identified as either underserved or well-served by open space. For areas underserved by open space, the threshold for assessment is more than 50 residents or 125 workers, and for areas well-served by open space, the threshold for assessment is more than 350 residents or 750 workers. The Project Area is partially located within an area that has been identified as neither well-served nor underserved and partially in an area identified as underserved.

Per *CEQR Technical Manual* guidance, the open space analysis and impact assessment is based on the anticipated development as a result of the Proposed Actions. As discussed in **Attachment A, "Project Description,"** under the RWCDS, the Proposed Project would introduce an increment of 357,436 gsf of residential uses, including approximately 422 DUs, 27,088 gsf of commercial office uses, 33,032 gsf of local retail uses, and 8,995 gsf of community facility uses, as well as a net reduction in light industrial uses (-30,101 gsf). The Proposed Project is expected to generate approximately 1,093 incremental residents and 235 incremental employees, as compared to the 2024 No-Action condition. The Alternate Commercial Scenario under With-Action conditions was also considered for conservative analysis purposes. As a result of the Alternate Commercial Scenario, the Proposed Actions could potentially introduce an increment of 237,072 gsf of residential uses, including approximately 337 DUs, 112,578 gsf of commercial office uses, and 31,673 gsf of local retail uses, as well as a net reduction in light industrial uses (-30,101 gsf). The Alternate Commercial Scenario is expected to generate approximately 705 incremental residents and 537 incremental employees, as compared to the 2024 No-Action condition. As such, when considering both RWCDSs, an open space assessment is warranted for the residential and non-residential population generated by the Proposed Actions.

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

- Characteristics of the open space users: residents and non-residents (workers). To determine the number of residents in the study area 2014-2018 American Community Survey (ACS) data was compiled within the non-residential study area. The number of employees in the study area was calculated based on reverse journey-to-work census data provided by Census Transportation Planning Products (CTTP), which is based on 2006-20 estimates from the U.S. Census Bureau's American Community Survey (ACS). The number of students enrolled at Long Island University (LIU) Brooklyn,

which is located within the study area, was calculated based on total LIU Brooklyn enrollment for the 2017-2018 academic year (including undergraduate and graduate students).

- An inventory of all publicly accessible passive and active recreational facilities in the residential and non-residential open space study areas (see **Table F-3** and **Figure F-2**, below).
- An assessment of the quantitative ratio of open space in the study area by computing the ratio of open space acreage to the population in the study area and comparing this open space ratio with certain guidance. For the residential population, there are generally two guidelines that are used to evaluate residential open space ratios. The New York City Department of City Planning (NYCDCP) generally recommends a comparison to the median ratio for community districts in New York City, which is 1.5 acres per 1,000 residents. However, the CEQR Technical Manual planning guideline is 2.5 acres of open space per 1,000 residents, including 2.0 acres of active open space and 0.5 acres of passive open space. According to the *CEQR Technical Manual*, a ratio of 0.15 acres of passive open space per 1,000 workers represents a reasonable amount of open space.
- An evaluation of qualitative factors affecting open space use.
- A final determination of the adequacy of open space in the non-residential and residential open space study areas.
- An assessment of expected changes in future levels of open space supply and demand in the 2024 analysis year, based on other planned development projects. To estimate the population expected in the study areas in the future without the Proposed Actions, an average household size of 2.59 persons is applied to the number of new housing units expected in portions of the study area located within Brooklyn CD 3.[1] The daytime population is estimated based on standard ratios as follows: one employee per 25 DUs, one employee per 300 sf of retail space, one employ per 250 sf of office space, one employees per 1,000 sf of light industrial space, one employee per 333 sf of community facility space, and one employee per 50 parking spaces. Open space ratios are calculated for future No-Action conditions and compared with existing ratios to determine changes in future levels of adequacy.

Impact Assessment

Impacts are based in part on how a project would change the open space ratios in the study area. According to the *CEQR Technical Manual*, an open space ratio decrease is generally considered to be a significant adverse impact, warranting a detailed analysis, if it would approach or exceed five percent. If a study area exhibits a low open space ratio (e.g., below 1.5 acres per 1,000 residents or 0.15 acres of passive open space per 1,000 non-residential users), indicating a shortfall of open space, smaller decreases in that ratio as a result of the action may constitute significant adverse impacts. In general, if a study area's open space ratios fall below City guidelines, and a proposed project would result in a decrease in the open space ratio of more than 5 percent, it could be considered a substantial change. In addition to the quantitative factors cited above, the *CEQR Technical Manual* also recommends consideration of qualitative factors in assessing the potential for open space impacts. These include the availability of nearby destination resources, the beneficial effects of new open space resources provided by a project, and the comparison of projected open space ratios with established City guidelines. It is recognized that the open space ratios of the City guidelines described above are not feasible for many areas of the City, and they are not considered impact thresholds on their own. Rather, these are benchmarks that indicate how well an area is served by open space.

[1] 2010 Census average household size for Brooklyn CD 3.

D. EXISTING CONDITIONS

Study Area Population

To determine the population served by existing open space resources, Census data was compiled for the census tracts comprising the residential (0.50-mile) study area. As mentioned above and shown in **Figure F-1**, the residential (0.50-mile) open space study area is comprised of 15 census tracts.

As shown in **Table F-1** below, based on ACS reverse journey-to-work data compiled by CTPP, the existing worker population within the non-residential (0.25) open space study area is estimated at approximately 2,680 workers. As mentioned above and shown in **Figure F-1**, the non-residential (0.25-mile) open space study area is comprised of two census tracts (227 and 305). As also shown in **Table F-1**, 2014-2018 ACS Census data indicate that the residential study area has a population of approximately 51,113 residents. Within the non-residential study area has a population of 2,680 workers (refer to **Table 5-1**). As a result, there is likely to be some double-counting of the daily user population in which residential and non-residential populations overlap, resulting in a more conservative analysis.

TABLE F-1
Existing Open Space Study Area Non-Residential and Residential Populations

Census Tract	Residential Population	Non-Residential (Worker) Population	Total Population
0.25-Mile Non-Residential Study Area			
227	N/A	865	865
305	N/A	1,815	1,815
0.25-Mile Study Area Total	**N/A**	**2,680**	**2,680**
0.50-Mile Residential Study Area			
201	*3,808*	N/A	*3,808*
203	*1,825*	N/A	*1,825*
205	*2,918*	N/A	*2,918*
217	*3,962*	N/A	*3,962*
219	*3,568*	N/A	*3,568*
221	*3,991*	N/A	*3,991*
227	*3,654*	N/A	*3,654*
229	*3,841*	N/A	*3,841*
231	*3,607*	N/A	*3,607*
245	*4,534*	N/A	*4,534*
247	*2,561*	N/A	*2,561*
249	*4,306*	N/A	*4,306*
305	*6,350*	N/A	*6,350*
315	*4,787*	N/A	*4,787*
317.01	*3,401*	N/A	*3,401*
0.50-Mile Study Area Total	**57,113**	**N/A**	**57,113**

Source: U.S. Census Bureau, 2014-2018 ACS, ACS 2006-2012 Five-Year Estimates. Special Tabulation: Census Transportation Planning Products (CTPP).

The residential population of the 0.50-mile study area was also broken down by age group. As shown in **Table F-2**, people between the ages of 20 and 64 make up the majority (approximately 74.7 percent) of the residential population in the 0.50-mile study area. Children and teenagers (0 to 19 years old) account for approximately 14.9 percent of the residential study area population, and persons 65 years and over account for approximately 10.4 percent of the residential study area population. As also presented in **Table F-2**, the 0.50-mile study area includes a lower population of children, teenagers and seniors, and, concurrently, a higher population of adults aged 20 to 64 compared to Brooklyn and New York City as a whole. The residential population in the residential study area exhibits a lower median age than that of Brooklyn and New York City as a whole. It should also be noted that the median age varies by census track, ranging from a low of 30 years (Census Tract 247) to a high of 35.3 years (Census Tract 315). Given the range of age groups present in the residential study area population, the study area has a need for various kinds of active and passive recreation facilities, including open space features that can be used by young children and adults.

TABLE F-2
Existing Residential Open Space (0.50-mile) Study Area Residential Population Characteristics

Census Tract	Total Residential Population	Age Distribution 2014-2018												Median Age
		Under 5		5 to 9		10 to 14		15 to 19		20 to 64		65+		
		#	%	#	%	#	%	#	%	#	%	#	%	
201	3,808	284	7.5%	162	4.3%	105	2.8%	35	0.9%	2,966	77.9%	256	6.7%	34.5
203	1,825	159	8.7%	70	3.8%	43	2.4%	77	4.2%	1,332	73.0%	144	7.9%	32.9
205	2,918	206	7.1%	124	4.2%	105	3.6%	39	1.3%	2,186	74.9%	258	8.8%	35
217	3,962	228	5.8%	275	6.9%	244	6.2%	139	3.5%	2,634	66.5%	442	11.2%	34.3
219	3,568	85	2.4%	17	0.5%	92	2.6%	178	5.0%	2,646	74.2%	550	15.4%	35.1
221	3,991	147	3.7%	119	3.0%	46	1.2%	114	2.9%	3,174	79.5%	391	9.8%	33.7
227	3,654	133	3.6%	202	5.5%	127	3.5%	153	4.2%	2,735	74.8%	304	8.3%	34.3
229	3,841	190	4.9%	189	4.9%	150	3.9%	100	2.6%	2,855	74.3%	357	9.3%	32.4
231	3,607	179	5.0%	107	3.0%	135	3.7%	27	0.7%	2,665	73.9%	494	13.7%	34.4
245	4,534	404	8.9%	123	2.7%	195	4.3%	206	4.5%	3,249	71.7%	357	7.9%	33.8
247	2,561	220	8.6%	114	4.5%	95	3.7%	142	5.5%	1,837	71.7%	153	6.0%	30
249	4,306	127	2.9%	102	2.4%	229	5.3%	141	3.3%	3,377	78.4%	330	7.7%	34.5
305	6,350	209	3.3%	138	2.2%	189	3.0%	130	2.0%	4,895	77.1%	789	12.4%	33.9
315	4,787	85	1.8%	76	1.6%	74	1.5%	152	3.2%	3,563	74.4%	837	17.5%	35.3
317.01	3,401	249	7.3%	150	4.4%	80	2.4%	106	3.1%	2,534	74.5%	282	8.3%	32.7
1/2 mile study area total	**57,113**	**2,905**	**5.1%**	**1,968**	**3.4%**	**1,909**	**3.3%**	**1,739**	**3.0%**	**42,648**	**74.7%**	**5,944**	**10.4%**	**34.3**
Total for Brooklyn	***2,600,747***	***193,743***	***7.4%***	***162,283***	***6.2%***	***154,327***	***5.9%***	***141,394***	***5.4%***	***1,605,452***	***61.7%***	***343,548***	***13.2%***	***35.6***
Total for NYC	***8,443,713***	***551,869***	***6.5%***	***476,567***	***5.6%***	***464,704***	***5.5%***	***455,674***	***5.4%***	***5,305,538***	***62.8%***	***1,189,361***	***14.1%***	***36.9***

Source: 2014-2018 American Community Survey (ACS)

Inventory of Open Space Resources

According to the *CEQR Technical Manual*, open space may be public or private and may be used for active or passive recreational purposes. Pursuant to the *CEQR Technical Manual*, publicly accessible open space is defined as facilities open to the public at designated hours on a regular basis and is assessed for impacts using both a quantitative and a qualitative analysis, whereas private open space is not accessible to the general public on a regular basis, and is therefore only considered qualitatively. Public open spaces that do not contain seating are also excluded from the quantitative assessment, in accordance with *CEQR Technical Manual* methodology. Field surveys and secondary sources were used to determine the number, availability, and condition of publicly accessible open space resources in the study area.

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

Within the defined study area, all publicly accessible open spaces were inventoried and identified by their location, size, owner, type, utilization, equipment, hours, and condition. The information used for this analysis was gathered through field inventories conducted November of 2020, the New York City Department of Park and Recreation's (DPR) website, the New York City Open Accessible Space Information System (OASIS) database, and other secondary sources of information.

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

Likewise, judgments as to the intensity of use of the facilities were qualitative, based on an observed degree of activity or utilization on a weekday afternoon, which is considered the weekday peak utilization period according to the *CEQR Technical Manual*. If a facility seemed to be at or near capacity (i.e. the majority of benches or equipment was in use), then utilization was considered heavy. If the facility or equipment was in use but could accommodate additional users, utilization was considered moderate. If a playground or sitting area had few people, usage was considered light. **Table F-3** identifies the address, ownership, features, and acreage of active and passive open spaces in the study area, as well as their condition and utilization. **Figure F-2** maps their location in the study area.

Non-Residential (0.25-Mile) Study Area

As shown in **Table F-3**, the non-residential study area contains a total of 2.48 acres of open space, of which approximately 0.50 acres (20 percent) comprises passive open space uses and approximately 1.98 acres (80 percent) comprises active open space uses. As shown in **Table F-3** and **Figure F-2**, two publicly-accessible open space and recreational resources are located within the non-residential study area.

The largest open space resource within the non-residential study area is the 1.55-acre John Hancock Playground (**Figure F-2,** open space resource #1). John Hancock Playground has spray showers, playgrounds, basketball courts, benches and handball courts. The other open space resource in the non-residential study area is the 0.93 Crispus Attucks Playground (Map # 2). Crispus Attucks Playground has spray showers, playgrounds, basketball and handball courts, and benches.

In addition, as shown in **Table F-3**, there is one open space resource that is not included in the quantitative analysis per the guidance of the *CEQR Technical Manual* as it does not provide consistent public hours or include seating or other amenities. Leffets Place Block Association is a 0.06 community garden located northwest of the Proposed Project.

Residential (0.50-Mile) Study Area

As shown in **Table 5-3**, the residential study area contains a total of 5.62 acres of open space, of which approximately 1.39 acres (25 percent) comprises passive open space uses and approximately 4.23 acres (75 percent) comprises active open space uses. As shown in **Table F-3** and **Figure F-2**, seven publicly-accessible open space and recreational resources are located within the residential study area.

The largest open space resource within the residential study area is the 1.55-acre John Hancock Playground (**Figure F-2,** open space resource #1), mentioned above. John Hancock Playground has spray showers, playgrounds, basketball courts, benches and handball courts. The second largest open space resource in the residential study area is the 1.043 portion of Eastern Parkway (Map # 4). Eastern Parkway has benches and recreational pathways for running and biking. There are multiple Schoolyard to Playgrounds located within the residential study area including P.S 9 and P.S/ 93.

In addition, as shown in **Table F-3**, there are seven open space resources not included in the quantitative analysis based on the guidance of the *CEQR Technical Manual*. These resources are not included in the quantitative analysis because they do not provide consistent public hours or do not include seating or other amenities. Four of seven of these resources are community gardens.

TABLE F-3
Inventory of Existing Open Space and Recreational Resources in Study Area

Map No.[1]	Name	Address	Owner/ Agency	Amenities	User Groups	Hours of Access	Total Acres	Passive		Active		Condition & Utilization
								%	Acres	%	Acres	
Open Space Resources Included in Quantitative Analysis												
Open Space Resources Included in the 0.25- Mile Non-Residential Study Area												
1	Crispus Attucks Playground	Classon Ave between Fulton St. and Lefferts Pl.	DPR	Spray Showers, Basketball Courts, Handball Courts, Playground, Benches	Children, Teenagers, Adults	6AM-9PM	0.93	20%	0.19	80%	0.74	Good/Heavy
2	John Hancock Playground	Bedford Ave between Hancock St. and Jefferson Ave.	DPR	Spray Showers, Basketball Courts, Handball Courts, Playground, Benches	Children, Teenagers, Adults	6AM-9PM	1.55	20%	0.31	80%	1.24	Good/Heavy
0.25-Mile Study Area Total							2.48	20%	0.50	80%	1.98	
Open Space Resources Included in the 0.50- Mile Residential Study Area												
3	Underhill Playground	Underhill Ave. between Prospect Pl. and Park Pl.	DPR	Handball Courts, Playground, Spray Showers	Children, Teenagers, Adults	6AM-9PM	0.59	30%	0.18	70%	0.41	Good /Heavy
4	Eastern Parkway	Eastern Parkway between Classon Ave, and Franklin Ave.	DPR	Benches, Plantings	Adults, Senior Citzens	24/7	1.04	100%	1.04	0%	0.00	Good /Heavy

5	P.S. 9	Underhill Ave. between St. Marks Ave. and Bergen St.	DPR/DOE	Handball Courts, Playground, Tennis Courts, Track, Basketball Court	Children, Teenagers, Adults	Mon-Fri: School close until dusk; Sat-Sun: 8AM to Dusk	0.9	10%	0.09	90%	0.81	Good /Heavy
6	P.S. 93	Herkimer St. betweem New York Ave. and Herkimer Ct.	DPR/DOE	Playgrounds, Track, Benches	Children, Teenagers, Adults	Mon-Fri: School close until dusk; Sat-Sun: 8AM to Dusk	0.5	0%	0.00	100%	0.50	Fair/Low
7	Lowery Triangle	Between Underhill Ave., Washington Ave., and Pacific St.	DPR	Benches, Plantings	Adults, Senior Citzens	6AM-1AM	0.11	100%	0.11	0%	0.00	Good/Low
						0.5-Mile Study Area Total	5.62	34%	1.91	66%	3.71	

TABLE F-3 (cont.)
Inventory of Existing Open Space and Recreational Resources in Study Area

Map No .[1]	Name	Address	Owner/ Agency	Amenities	User Groups	Hours of Access	Total Acres	Passive		Active		Condition & Utilization
								%	Acres	%	Acres	
Open Space Resources Not Included in Quantitative Analysis												
Open Space Resources Included in the 0.25- Mile Non-Residential Study Area												
A	Lefferts Pl Block Association	162 Lefferts Place	DPR	Trees, Plantings, Gardens	Adults, Senior Citzens	April 1st-Oct 31st 20 hrs per week	0.06	100%	0.06	0%	0	Good/Low
0.25-Mile Study Area Total							0.06	100%	0.06	0%	0	
Open Space Resources Included in the 0.50- Mile Residential Study Area												
B	Prospct Heights Community Farm	252-256 St Marks Avenue	BANG	Trees, Plantings, Gardens, Raised Beds	Adults, Senior Citzens	April 1st- Nov 14th Tues 4PM-6PM; Weds 12PM-2PM; Fri 2PM-4PM; Sat 12PM-4PM	0.21	100%	0.21	0%	0	Good/Low
C	Stars of Hope Community Garden	213 Madison Street	DPR	Trees,Plantings, Picnic Tables, Benches	Adults, Senior Citzens	April 1st-Oct 31 20 hrs per week	0.03	100%	0.03	0%	0	Good/Low
D	Walt. L. Shamel Community Garden	1097-1099 Dean Street	DPR	Trees, Plantings, Gardens, Raised Beds	Adults, Senior Citzens	April 1st-Oct 31 20 hrs per week	0.15	100%	0.15	0%	0	Good/Low
E	Grant Gore Triangle	Bedford Ave between Dean st and Bergen st	DPR	Plaza, Plantings	Adults, Senior Citzens	24/7	0.02	100%	0.02	0%	0	Good/Low

F	Green Street	Atlantic Ave and Washington St.	DPR	Plantings	Adults, Senior Citzens	24/7	0.01	100%	0.01	0%	0	Good/Low
G	Green Street	Vanderbilt Ave between Dean St. and Prospect Pl.	DPR	Plantings	Adults, Senior Citzens	24/7	0.04	100%	0.04	0%	0	Good/Low
						0.5-Mile Study Area Total	0.52	100%	0.515	0%	0	

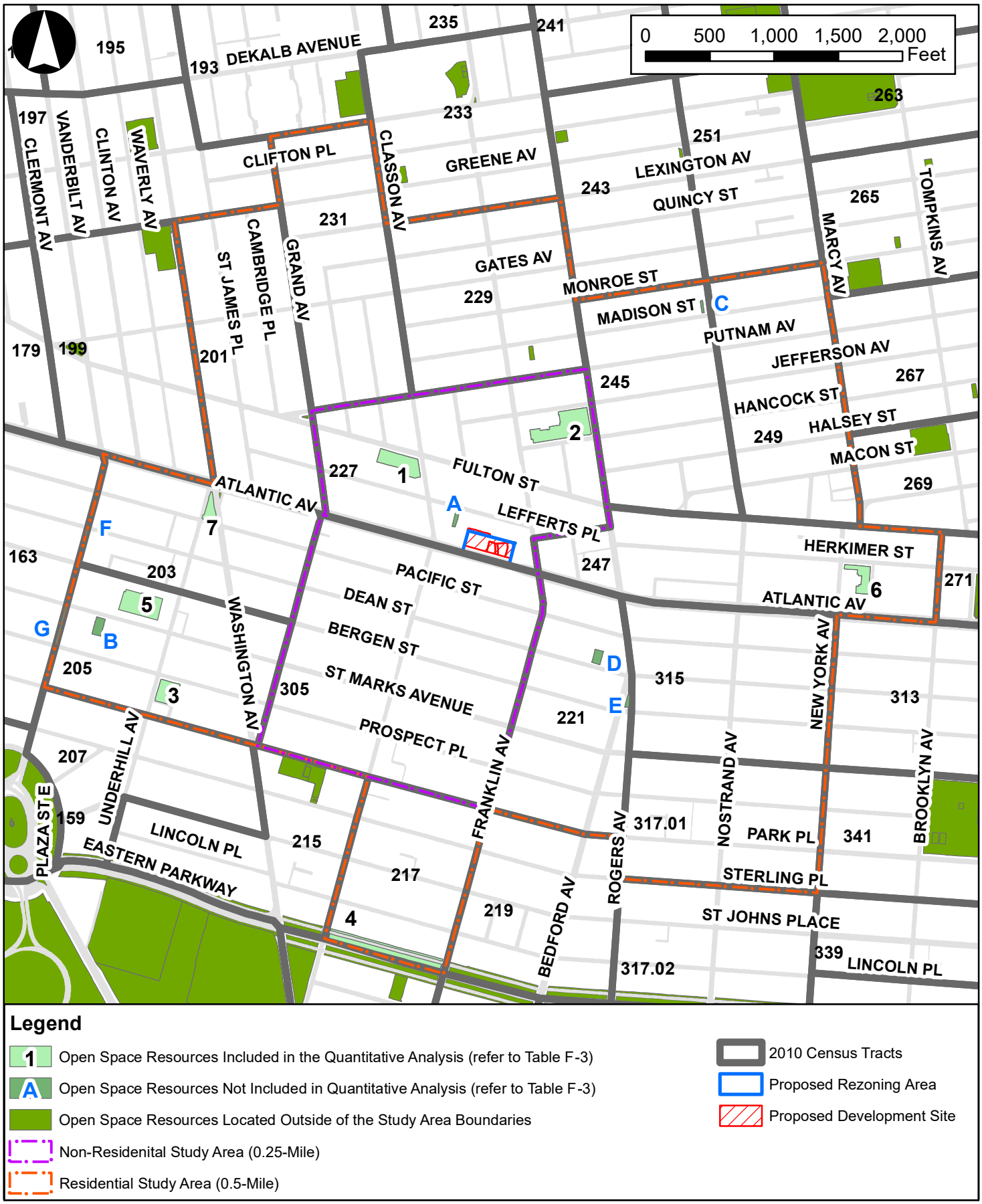
Sources: NYC OASIS, NYC Parks, November 2020 field visits.

Notes:

[1] Refer to Figure F-2.

[2] DPR = New York City Department of Parks and Recreation; DOE=New York City Department of Education; BANG= Brooklyn Alliance of Neighborhood Gardens Land Trust

Figure F-2
Open Space Resources



Assessment of Open Space Adequacy

The following analysis of the adequacy of open space resources within the non-residential (0.25-mile) study area takes into consideration the ratios of passive open space resources per 1,000 non-residents and the residential (0.50) study area takes into consideration the ratios of total, passive, and active open space resources.

Quantitative Assessment

As mentioned above, the non-residential study area contains a total of 2.48 acres of open space, of which approximately 0.50 acres are for passive uses and approximately 1.98 acres are for active uses. With a total non-residential population of 2,680, the non-residential study area has an open space ratio of 0.185 acres of passive space per 1,000 no-residents (see **Table F-4**). This is greater than the City's planning goal of 0.15 acres of passive open space per 1,000 non-residents. As described earlier, the workers/non-residential population typically use passive open space during the workday/school day, so the passive open space ratio is the relevant ratio for consideration. The residential study area contains a total of 5.62 acres of open space, of which approximately 1.39 acres are for passive uses and approximately 4.23 acres are for passive uses. With a residential population of 57,113, the study area has a total open space ratio of 0.098 acres per 1,000 residents, which is below the applicable City open space guidelines. The residential study area's passive and active open space ratios are 0.024 and 0.074 acres per 1,000 residents, respectively. As shown in **Table F-4**, the passive open space ratio of 0.024 and the active open space ratio of 0.074 are both below the applicable City open space goal for passive (0.50 acres of passive open space per 1,000 people) and active (2.00 acres of active open space per 1,000 people) open space. As such, there is currently a sufficient amount of passive open space in the non-residential study area and an insufficient amount of both passive and active open space in the residential study area.

TABLE F-4
Adequacy of Open Space Resources: Existing Conditions

	Population	Open Space Acreage			Open Space Ratios per 1,000 People			CEQR Technical Manual Open Space Optimal Planning Goal		
		Total	Passive	Active	Total	Passive	Active	Total	Passive	Active
Non-Residential (0.25-Mile) Study Area										
Non-Residential	2,680	2.48	0.50	1.98	N/A	0.19	N/A	N/A	0.15	N/A
Residential (0.50-Mile) Study Area										
Residential	57,113	5.62	1.39	4.23	0.098	0.024	0.074	2.50	0.50	2.00

Qualitative Assessment

As shown in **Table F-3**, the non-residential study area open space resources are in good condition and feature heavy utilization levels. The non-residential study area includes a variety of programming for passive open space uses, such as areas with seating and shade trees and landscaped areas of which are suitable for use by the non-residential population in the study area. There is also one community garden that is not included in that quantitative assessment located on the same block as the Project Area

The residential study area includes a variety of programming for passive and active open space uses, such as playgrounds, basketball courts, handball courts, benches, and landscaped areas. Additionally, as noted above, the quantitative analysis is conservative in scope as it assumes that residents and daytime users (workers) are separate populations, whereas it is likely that some of the residents live near their workplace or work from home, resulting in some double-counting of the daily user population in the non-residential study area. A variety of actively programmed open space are appropriate for residential user groups including children, teenagers, and adults. As shown in **Figure F-2**, two of the larger open space resources in the quantitative analysis are located within one to two blocks of the Project Area. These open space resources (Crispus Attucks Playground and John Hancock Playground) include spray Showers, basketball courts, handball courts, playgrounds, and benches.

As shown in Table F-3, only a 1.04-acre portion of Eastern Parkway, which extends for roughly two miles in its entirety, is included in the quantitative analysis as this is the only portion that falls within the 0.5-mile residential open space study area. While only a small portion of this resource falls within the defined study area, it is likely that residents would make use of greater portions of this resource, particularly for active reactional activities, such as biking and jogging.

Moreover, an additional 0.52 acres of open space (including approximately 0.06 acres located within the non-residential study area) were not included in the quantitative assessment (as they are not fully accessible to the public, have limited hours, or do not include seating or other amenities, and therefore do not meet the criteria for open space based on the guidance of the *CEQR Technical Manual*), although it is likely that they are used by people that live and work in the study area. As described in Attachment C, "Land Use, Zoning, and Public Policy," the area surrounding the Project Area includes a noticeable amount of single- and two-family residential buildings (refer to Table C-1). These buildings provide additional private passive open spaces in the rear yard for residents, lessening the burden these residents would put on public passive open space in the residential open space study area.

In addition, several open space resources are located south of the residential open space study area. Prospect Park (approximately 526-acres) is located just beyond the boundaries of the residential (0.50) open space study area boundary (approximately 1.1 miles walking distance from the Project Area). It is likely that residents of the southern portion of the residential open space study area would walk approximately 10 to 15 minutes to this open space resource, reducing their burden on other open space resources within the residential open space study area. Furthermore, Prospect Park is considered a regional park that would serve local residents as well as draw visitors from greater distances throughout the City and provide extensive areas for active recreational activities. Prospect Park contains unique features, including nature centers, ice skating rinks, horseback riding trails, historic houses, hiking trails, etc., that are not found within other open space resources included in the quantitative analysis.

In addition, there are a number of open space resources that fall just outside the study area boundary, which are not included in the quantitative analysis but could be used by people willing to travel slightly farther (refer to **Figure F-2**). These include the 7.79-acre Mt. Prospect Park, the 52-acre Brooklyn Botanic Garden, the 14.26-acre Grand Army Plaza, and the 1.36-acre Dr. Ronald McNair Park. Although these open spaces are located just south of the residential open space study area boundary, it is likely that residents at least occasionally take advantage of the recreation resources that these parks have to offer.

E. THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO-ACTION)

In the 2024 future without the Proposed Actions, it is anticipated that no new construction would be planned for the Proposed Development Site; however, it is conservatively assumed that the currently vacant, approximately 12,240 gsf former industrial building on Lot 70 would be re-occupied with light industrial/warehousing uses in the No-Action condition. As such, under No-Action conditions, the Proposed Development Site would include approximately 30,101 gsf of light industrial uses, 6,807 gsf of office uses, and 1,438 gsf of retail uses. No other changes to the remaining Project Area lots are anticipated in the future without the Proposed Actions.

Study Area Population

As discussed in **Attachment C, "Land Use, Zoning, and Public Policy,"** there are 11 known and anticipated developments within the non-residential (0.25-mile) study area of the Project Area, and an additional 20 developments within the residential (0.5-mile) study area. The No-Action development on the Proposed Development site is expected to introduce approximately 65 employees to the non-residential (0.25-mile) study area and zero residents to the residential (0.5-mile) study area. The anticipated No-Action developments are anticipated to introduce approximately 144 employees to the non-residential (0.25-mile) study area and 2,218 residents to the residential (0.5-mile) study area.

TABLE F-5
2024 No-Action Open Space Study Area Population

	Existing Population	Additional Population from No-Action Developments[1,2,3]	Future 2024 No-Action Population
Non-Residential (0.25-mile)	2,680	209	2,889
Residential (0.5-mile)	57,113	2,218	59,331

Notes:
[1] Residential population estimate for No-Action developments based on Brooklyn CD 3 average of approximately 2.59 persons per household (U.S. Census Bureau, 2010 Census).
[2] Worker population estimate for No-Action developments based on standard rates and are as follows: one employee per 250 sf of office; one employees per 300 sf of retail; one employee per 1,000 sf of light industrial; one employee per 333 sf of community facility; one employee per 50 parking spaces; and one residential employee per 25 DUs
[3] Includes the projected residential and non-residential population generated by the No-Action developments listed in Attachment C "Land Use, Zoning, and Public Policy."

In total, the 11 No-Action developments, in addition to the No-Action development on the Proposed Development Site in the future without the Proposed Actions, are expected to introduce approximately 209 employees to the non-residential (0.25-mile) study area. Within the residential (0.5-mile) study area, the 31 No-Action developments, in addition to the No-Action development on the Proposed Development Site in the future without the Proposed Actions, are expected to introduce approximately 2,218 employees to the residential (0.5-mile) study area (see **Table F-5**).

Study Area Open Space Resources

There are no new publicly accessible open spaces expected to be added to either the residential or non-residential study areas under the No-Action condition, and there are no anticipated changes to any of the existing open space resources currently located within those study areas.

Assessment of Open Space Adequacy

As detailed above, it is anticipated that under No-Action conditions, new development in the non-residential (0.25-mile) and residential (0.5-mile) study areas would result in an increase in the population, and thus, would increase the demand on the area's open spaces. As a result of these anticipated No-Action changes within the non-residential study area, while the ratio of open space per 1,000 non-residents would decrease to 0.17 (from 0.19 under existing conditions), it will continue to be above the City's planning guideline ratio of 0.15 acres (see **Table F-6**). Within the residential study area, as under existing conditions, the total, passive, and active open space ratios would be less than the City's open space planning goals of 2.5 acres of open space per 1,000 residents (including 0.5 acres of passive open space and two acres of active open space), as well as the City's median community district open space ratio of 1.5 acres per 1,000 residents. Specifically, the residential total open space ratio is expected to decrease to 0.095 acres per 1,000 residents in the No-Action condition, with No-Action passive and active open space ratios of 0.024 and 0.072 acres per 1,000 residents, respectively.

TABLE F-6
Adequacy of Open Space Resources: 2024 No-Action Condition

	Population	Open Space Acreage			Open Space Ratios per 1,000 People			CEQR Technical Manual Open Space Optimal Planning Goal		
		Total	Passive	Active	Total	Passive	Active	Total	Passive	Active
Non-Residential (0.25-Mile) Study Area										
Non-Residential	2,889	2.48	0.50	1.98	N/A	0.17	N/A	N/A	0.15	N/A
Residential (0.50-Mile) Study Area										
Residential	59,331	5.62	1.39	4.23	0.095	0.024	0.072	2.50	0.50	2.00

F. THE FUTURE WITH THE PROPOSED ACTIONS (WITH-ACTION)

In the 2024 future with the Proposed Actions, the proposed zoning map and text amendments would be approved and the Proposed Development Site would be redeveloped. As described in **Attachment A, "Project Description,"** the Proposed Actions could result in one of two scenarios, either the Proposed Project or the Alternate Commercial Scenario. As such, the Proposed Project would result in the incremental development of 357,436 gsf of residential uses, including approximately 422 DUs, 27,088 gsf of commercial office uses, 33,032 gsf of local retail uses, and 8,995 gsf of community facility uses, as well as a net reduction in light industrial uses (-30,101 gsf). The Proposed Project is expected to generate approximately 1,093 incremental residents and 300 incremental employees, as compared to the 2024 No-Action condition.

By comparison, the Alternate Commercial Scenario would result in the incremental development of 237,072 gsf of residential uses, including approximately 337 DUs, 112,578 gsf of commercial office uses, and 31,673 gsf of local retail uses, as well as a net reduction in light industrial uses (-30,101 gsf). The Alternate Commercial Scenario is expected to generate approximately 705 incremental residents and 537 incremental employees, as compared to the 2024 No-Action condition.

Therefore, as described above, for conservative analysis purposes the open space analysis assumes the Proposed Actions would generate up to approximately 537 workers and 1,093 residents.

Direct Effects Analysis

No publicly accessible open space is currently located on the Project Area. Therefore, the Proposed Actions would not cause the physical loss of publicly accessible open space. In addition, as discussed in Attachment F, "Shadows," Attachment I, "Air Quality," and Attachment J, "Noise," the Proposed Actions would not result in any significant adverse shadows, operational air quality, or noise impacts affecting existing open space resources. Furthermore, the Proposed Actions would not change the use of a publicly accessible open space resource so that it no longer serves the same user population, nor would it limit public access to any open space resources.

Indirect Effects Analysis

Study Area Population

In the 2024 future with the Proposed Actions, 537 additional employees and 1,093 additional residents would be introduced in the Project Area compared to No-Action conditions. As indicated below in **Table F-7**, the non-residential (0.25-mile) study area's non-residential population is expected to increase to 3,426 and the residential (0.50-mile) study area's residential population is expected to increase to 59,889.

TABLE F-7
2024 With-Action Open Space Study Area Population

	No-Action Population	Additional Population from With-Action Developments[1,2]	Future 2024 With-Action Population
Non-Residential [3](0.25-mile)	2,889	537	3,426
Residential (0.5-mile)[4]	59,331	1,093	60,424

Notes:
[1] Residential population estimate for With-Action developments based on Brooklyn CD 3 average of approximately 2.59 persons per household (U.S. Census Bureau, 2010 Census).
[2] Worker population estimate for With-Action developments based on standard rates and are as follows: one employee per 250 sf of office; one employees per 300 sf of retail; one employee per 1,000 sf of light industrial; one employee per 333 sf of community facility; one employee per 50 parking spaces; and one residential employee per 25 DUs
[3] Non-residential population estimate based on the more conservative "Alternative Commercial Scenario" With-Action non-residential population
[4] Residential population estimate based on the more conservative "Proposed Project" With-Action residential population

Assessment of Open Space Adequacy

Quantitative Assessment

As presented in **Table F-8**, in the future with the Proposed Actions, while the passive open space ratio for the non-residential population in the non-residential (0.25-mile) study area would decrease to 0.15 (from 0.17 under No-Action conditions), it would continue to meet the City's guideline ratio of 0.15 acres per 1,000 non-residents. Within the residential study area, as under No-Action conditions, the total, passive, and active open space ratios would remain below the City's open space planning goals of 2.5 acres of open space per 1,000 residents (including 0.5 acres of passive open space and two acres of active open space), as well as the City's median community district open space ratio of 1.5 acres per 1,000 residents. Specifically, the residential total open space ratio is expected to decrease to 0.093 acres per 1,000

residents in the With-Action condition, with With-Action passive and active open space ratios of 0.023 and 0.070 acres per 1,000 residents, respectively.

TABLE F-8
Adequacy of Open Space Resources: 2024 With-Action Condition

	Population	Open Space Acreage			Open Space Ratios per 1,000 People			CEQR Technical Manual Open Space Optimal Planning Goal		
		Total	Passive	Active	Total	Passive	Active	Total	Passive	Active
Non-Residential (0.25-Mile) Study Area										
Non-Residential	3,426	2.48	0.50	1.98	N/A	0.15	N/A	N/A	0.15	N/A
Residential (0.50-Mile) Study Area										
Residential	60,424	5.62	1.39	4.23	0.093	0.023	0.070	2.50	0.50	2.00

Qualitative Assessment

In the future with the Proposed Actions, the non-residential open space ratios in the non-residential (0.25-mile) study area would remain at the City's planning guideline of 0.15 per 1,000 people. The residential open space ratios in the residential (0.50-mile) study area would remain below the City's planning guidelines for total, passive, and active open space ratios. The population to be generated by the Proposed Actions is not expected to have any special characteristics, such as a disproportionately younger or older population, that would place heavy demand on facilities that cater to specific groups. Residents in the future with the Proposed Actions are expected to exhibit similar characteristics to the current residents of the study area and the breakdown in population by age group is expected to remain the same. Moreover, a majority of the non-residential and residential study area open spaces are in good- condition and use levels are characterized by low-to-heavy utilization (refer to **Table F-3**).

Data from the U.S. Census Bureau's American Community Survey indicates the approximately 75 percent of the population in the study area falls between the ages of 20 and 64. According to the *CEQR Technical Manual* this population uses "court facilities and fields for sports, as well as more individualized recreation such as rollerblading, biking, and jogging, which require bike paths, esplanade, and vehicle-free roadways. Adults also gather with families for picnicking, ad-hoc active sports such as Frisbee, and recreation activities in which all ages can participate." Per this definition, open space resources in the future with the Proposed Actions would generally be suitable to meet the needs of this user population (refer to Table F-3).

It should be noted that the proposed zoning district would require that any new residential development adhere to the Quality Housing Program regulations. These regulations require that residential developments include amenities such as tree plantings, landscaping, and recreational space. These open space amenities would improve open space conditions at the Project Area and help alleviate future open space shortfalls. Specifically, the Proposed Project is expected to incorporate approximately 10,665 gsf of private indoor amenity gym space and 31,503 gsf of private rooftop deck space. The Proposed Project would also include 62 DUs with outdoor balconies (a total of 3,782 gsf of private outdoor space). However, as this recreation space would be private space, it would not improve the study area's open space ratios and the shortfalls in the open space ratios presented in the quantitative analysis would remain.

Additionally, the quantitative analysis is conservative as it assumes that the study area's residents and daytime users are separate populations, whereas it is likely that some of the residents live near their workplace or work from home, resulting in some double-counting of the daily user population in the non-residential (0.25-mile) study area.

Further, and as described above, there are several open space resources not included in the quantitative analysis as per guidance from the *CEQR Technical Manual*. Specifically, there is one-community garden within the non-residential open space area and three community gardens within the residential study area are not included in the quantitative analysis as per CEQR guidance because they are not open on a regular basis. Combined, these community gardens offer approximately 0.45-acres of passive open space. for both the non-residential (0.25-mile) and residential (0.50-mile) study area population that is not considered in the quantitative analysis. Further, an abundance of open space resources including Prospect Park, Mt. Prospect Park, the Brooklyn Botanic Garden, Grand Army Plaza, and Dr. Ronald McNair Park are located south of the residential open space study area. Prospect Park is located approximately 1.1-miles southwest of the Project Area (an approximately 24 minute walk). Mt. Prospect Park is an approximately 0.9-mile walk (or an approximately 20 minute walk) from the Project Area. The Brooklyn Botanic Garden is also an approximately 0.9-mile walk (an approximately 18 minute walk) from the Project Area. Grand Army Plaza is an approximately 1-mile walk (an approximately 21 minute walk) from the Project Area. Finally, Dr. Ronald McNair Park is an approximately 0.7-mile walk (an approximately 15 minute walk) from the Project Area. As such, it can be assumed that residents from both the southern half of the residential study area and those that would reside in the future Proposed Project would likely visit and utilize these additional open space resources.

Determining Impact Significance

A significant adverse open space impact may occur if a proposed action would reduce the open space ratio by more than five percent in areas that are currently below the City's median community district open space ratio of 1.5 acres per 1,000 residents and 0.15 acres per 1,000 non-residents. In areas that are extremely lacking in open space, a reduction as little as one percent may be considered significant, depending on the area of the City. Conversely, in areas that are well-served by open space, a greater percentage of change (more than five percent) may be tolerated. These reductions may result in overburdening existing facilities or further exacerbating a deficiency in open space.

Non-Residential (0.25-mile) Study Area

Table F-9 displays the non-residential (0.25-mile) study area open space ratio percentage change from the No-Action to the With-Action conditions. As presented in **Table F-9**, while the non-residential (0.25-mile) study area's passive open space ratio for the non-residential population would decrease by more than five percent from No-Action conditions (12.63 percent), it would remain at the City's guideline ratio of 0.15 acres per 1,000 people.[2] As such, the increase in the demand as a result of the Proposed Actions would not result in reductions in the passive open space ratio that would overburden existing open space resources or further exacerbate a deficiency in open space. Therefore, the population in the non-residential (0.25-mile) study area would continue to be well-served by open space resources, and there

[2] It should be noted that the Applicant intends to construct the Proposed Project (not the Alternate Commercial Scenario) which would result in a far less reduction in the passive open space ratio within the non-residential (0.25-mile) study area, as compared to the Alternate Commercial Scenario. Specifically, under the Proposed Project, the passive open space ratio in the non-residential study area would decrease to 0.16 per 1,000 people – a reduction in the open space ratio by approximately 9.41 percent compared to No-Action conditions.

would be no significant adverse impact on open space in the non-residential study area as a result of the Proposed Actions.

TABLE F-9
Residential and Non-Residential Open Space Ratios Summary

Ratio	*CEQR Technical Manual* Open Space Optimal Planning Goal (acres per 1,000)	Open Space Ratios Per 1,000			Percent Change
		Existing	No-Action	With-Action	Future No-Action to Future With-Action
Non-Residential (0.25-Mile) Study Area					
Non-Residential – Passive	0.15	0.185	0.171	0.155	**-12.63%**
Non-Residential (0.50-Mile) Study Area					
Residential					
Passive	0.50	0.0244	0.0235	0.0231	**-1.81%**
Active	2.0	0.0740	0.0712	0.0699	**-1.81%**
Total	2.50	0.0984	0.0947	0.0930	**-1.81%**

Residential (0.50-mile) Study Area

Table F-9 displays the residential (0.50 mile) study area open space ratio percentage change from the No-Action to the With-Action conditions. As presented in **Table F-9**, while the residential (0.50-mile) study area's total, passive, and active open space ratio would be below the City's guideline ratios, and the decrease would be greater than one percent compared to No-Action conditions (1.81 percent). The increase in the demand for open space as a result of the Proposed Actions would result in significant reductions in the total, active and passive open space ratios (defined as one percent or more per the *CEQR Technical Manual*) compared to the No-Action condition. As shown in Table F-9, the Proposed Actions would result in a decrease of 0.0017 acres per 1,000 residents. However, as discussed above there are several qualitative factors. As previously discussed, the Proposed Project would include approximately 10,665 gsf of private indoor amenity gym space and 31,503 gsf of private rooftop deck space. The Proposed Project would also include 62 DUs with outdoor balconies (a total of 3,782 gsf of private outdoor space). Additionally, although there is a deficiency of open space in the open space study area, there is an abundance of regional and local parks located south of the open space study area within walking distance for the southern half of the open space study area. Therefore, while the population in the residential (0.50-mile) study area would continue to be under-served by open space resources, the Proposed Actions would not result in any significant adverse impacts on existing open spaces within the residential study area.

Attachment G
Shadows

I. INTRODUCTION

According to the 2014 *CEQR Technical Manual*, an adverse shadows impact is considered to occur when an incremental shadow from a proposed project falls on a sunlight-sensitive resource and substantially reduces or completely eliminates direct sunlight exposure, thereby significantly altering the public's use of the resource, or threatens the viability of vegetation or other resources. Pursuant to CEQR guidance, 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. Sunlight-sensitive resources can include publicly accessible open spaces, architectural resources, natural resources, and Greenstreets. In general, shadows on city streets, sidewalks, buildings, or project-generated open spaces are not considered significant under CEQR. In addition, shadows occurring within an hour and a half of sunrise or sunset generally are not considered significant under CEQR.

According to the *CEQR Technical Manual*, a shadows assessment is required only if a proposed action would result in structures (or additions to existing structures) of 50 feet or more and/or be located adjacent to, or across the street from, a sunlight-sensitive resource. As described in **Attachment A, "Project Description,"** the Proposed Action would facilitate the development of a 17-story (175-foot-tall not including mechanical bulkhead), 477,098 gross gsf building consisting of residential and commercial office and retail uses. Therefore, a shadows analysis was prepared to determine the potential for the Proposed Action and associated RWCDS to result in significant adverse impacts on sunlight-sensitive resources.

II. PRINCIPAL CONCLUSIONS

The Proposed Actions would not result in significant adverse shadows impacts. While the Proposed Actions and associated RWCDS would cast incremental shadows on the Lefferts Place Block Association Community Garden and Crispus Attucks Playground, the detailed shadows analysis determined that the duration and coverage of the incremental shadows on these sunlight-sensitive resources would not be significant or adverse. Project generated shadows would be cast on sunlight-sensitive resource for two of the four representative analysis days. Incremental shadows would range from 12 minutes to 2 hours and 3 minutes (refer to Table G-1). Incremental shadows as a result of the Proposed Actions would not have significant adverse effects on any vegetation or adversely affect the usability/enjoyment of any open space. Therefore, the Proposed Actions are not anticipated to result in any significant adverse impact.

III. METHODOLOGY

According to the *CEQR Technical Manual*, the longest shadow a structure will cast in New York City, except for periods close to dawn or dusk, is 4.3 times its height. For projects resulting in structures less than 50 feet tall, a shadow assessment is generally not necessary, unless the site is adjacent to a park, historic

resource, or important natural feature (if the feature that makes the structure significant depends on sunlight).

First, a preliminary screening assessment must be conducted to ascertain whether shadows resulting from a project could reach any sunlight-sensitive resource at any time of year. The *CEQR Technical Manual* defines sunlight-sensitive resources as those resources that depend on sunlight or for which direct sunlight is necessary to maintain the resource's usability or architectural integrity. The following are considered to be sunlight-sensitive resources:

- *Public open space* (e.g., parks, playgrounds, plazas, schoolyards, greenways, and landscaped medians with seating). Planted areas within unused portions or roadbeds that are part of the Greenstreets program are also considered sunlight-sensitive resources. The use of vegetation in an open space establishes its sensitivity to shadows. This sensitivity is assessed for both (1) warm-weather dependent features, like wading pools and sandboxes, or vegetation that could be affected by loss of sunlight during the growing season (i.e., March through October); and (2) features, such as benches, that could be affected by a loss of winter sunlight. Uses that rely on sunlight include: passive use, such as sitting or sunning; active use, such as playfields or paved courts; and such activities as gardening, or children's wading pools and sprinklers. Where lawns are actively used, the turf requires extensive 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 a minimum requirement.

- *Features of historic architectural resources that depend on sunlight for their enjoyment by the public.* Only the sunlight-sensitive features are considered, as opposed to the entire architectural resource. Sunlight-sensitive features include the following: design elements that are part of a recognized architectural style that depends on the contrast between light and dark (e.g., deep recesses or voids, such as open galleries, arcades, recessed balconies, deep window reveals, and prominent rustication); elaborate, highly carved ornamentation; stained glass windows; exterior building materials and color that depend on direct sunlight for visual character (e.g., the polychromy [multicolored] features found on Victorian Gothic Revival or Art Deco facades); historic landscapes, such as scenic landmarks, including vegetation recognized as an historic feature of the landscape; and structural features for which the effect of direct sunlight is described as playing a significant role in the structure's importance as a historic landmark.

- *Natural resources where the introduction of shadows could alter the resource's condition or microclimate.* Such resources could include surface water bodies, wetlands, or designated resources, such as coastal fish and wildlife habitats.

The preliminary screening assessment consists of three tiers of analysis. The first tier determines a simple radius around the project site representing the longest shadow that could be cast. If there are sunlight-sensitive resources within the radius, the analysis proceeds to the second tier, which reduces the area that could be affected by project-generated shadows by accounting for a specific range of angles that can never receive shade in New York City due to the path of the sun in the northern hemisphere. If the second tier of analysis does not eliminate the possibility of new shadows on sunlight-sensitive resources, a third tier of screening analysis further refines the area that could be reached by new shadows by looking at specific representative days of the year and determining the maximum extent of shadow over the course of each representative day.

If the third tier of analysis does not eliminate the possibility of new shadows on sunlight-sensitive resources, a detailed shadow analysis is required to determine the extent and duration of the incremental shadow resulting from the project. In accordance with the *CEQR Technical Manual*, shadows on sunlight-sensitive resources of concern were modeled for four representative days of the year. For the New York City area, the months of interest for an open space resource encompass the growing season (i.e., March through October) and one month between November and February representing a cold-weather month (usually December). Representative days for the growing season are generally the March 21 vernal equinox (or the September 21 autumnal equinox, which is approximately the same), the June 21 summer solstice, and a spring or summer day halfway between the summer solstice and equinoxes, such as May 6 or August 6 (which are approximately the same). For the cold-weather months, the December 21 winter solstice is included to demonstrate conditions when open space users rely most heavily on available sunlight warmth. As these months and days are representative of the full range of possible shadows, they are also used for assessing shadows on sunlight-sensitive historic and natural resources. The *CEQR Technical Manual* defines the temporal limits of a shadow analysis period to fall from an hour and a half after sunrise to an hour and a half before sunset.

The detailed analysis provides the data needed to assess the shadow impacts. The effects of the new shadows on the sunlight-sensitive resources are described, and their degree of significance is considered. The result of the analysis and assessment are documented with graphics, a table of incremental shadow durations, and narrative text. As described in the *CEQR Technical Manual*, an incremental shadow is generally not considered significant when its duration is no longer than ten 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 ten minutes or longer falls on a sunlight-sensitive resource and results in one of the following:

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

- *Historic and cultural resources:* a substantial reduction in sunlight available for the enjoyment or appreciation of the sunlight-sensitive features of an historic or cultural resource.

- *Open space utilization:* a substantial reduction in the usability of open space as a result of increased shadow, including information regarding anticipated new users and the open space's utilization rates throughout the affected time periods.

- *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.

In general, a significant adverse shadows impact occurs when the incremental shadows added by a proposed building fall on a sunlight-sensitive resource and substantially reduce or completely eliminate direct sunlight exposure, thereby significantly altering the public's use of the resource or threatening the viability of vegetation or other natural resources.

IV. PRELIMINARY SCREENING

Tier 1 Screening Assessment

According to the 2*014 CEQR Technical Manual*, the longest shadow that a structure will cast in New York City, except for periods close to dawn or dusk, is 4.3 times its height and occurs on December 21 (the winter solstice). As discussed above, the Proposed Actions are expected to result in the development of a 215-foot-tall (including mechanical bulkhead), 17-story building on the Proposed Development Site. For conservative analysis purposes, it is assumed that the mechanical bulkhead would be 40 feet tall. Therefore, the longest shadow study area would be located approximately 924.5 feet from the Proposed Development Site (refer to **Figure G-1**). Within this longest shadow study area, there are three sunlight sensitive open space resources: the Lefferts Place Block Association Community Garden, Crispus Attucks Playground, and John Hancock Playground (refer to **Figure G-1**). Based on a letter received from the New York City Landmarks Preservation Commission (LPC) on January 29, 2021 (see **Appendix F**), there are no historic resources containing sunlight-sensitive features located within the longest shadow (Tier 1) study area.[1] Therefore, further screening is warranted on the three identified open space resources in order to determine whether these resources would be affected by project-generated shadows.

Tier 2 Screening Assessment

Due to the path of the sun 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. The purpose of the Tier 2 screening is to determine whether the sunlight-sensitive resources identified in the Tier 1 screening are located within portions of the longest shadow study area that can receive shade from the proposed building.

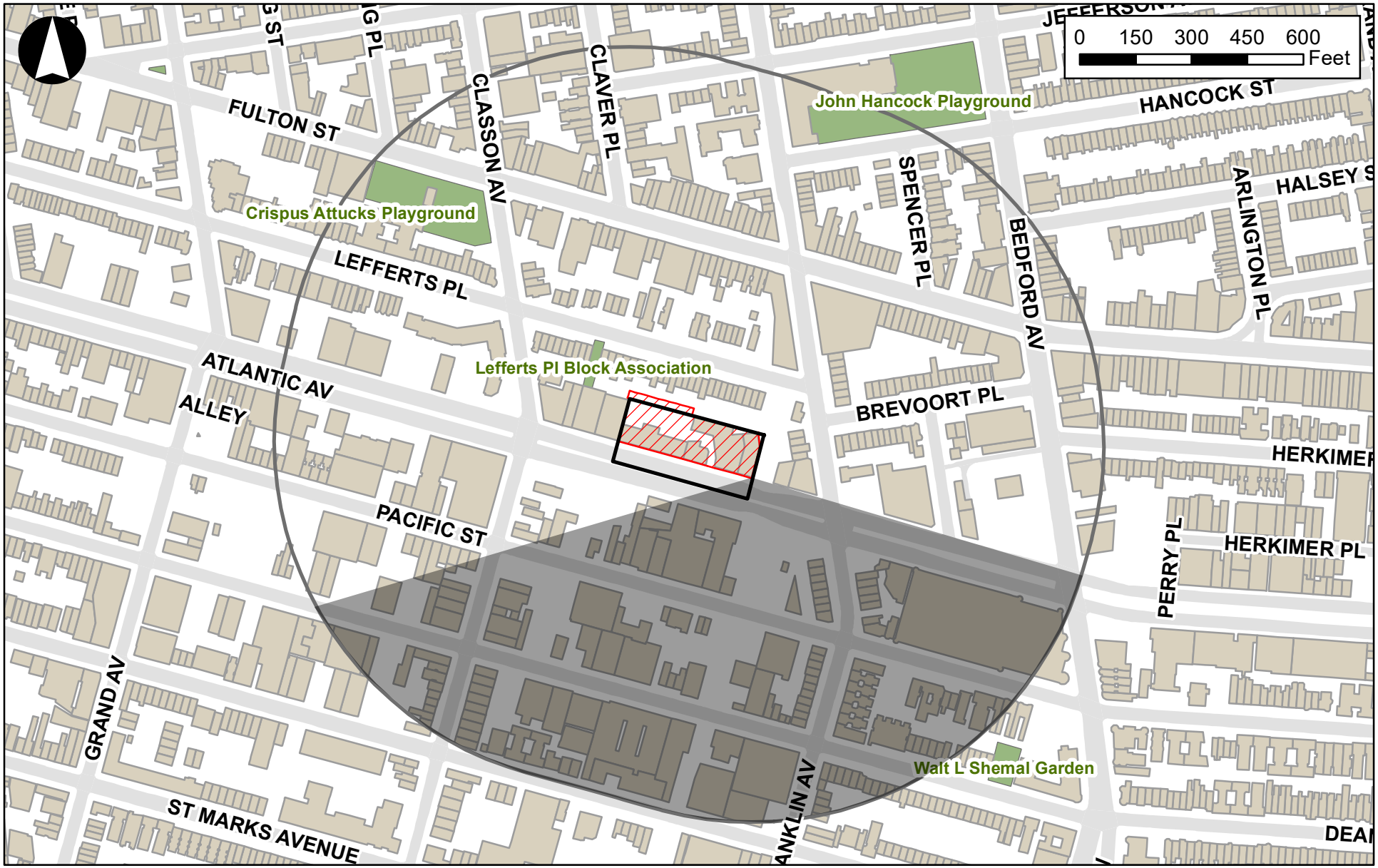
As presented in **Figure G-1**, each of the three sunlight-sensitive open space resources described above are located within the longest shadow study area (Tier 1). Based on the Tier 2 Screening Assessment, it cannot be ruled out that the Proposed Actions would cast shadows on these locations. Therefore, further analysis is warranted.

Tier 3 Screening Assessment

According to the *CEQR Technical Manual*, a Tier 3 screening assessment should be performed to determine if, in the absence of intervening buildings, shadows resulting from a proposed project can reach a sunlight-sensitive resource, thereby warranting a detailed shadows analysis. The Tier 3 screening assessment is used to determine if shadows resulting from a proposed project can reach a sunlight-sensitive resource at any time between 1.5 hours after sunrise and 1.5 hours before sunset on representative analysis dates.

As project-generated shadows could reach nearby sunlight-sensitive resources, a Tier 3 assessment was performed using three dimensional (3D) computer mapping software. The 3D model was used to calculate and display project-generated shadows on individual representative analysis dates. The model contained

[1] While the St. Peter Claver Institute (S/NR-eligible) at 1 Jefferson Avenue and the St. Peter Claver Church (SN/R-eligible) at 21 Claver Place fall within the Tier I and Tier II shadow study area (refer to **Figure G-1** in **Attachment G, "Shadows"**), neither historic resource contain sunlight-sensitive features, as confirmed by a review letter received from the LPC on January 29, 2021 (see **Appendix F**).



Legend

- Proposed Rezoning Area
- Proposed Development Site
- Open Space
- Tier I: Longest Shadow Study Area (924'6"-radius)
- Tier II: Area that Cannot be Shaded

Figure G-1
Tier I & II Shadow Assessment

3D representations of the elements in the base map used in the preceding assessments and a 3D model of the RWCDS. At this stage of the assessment, surrounding buildings and structures within the study area were not included in the model so that it may be determined whether project-generated shadows would reach any sunlight-sensitive resources.

Figures G-2a and **-2b** illustrate the range of project-generated shadows that could occur in the absence of existing buildings on the four representative analysis days. The Tier 3 analysis shows that the Lefferts Place Block Association Community Garden and Crispus Attucks Playground would receive project-generated shadows. Therefore, a detailed shadow analysis is required to determine the extent and duration of project-generated incremental shadows on this sunlight-sensitive resource.

V. DETAILED ANALYSIS OF SHADOW IMPACTS

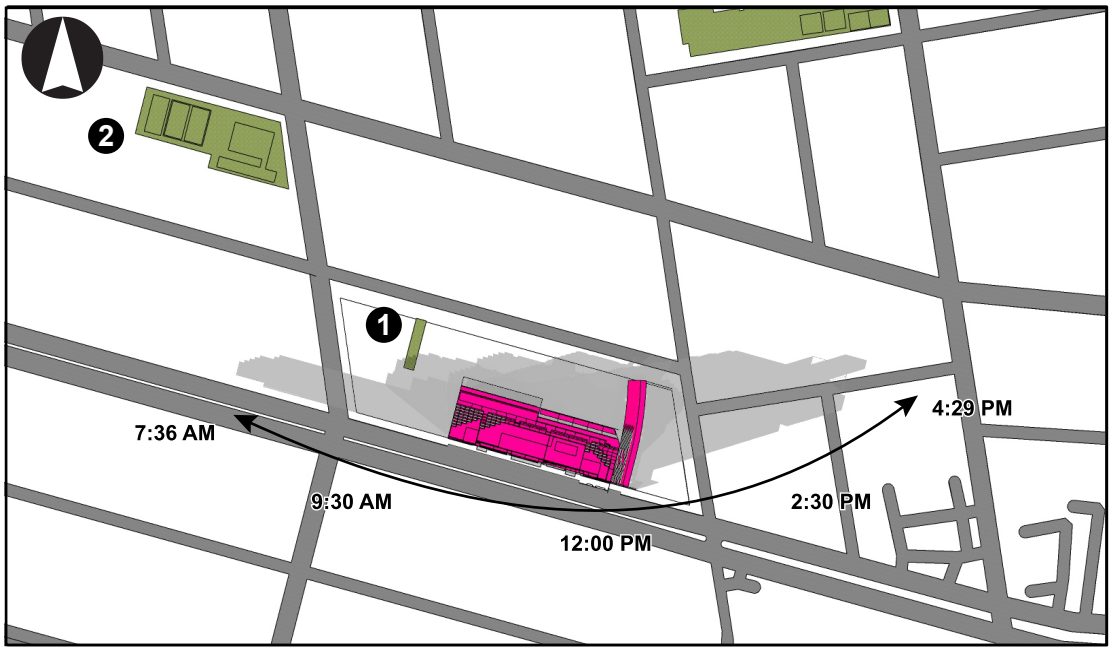
Per *CEQR Technical Manual* guidance, a shadow analysis was performed for the two sunlight-sensitive open space/natural resources identified above on four representative days of the year: March 21/September 21 (the equinoxes); May 6 (the midpoint between the summer solstice and the equinox, and equivalent to August 6); June 21 (the summer solstice and the longest day of the year); and December 21 (the winter solstice and shortest day of the year). These four representative days indicate the range of shadows over the course of the year. As noted previously, *CEQR Technical Manual* guidance define the temporal limits of a shadow analysis period to fall from 1.5 hours after sunrise to 1.5 hours before sunset. The results of the shadows analysis show the incremental difference in shadow impact between the No-Action and With-Action conditions, the results of which are summarized in **Table G-1**. It should also be noted that the Proposed Development represents the worst-case shadow impacts for all sunlight-sensitive resources on each analysis day.

Table G-1: Duration of Incremental Shadows on Sunlight Sensitive Resources

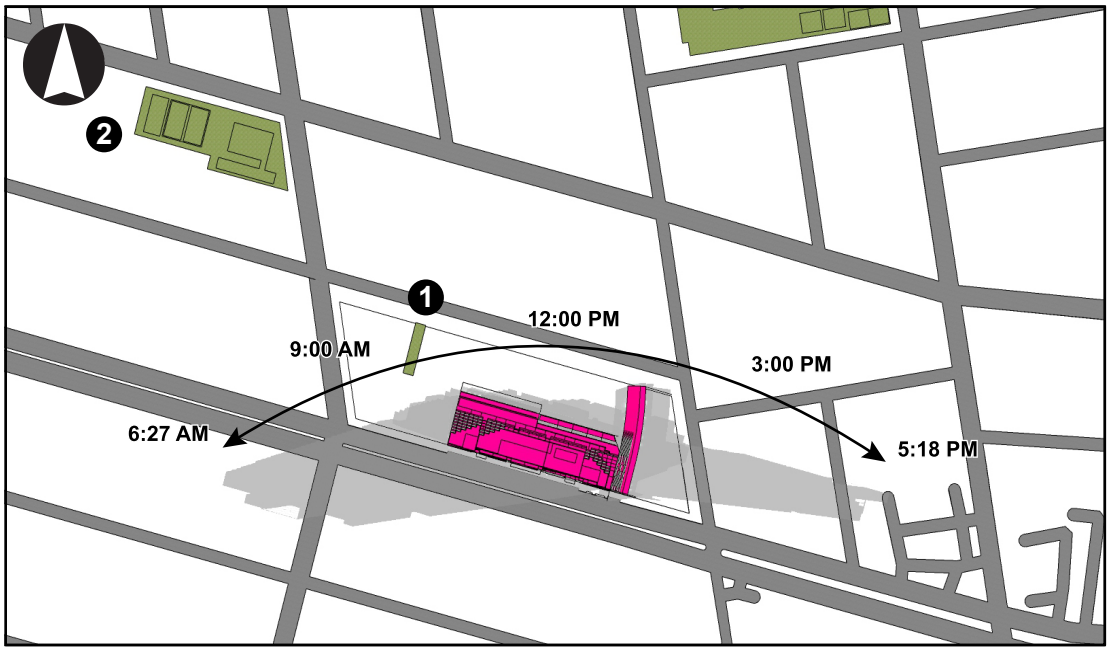
	Analysis Day	March 21/Sept. 21	May 6/August 6	June 21	December 21
		7:36 AM – 4:29 PM	6:27 AM – 5:18 PM	5:57 AM – 6:01 PM	8:51 AM – 2:53 PM
Lefferts Place Block Association Community Garden	Shadow Enter-Exit Time	8:17 – 9:58 AM	-	-	8:51 – 10:54 AM
	Incremental Shadow Duration	*1 hour 41 minutes*	-	-	*2 hours 3 minutes*
Crispus Attucks Playground	Shadow Enter-Exit Time	-	-	-	*8:51 – 9:03 AM*
	Incremental Shadow Duration	-	-	-	*12 minutes*

Note: All times are Eastern Standard Time; Daylight Savings Time was not accounted for per *2014 CEQR Technical Manual* guidance.
Table indicates the entry and exit times and total duration of incremental shadow for each sunlight-sensitive resource.

As shown in Table G-1, in the future with the Proposed Actions, incremental project-generated shadows would reach both of the sunlight-sensitive resources identified in the Tier 3 assessment. The Lefferts Place Block Association Community Garden would receive incremental shadows on the March/September 21 analysis day. Neither sunlight-sensitive resource would receive incremental shadows from the Proposed Development on the May/August 6 or June 21 analysis days. Each sunlight-sensitive resource would receive incremental shadows from the Proposed Development on the December 21 analysis day.



MARCH 21/SEPTEMBER 21



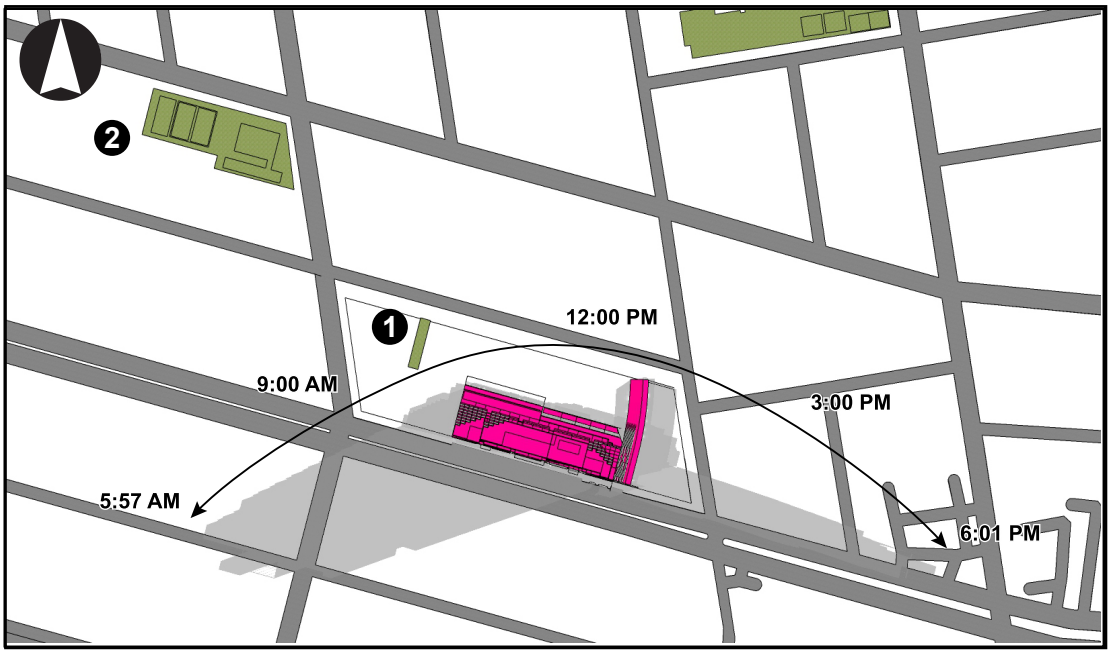
MAY 6/AUGUST 6

Proposed Development Site

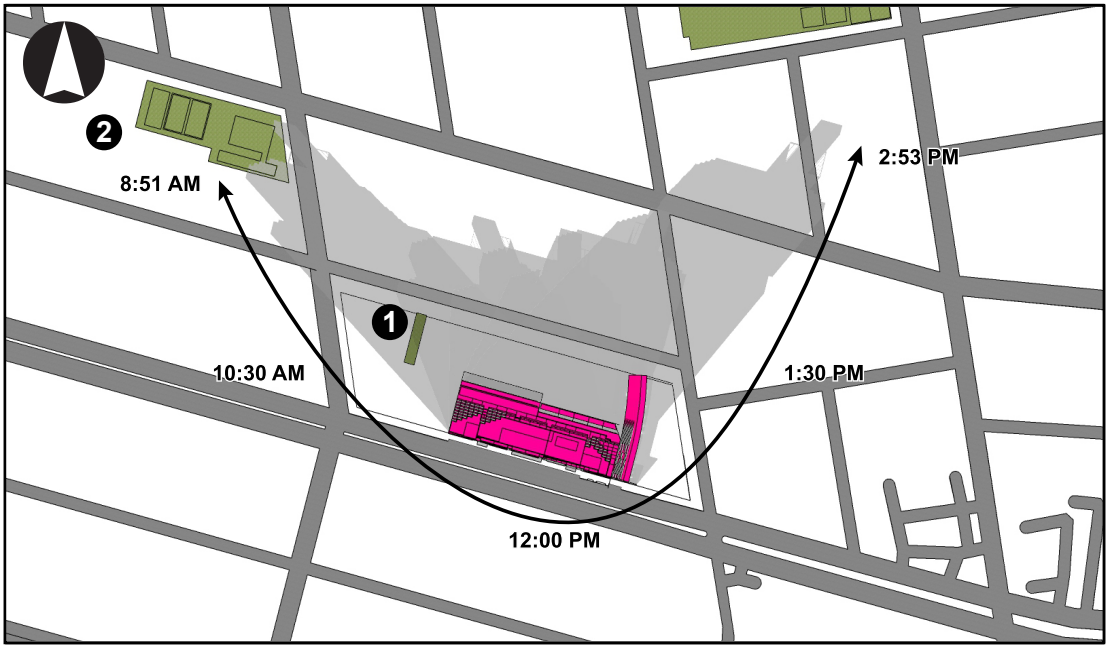
Project-Generated Shadow

1 Sunlight-Sensi ve Resource

Note: Resources keyed to Table G-1



JUNE 21



DECEMBER 21

Proposed Development Site

Project-Generated Shadow

1 Sunlight-Sensi ve Resource

Note: Resources keyed to Table G-1

Resources Affected by Project-Generated Incremental Shadows

Lefferts Place Block Association Community Garden

The Lefferts Place Block Association Community Garden is a 0.07 acre (2,975 sf) lot located between two buildings on Lefferts Place. The community garden includes planting beds and other vegetation. The community garden's operating hours are unknown. As discussed above, the community garden would receive incremental shadows from the Proposed Development on the March/September 21 and December 21 analysis days.

On the March/September 21 analysis day, incremental shadows from the Proposed Development would cover the southern portion of the community garden during the morning hours. The area covered in incremental shadows includes a portion of a planting bed and other vegetation. Incremental shadows from the Proposed Development would move eastward over the course of the morning (refer to **Figure G-3a**). As shown in Table G-1, incremental shadows from the Proposed Development would occur on this analysis day from 8:17 to 9:58 AM (approximately 1 hour and 41 minutes).

On the December 21, which is considered outside the growing season in New York City, incremental shadows from the Proposed Development, would be cast over a large portion of the community garden (refer to **Figure G-3b**). Incremental shadow from the Proposed Development, as well as existing shadows from other nearby buildings, would completely cast in the community garden in shadow from 8:51 to 10:05 AM. As shown in Table G-1, incremental shadow from the Proposed Development would be cast on the community garden from 8:51 to 10:54 AM (approximately 2 hours and 3 minutes). As shown in Figure G-3b, incremental shadow from the Proposed Development would be cast over planting beds and other vegetation in the southern half of the community garden. Incremental shadows from the Proposed Development would exit the community garden at approximately 10:54 AM.

ASSESSMENT

The Lefferts Place Block Association Community Garden would experience incremental shadow coverage on two of the four representative analysis days. Incremental shadow coverage would range between approximately 1 hour and 41 minutes on the March/September 21 analysis day to approximately 2 hours and 3 minutes on the December 21 analysis day (refer to Table G-1).

During the growing season, shadow coverage would generally be limited to the southern portion of the community garden for less than two hours, allowing vegetation in the community garden to receive (at least the four- to six-hour minimum of direct sunlight specified in the *CEQR Technical Manual)* (refer to **Figure G-3a**). As shadows are not static and move from west to east throughout the day, the community garden's sunlight-sensitive features would continue to receive direct sunlight on each of the four representative analysis days.

As discussed above, on the December 21 analysis day, incremental shadows from the Proposed Development, as well as existing shadows from nearby buildings would result in a complete loss of sunlight at the community garden from 8:51 to 10:05 AM (approximately 1 hours and 14 minutes). As this loss of sunlight would occur outside the growing season, it is not expected to have a negative impact on the vegetation within the community garden. Annuals, commonly found in community gardens do not survive winter seasons and must be replanted annually. Vegetables grown in community gardens are typically

Figure G-3a
Lefferts Place Block Association Community Garden
Incremental Shadows on March 21/September 21



8:30AM



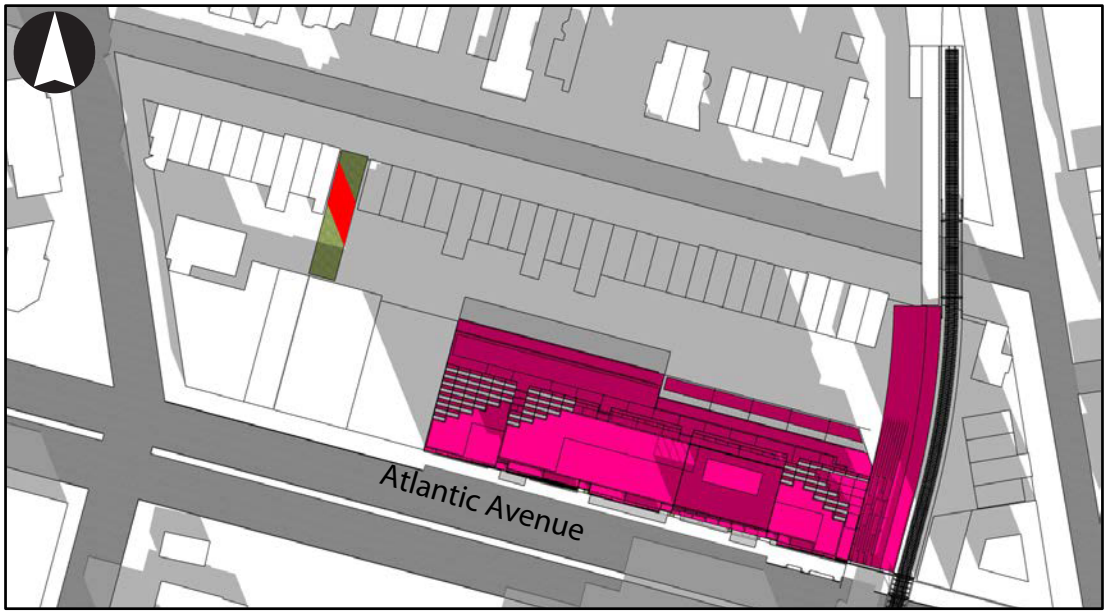
9:30AM

Proposed Project (RWCDS) **Open Space** **Incremental Shadow**

Figure G-3b
Lefferts Place Block Association Community Garden
Incremental Shadows on December 21



9:30AM



10:30AM

Proposed Project (RWCDS) **Open Space** **Incremental Shadow**

annuals. Therefore, no annuals would be affected by incremental shadow during the winter months as these types of plants do not survive the winter months under normal conditions. The other type of plant within the community garden are perennials. Within perennials there are two sub-categories – deciduous and evergreens). Deciduous plants and trees shed their leaves and store their energy (sugars and starches) in the roots for the winter months; whereas evergreens continue photosynthesis in the winter, but at extremely low levels and do not require sunlight during the dormant stage. A site visit to the community garden in June 2021 indicates that the existing fruit tree would be considered deciduous, meaning that the tree sheds its leaves in the winter months and is not growing. Therefore, incremental shadow would not threaten the vitality of any vegetation within the community garden during the December 21 analysis day.

Therefore, as the extent and duration of the incremental shadows would (1) not significantly reduce direct sunlight exposure on any of the sunlight-sensitive resources found within this resource, and (2) would not significantly alter the public's use of the resource or threaten the viability of vegetation or other resources, incremental shadows on the Lefferts Place Block Association Community Garden as a result of the Proposed Actions would not be considered a significant adverse impact, in accordance with *CEQR Technical Manual* methodology.

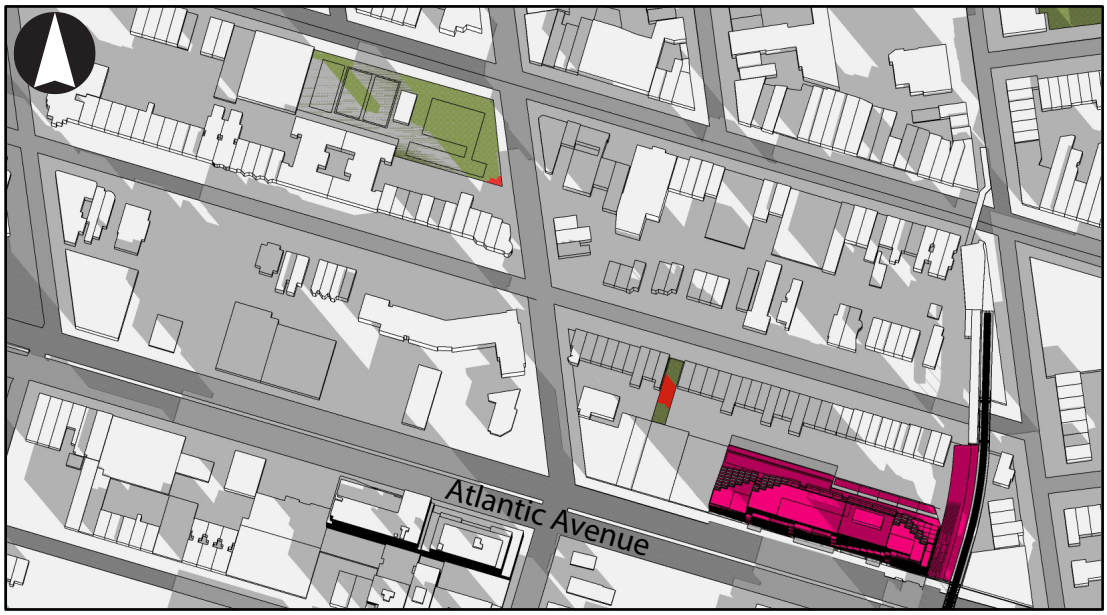
Crispus Attucks Playground

Crispus Attucks Playground is a 0.93-acre playground located at the intersection of Fulton Street and Classon Avenue. The playground includes basketball courts, handball courts, a playground, and spray showers. Incremental shadows would be cast on this open space for one of the four representative analysis days. The Proposed Development would result in incremental shadow coverage on the open space on the December 21 analysis day for approximately 12 minutes (refer to Table G-1). As shown in **Figure G-4**, incremental shadows would be limited to the southeastern corner of the open space. The area to be cast in incremental shadow includes vegetation.

ASSESSMENT

Crispus Attucks Playground would receive incremental shadows for one of the four representative analysis days. On the December 21 analysis day, incremental shadows would be cast on the southeastern corner of the open space for approximately 12 minutes (8:51 – 9:03 AM) (refer to **Figure G-4**). As the incremental shadows would be limited in duration and would occur outside the growing season and in the winter months when usage of the playground is at its lowest, incremental shadows would (1) not significantly reduce direct sunlight exposure on any of the sunlight-sensitive resources found within this open space, and (2) would not significantly alter the public's use of the open space or threaten the viability of vegetation or other resources. Therefore, the Proposed Actions would not result in a significant adverse impact to this sunlight-sensitive resource.

Figure G-4
Crispus Attucks Playground
Incremental Shadows on December 21



9:00AM

Proposed Project (RWCDS) **Open Space** **Incremental Shadow**

Attachment H
Historic and Cultural Resources

1045 Atlantic Avenue Rezoning EAS
Attachment H: Historic & Cultural Resources

I. INTRODUCTION

Historic and cultural resources include both architectural and archaeological resources. The 2014 *City Environmental Quality Review* (CEQR) *Technical Manual* identifies historic and cultural resources as districts, buildings, structures, sites, and objects of historical, aesthetic, cultural, and archaeological importance. This includes designated New York City Landmarks (NYCL); properties calendared for consideration as landmarks by the New York City Landmarks Preservation Commission (LPC); properties listed on the State/National Registers of Historic Places (S/NR) or contained within a district listed on or formally determined eligible for S/NR listing; properties recommended by the New York State Board for listing on the S/NR; National Historic Landmarks (NHL); and properties not identified by one of the programs listed above, but that meet their eligibility requirements. An assessment of historic/archaeological resources is usually needed for projects that are located adjacent to historic or landmark structures or within historic districts, or projects that require in-ground disturbance, unless such disturbance occurs in an area that has already been excavated.

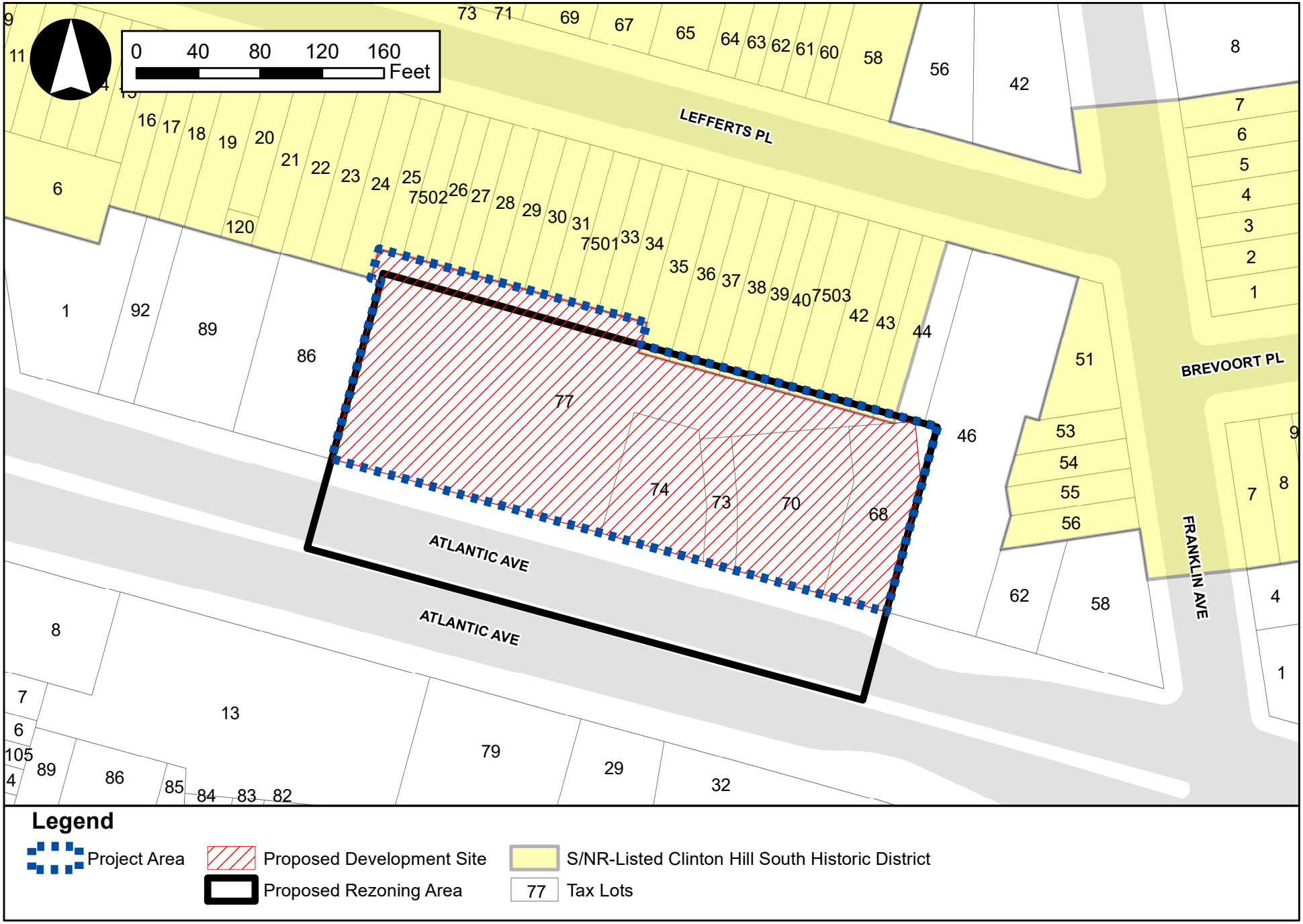
As the Proposed Rezoning Area encompasses a small portion of the S/NR-listed Clinton Hill South Historic District (shown in **Figure H-1a**), it is necessary to assess the potential impacts of the Proposed Actions on historic architectural resources. According to *CEQR Technical Manual* guidance, impacts on historic architectural resources are considered on those sites affected by a proposed action and in the area surrounding the project area. The historic resources study area is therefore defined as the Project Area plus an approximate 400-foot radius around the Project Area (refer to **Figure H-1b**), which is typically adequate for the assessment of historic architectural resources, in terms of physical, visual, and historical relationships.

Archaeological resources are considered only in those areas where new excavation or ground disturbance is likely and would result in new in-ground disturbance as compared to No-Action conditions; these are limited to sites that may be developed as a result of the Proposed Actions. As determined by LPC in a letter dated October 19, 2020 (provided in **Appendix F**), none of the lots comprising the Proposed Development Site have archaeological significance. Therefore, the Proposed Actions would not result in any significant adverse archaeological impacts and an archaeological analysis is not warranted. As such, this attachment focuses exclusively on historic architectural resources.

II. PRINCIPAL CONCLUSIONS

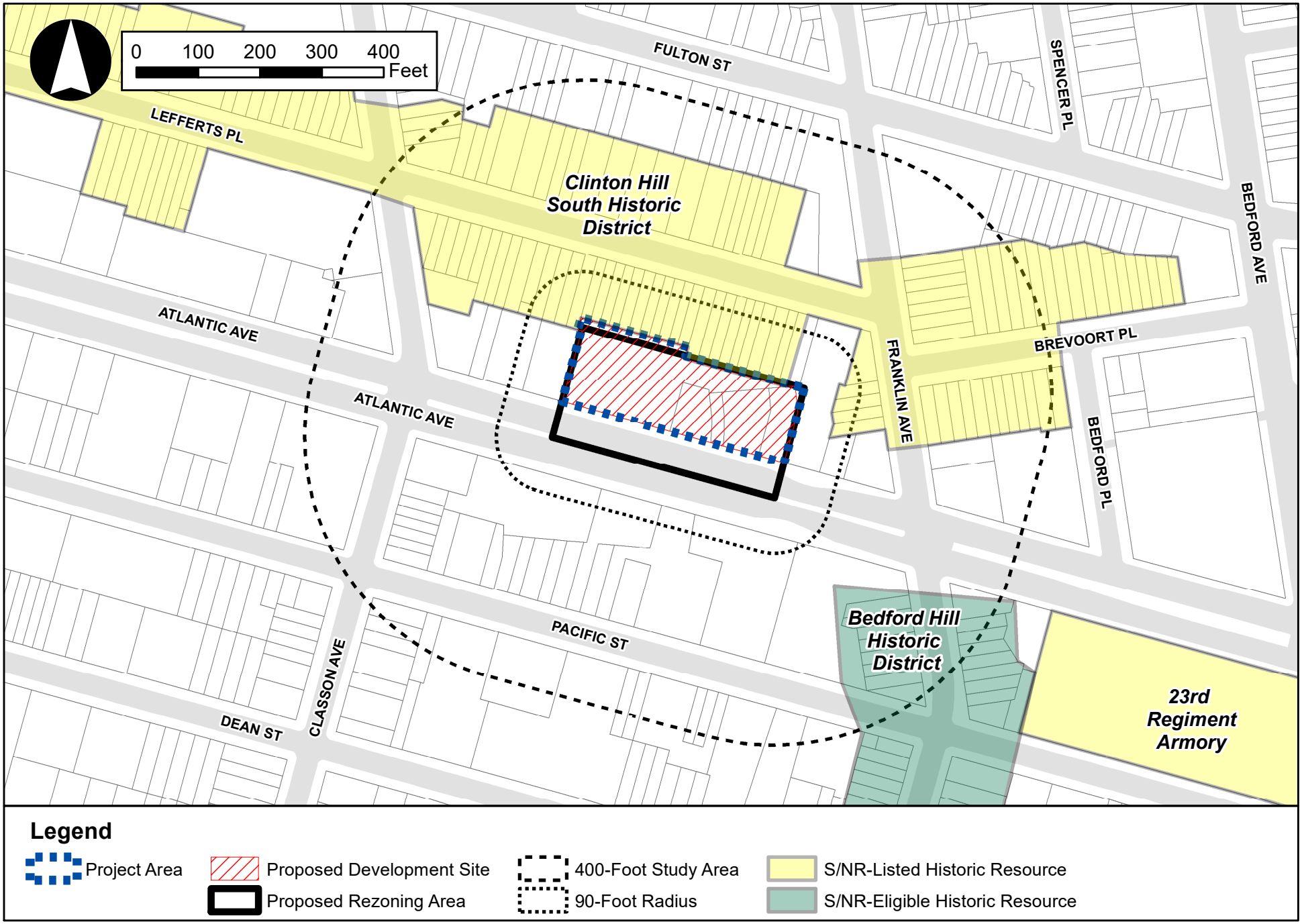
Direct (Physical) Impacts

The Proposed Actions are site-specific, and, as discussed above, the Proposed Development Site does not contain any designated or eligible historic resources. Therefore, the demolition of the existing buildings on the Proposed Development Site in the future with the Proposed Actions would not result in any direct impacts to historic architectural resources.



1045 Atlantic Avenue Rezoning

Figure H-1a
Project Area



1045 Atlantic Avenue Rezoning

Figure H-1b
Historic Resources Map

The Proposed Rezoning Area encompasses less than five percent of Lots 35-40, 42-44, and 7503 on Block 2020, all of which are located in the S/NR-listed Clinton Hill South Historic District. However, as detailed below, these lots would each retain their R6B zoning district designation in the future with the Proposed Actions, and thus, are not expected to be affected by the Proposed Actions. As no changes to these properties are expected in the future with the Proposed Actions, no direct impacts to historic architectural resources would occur.

Indirect (Contextual) Impacts

The Proposed Actions would not result in significant adverse indirect impacts on historic architectural resources. The Proposed Actions would facilitate the development of a 17-story mixed-use building on the Proposed Development Site. The top of the proposed building would be visible when looking south on Lefferts Place in the S/NR-listed Clinton Hill South Historic District. The proposed building would also be visible when looking northwest from Franklin Avenue in the S/NR-eligible Bedford Hill Historic District. However, these changes would not be significant or adverse. The study area is a dense urban environment with multiple mid- and high-rise buildings that currently form the backdrop for the two historic districts. The proposed building would not substantially change the visual setting of either historic district so as to affect those characteristics that make either eligible for listing on the S/NR.

Additionally, in the future with the Proposed Actions, no incompatible visual, audible, or atmospheric elements would be introduced to any historic resource's setting. The proposed building would not alter the relationship of any identified historic architectural resources to the streetscape, as all streets in the study area would remain open and all historic resources' relationships to the street would remain unchanged in the future with the Proposed Actions. The proposed building would not eliminate or screen public views of any historic architectural resources, which would remain visible in view corridors on adjacent public streets and sidewalks. No primary facades, significant architectural ornamentation, or notable features of any contributing resource in the Clinton Hill South Historic District or the Bedford Hill Historic District would be obstructed by the proposed building.

The Proposed Actions would not result in development that would diminish the qualities that make the S/NR-listed Clinton Hill South Historic District or the S/NR-eligible Bedford Hill Historic District historically and architecturally significant. As such, the Proposed Actions would not result in any significant adverse indirect or contextual impacts on historic architectural resources.

Construction-Related Impacts

As the Proposed Development Site is located immediately south of the S/NR-listed Clinton Hill South Historic District, construction facilitated by the Proposed Actions would be subject to the New York City Department of Buildings (DOB)'s Technical Policy and Procedure Notice (TPPN) #10/88. Under the TPPN, a construction protection plan would be provided to the LPC for review and approval prior to any work on the Proposed Development Site. The construction protection plan would take into account the guidance provided in the *CEQR Technical Manual*, Chapter 9, Section 523, "Construction Protection Plan." As such, no construction-related impacts on historic resources would occur as a result of the Proposed Actions.

Shadows Impacts

The Proposed Action would not result in any significant adverse shadows impacts on historic resources. As detailed further in **Attachment F, "Shadows,"** there are no sunlight-sensitive historic resources located in the vicinity of the Project Area, and as such, project-generated shadows would not result in significant adverse shadows impacts on historic resources.

III. DEVELOPMENT BACKGROUND

Prior to the arrival of the European colonists, Brooklyn was inhabited by Canarsie Native Americans, a largely autonomous tribe of the Leni Lenape. In the 17th century, Dutch settlers established villages in Brooklyn, including Breukelen to the northwest of the Project Area and Bedford to the northeast. Most of the land in the study area was owned by the Lefferts family, who were among the largest landowners in 17th and 18th century Brooklyn. In 1834, Brooklyn was incorporated as a city, and in 1839, a standard street grid for the new city was mapped. Concurrently, the Brooklyn & Jamaica Railroad, which connected the study area to the Manhattan ferries, started running along Atlantic Avenue, with a station at Franklin Avenue, immediately adjacent to the Project Area. However, the extremely slow-moving railroad did little to stimulate the surrounding area's growth, and the study area remained predominately woodland and farmland until the mid-19th century.

During the course of the 19th century, Brooklyn grew from a collection of small rural villages and farms into the third most populous city in America. In 1854, the Lefferts's farm was subdivided, and several suburban villas were constructed for commuters in the northern portion of the study area along Lefferts Place. During the 1860s, the construction of speculative rowhouses gained momentum in the study area, spurred by transit improvements such as the opening of the Brooklyn Rapid Transit (BRT) Brighton Beach Line (today's Franklin Avenue Shuttle in the easternmost portion of the Project Area) and the conversion of horsecars to electric trolleys. By the end of the century, the study area was part of one of Brooklyn's most desirable neighborhoods, largely comprised of residential buildings on the standard, narrow lots laid out in the 1839 plan, in close proximity to commuter transportation to Manhattan.

In 1898, Brooklyn was incorporated into the City of New York. In the early 1900s, the former at-grade rail lines on Atlantic Avenue were moved underground, and the avenue continued to serve as a major traffic artery throughout the 20th century as the only east-west through truck route in Brooklyn. As a result, much of Atlantic Avenue was redeveloped with factories, automotive repair shops, and similar commercial and light industrial establishments over the course of the 20th century, including those in the Project Area which were constructed between 1930 and 1950. Minimal new construction occurred in the study area during the final decades of the 21st century; however, in the past 20 years, new development has risen primarily along Fulton and Pacific Streets. These new developments include low-rise residential and commercial buildings, as well as a nine-story mixed residential/commercial building at 1078 Fulton Street; a six-story commercial/office building at 1104 Fulton Street; and an eight-story mixed residential/ commercial building at 1134 Fulton Street.

IV. ARCHITECTURAL RESOURCES

Criteria and Regulations

Once the study area was determined, an inventory of officially recognized architectural resources was compiled. Criteria for listing on the National Register are in the Code of Federal Regulations, Title 36, Part 63. As recommended in the 2014 *CEQR Technical Manual*, Chapter 9, Section 160, LPC has adopted these criteria for use in identifying National Register listed and eligible architectural resources for CEQR review. Following these criteria, districts, sites, buildings, structures, and objects are eligible for the National Register if they possess integrity of location, design, setting, materials, workmanship, feeling, and association, and: (1) are associated with events that have made a significant contribution to the broad patterns of history (Criterion A); (2) are associated with significant people (Criterion B); (3) embody

distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction (Criterion C); or (4) may yield [archaeological] information important in prehistory or history. Properties younger than 50 years of age are ordinarily not eligible, unless they have achieved exceptional significance. Official determinations of eligibility are made by the New York State Office of Parks, Recreation & Historic Preservation (OPRHP).

In addition, LPC designates historically significant properties in the City as NYCLs and/or Historic Districts, following the criteria provided in the Local Laws of the City of New York, New York City Charter, Administrative Code, Title 25, Chapter 3. Buildings, properties, or objects are eligible for landmark status when a part is at least 30 years old. Landmarks have a special character or special historical or aesthetic interest or value as part of the development, heritage, or cultural characteristics of the city, state, or nation. There are four types of NYCLs: individual landmarks, interior landmarks, scenic landmarks, and historic districts.

Existing Conditions

Project Area

The Project Area, which includes the limits of the Proposed Development Site and the Proposed Rezoning Area, is comprised of 16 lots on Brooklyn Block 2020 (see **Figure H-1a**). In a letter dated October 19, 2020 (provided in **Appendix F**), LPC determined that there are no designated or eligible historic architectural resources on any of the lots that comprise the Proposed Development Site (Block 2020, Lots 68, 70, 73, 74, and 77). However, as shown in **Figure H-1a**, the Proposed Rezoning Area encompasses a small portion of Lots 35-40, 42-44, and 7503 on Block 2020, which are all located in the S/NR-listed Clinton Hill South Historic District.

CLINTON HILL SOUTH HISTORIC DISTRICT (S/NR-LISTED)

The S/NR-listed Clinton Hill South Historic District is a well-preserved residential district comprised primarily of rowhouses, apartment buildings, and institutional buildings set between two major commercial streets (Fulton Street and Atlantic Avenue), creating a uniform grouping of low-rise, finely-detailed 19th and early-20th century structures. The historic district contains a concentration of styles illustrating a continuum of development spanning seven decades, from the 1850s to 1921, with the majority of structures erected in the 1870s. The district is an architecturally significant enclave that illustrates the high quality of residential design, and in particular, sophisticated incised decoration, present in Brooklyn during the City's peak years of development.

The earliest rowhouses in the Clinton Hill South Historic District were built in the Italianate style, but the most prevalent rowhouse style in the district is Neo-Grec, including those structures located within the Project Area (196-214 Lefferts Place). As shown in **Figure H-2a**, like the majority of other Neo-Grec buildings in the historic district, the rowhouses at 196-214 Lefferts Place are three stories above a raised basement and faced in brownstone, with projecting cornices and high stoops leading to arched entrances with double entry doors. They have a stylized angular form with incised ornament, as well as rectangular and angular window openings, doorway enframements, and cornice brackets. This largely intact group of buildings at 196-214 Lefferts Place was designed and built by Robert Dixon, the most active architect in the Clinton Hill South Historic District, in 1877-80.

400-Foot Study Area

In addition to the S/NR-listed Clinton Hill South Historic District detailed above, the 400-foot study area includes the northernmost portion of the S/NR-eligible Bedford Hill Historic District (see **Figure H-1b**).

BEDFORD HILL HISTORIC DISTRICT (S/NR-ELIGIBLE)

Located in the northwestern section of Crown Heights, the S/NR-eligible Bedford Hill Historic District is characterized by well-preserved residential streets featuring an array of outstanding residential architecture in the popular late-19th and early-20th century styles of Brooklyn. The district consists of finely detailed rowhouses, mixed residential flats with ground-floor commercial space, and apartment buildings dating from the late-19th century to the 1930s. The district also contains a few notable commercial and religious structures.

Buildings in the 400-foot study area include the rowhouses at 568-582 and 573-579 Franklin Avenue. The uniform, two-story plus raised basement brownstones at 568-582 Franklin Avenue were constructed in the Italianate style, and all contain high stoops, projecting cornices, and fences surrounding the front property line (see **Figure H-2a**). Across the street at 573-579 Franklin Avenue are four-story Romanesque Revival-style residences with asymmetric façades and polychromatic materials. As shown in **Figure H-2a**, these buildings are each unique in design and ornament. Most have round-arched window openings on the first floor and often on the upper floors, although No. 579 has a commercial storefront with an awning at the ground level. The buildings contain a variety of materials, including white, tan, brown, and red bricks, as well as painted brownstone and terra cotta molded in the design of faux stones.

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

Under No-Action conditions, the status of historic resources could change. S/NR-eligible architectural resources could be listed in the Registers, and properties found eligible for consideration for designation as NYCLs could be calendared and/or designated. Changes to the historic resources identified above or to their settings could also occur irrespective of the Proposed Actions. Future projects could affect the settings of architectural resources. It is possible that some architectural resources in the area surrounding the Project Area could deteriorate, while others could be restored. In addition, future projects could accidentally damage architectural resources through adjacent construction.

Properties that are designated NYCLs are protected under the New York City Landmarks Law, which requires LPC review and approval before any alteration or demolition of those resources can occur. All properties within LPC-designated historic districts also require LPC permit and approval prior to new construction, addition, enlargement, or demolition. The owners of a property may work with LPC to modify their plans to make them appropriate. Properties that have been calendared for consideration for designation as NYCLs are also afforded a measure of protection insofar as, due to their calendared status, permits may not be issued by DOB for any structural alteration to the buildings for any work requiring a building permit, without at least 40 days prior notice being given to LPC. During the 40-day period, LPC has the opportunity to consider the case and, if it so chooses, schedule a hearing and move forward with designation.

The New York City Building Code provides some measures of protection for all properties against accidental damage from adjacent construction by requiring that all buildings, lots, and service facilities adjacent to foundation and earthwork areas be protected and supported. Additional protective measures apply to designated NYCLs and S/NR-listed historic buildings located within 90 linear feet of a proposed



1) Looking southeast at 196-214 Lefferts Place in the S/NR-listed Clinton Hill South Historic District. Small portions of the rear yards of these properties are located in the Project Area.



2) Looking west along Lefferts Place in the S/NR-listed Clinton Hill South Historic District, with Nos. 196-214 to the left.



3) South side of Lefferts Place in the S/NR-listed Clinton Hill Historic District, immediately north of the Project Area.



4) South side of Lefferts Place in the S/NR-listed Clinton Hill Historic District, immediately north of the Project Area.



Courtesy of Google StreetView

1) Looking west at 568-582 Franklin Avenue in the S/NR-eligible Bedford Hill Historic District.



2) Looking east at 573-579 Franklin Avenue in the S/NR-eligible Bedford Hill Historic District.

construction site. For these structures, the DOB's TPPN #10/88 applies. TPPN #10/88 supplements the standard building protections afforded by the Building Code by requiring, among other things, a monitoring program to reduce the likelihood of construction damage to adjacent NYCL-designated or S/NR-listed historic resources (within 90 feet) and to detect at an early stage the beginnings of damage so that construction procedures can be changed.

Additionally, historic resources that are listed on the S/NR or that have been found eligible for listing are given a measure of protection from the effects of federally-sponsored, or federally-assisted projects under Section 106 of the National Historic Preservation Act, and are similarly protected against impacts resulting from state-sponsored or state-assisted projects under the New York State Historic Preservation Act. Although preservation is not mandated, federal agencies must attempt to avoid adverse impacts on such resources through a notice, review, and consultation process. Private property owners using private funds can, however, alter or demolish their S/NR-listed or S/NR-eligible properties without such a review process.

Anticipated Developments in the No-Action Condition

PROJECT AREA

In the 2024 future without the Proposed Actions, the Project Area would retain its M1-1/R6B zoning designation, and while no new construction is planned for the Proposed Development Site, it is conservatively assumed that the currently vacant, approximately 12,240 gsf former industrial building on Lot 70 would be reoccupied with light industrial/warehousing uses. No other changes to the remaining Project Area lots are anticipated in the future without the Proposed Actions.

400-FOOT STUDY AREA

As discussed in **Attachment C, "Land Use, Zoning, & Public Policy,"** there is one known development in the 400-foot study area that is expected to be completed in the 2024 future without the Proposed Actions: a four-story residential building at 173 Lefferts Place. This No-Action development on a previously vacant lot is expected to be in keeping with the three- to four-story residential buildings in the surrounding S/NR-listed Clinton Hill South Historic District. There is also one potential development site within the study area: a 17-story mixed-use building at 1050 Atlantic Avenue.[1] This potential high-rise will result in a new backdrop and context for surrounding historic resources in the future without the Proposed Actions.

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

According to the *CEQR Technical Manual*, generally, if a project would affect those characteristics that make a resource eligible for NYCL designation or S/NR listing, this could be a significant adverse impact. This section assesses the Proposed Actions' potential to result in significant adverse impacts on identified architectural resources in the study area, including impacts resulting from construction of the Proposed Project, project-generated shadows, or other indirect effects on existing historic resources in the study area.

[1] It should be noted that this development was identified as part of the RWCDS for the 1034-1042 Atlantic Avenue Rezoning, which is currently being reviewed under ULURP and has not yet been approved. However, for conservative analysis purposes, it is included in this No-Action analysis.

The Proposed Actions were assessed in accordance with guidance established in the *CEQR Technical Manual* (Chapter 9, Part 420), to determine (a) whether there would be a physical change to any designated or listed property as a result of the Proposed Actions; (b) whether there would be a physical change to the setting of any designated or listed resource, such as context or visual prominence, as a result of the Proposed Actions; and (c) if so, whether the change is likely to diminish the qualities of the resource that make it important. Whereas this chapter/attachment focuses specifically on the Proposed Actions' effects on the visual context of historic resources, an assessment of the Proposed Actions' effects on the visual character of the study area in general is provided separately in **Attachment I, "Urban Design & Visual Resources."**

As detailed in **Attachment A, "Project Description,"** the Proposed Action would facilitate the development of a new mixed-use building on the Applicant-owned Proposed Development Site (Lots 68, 70, 73, 74, and 77 on Block 2020). The proposed building would have a six-story base with a streetwall height of approximately 65 feet, built to the street line along Atlantic Avenue. Above the base, the building would include another setback at floor 13 (at a height of approximately 135 feet) before reaching a maximum height of 17 stories (approximately 175 feet in height). The proposed building would have approximately 370 feet of frontage along Atlantic Avenue, where all vehicular and pedestrian access would be provided.

In addition to the Applicant's property, the Project Area also includes portions of Lots 35-40, 42-44, 46, and 7503 which are not controlled by the Applicant. Lot 46 is owned and controlled by New York City Transit (NYCT) and is currently occupied by the elevated Franklin Avenue Shuttle subway line. Only approximately one percent of this lot would be affected by the proposed C6-3A zoning district. Therefore, Lot 46 is not a projected development site. Additionally, as less than approximately five percent of Lots 35-40, 42-44, and 7503 are located within the Proposed Rezoning Area, and as the greatest distance from the proposed C6-3A district boundaries do not exceed 25 feet, these lots will each retain their R6B zoning district designation in the future with the Proposed Actions, and thus, are not expected to be affected by the Proposed Actions. Therefore, Lots 35-40, 42-44, and 7503 are not considered projected development sites (refer to **Attachment A, "Project Description,"** for further discussion).

Direct (Physical) Impacts

Historic resources can be directly affected by physical destruction, demolition, damage, alteration, or neglect of all or part of a historic resource. For example, alterations, such as the addition of a new wing to a historic building or replacement of the resource's entrance could result in significant adverse impacts, depending on the design. Direct effects also include changes to an architectural resource that cause it to become a different visual entity, such as a new location, design, materials, or architectural features.

The Proposed Actions are site-specific, and, as discussed above, the Proposed Development Site does not contain any designated or eligible historic resources. Therefore, the demolition of the existing buildings on the Proposed Development Site in the future with the Proposed Actions would not result in any direct impacts to historic architectural resources.

The Proposed Rezoning Area encompasses less than five percent of Lots 35-40, 42-44, and 7503 on Block 2020, all of which are located in the S/NR-listed Clinton Hill South Historic District. However, as detailed above, these lots would each retain their R6B zoning district designation in the future with the Proposed Actions, and thus, are not expected to be affected by the Proposed Actions. As no changes to these properties are expected in the future with the Proposed Actions, no direct impacts to historic architectural resources would occur.

Indirect (Contextual) Impacts

Contextual impacts may occur to architectural resources under certain conditions. According to the *CEQR Technical Manual*, possible impacts to architectural resources may include isolation of the property from, or alteration of, its setting or visual relationships with the streetscape. This includes changes to the resource's visual prominence so that it no longer conforms to the streetscape in terms of height, footprint, or setback; is no longer part of an open setting; or can no longer be seen as part of a significant view corridor. Significant indirect impacts can occur if the Proposed Action would cause a change in the quality of a property that qualifies it for listing on the S/NR or for designation as a NYCL.

The Proposed Actions would not result in significant adverse indirect impacts on historic architectural resources. As detailed above, the Proposed Actions would facilitate the development of a 17-story mixed-use building on the Proposed Development Site. As shown in **Figure I-8** in **Attachment I, "Urban Design & Visual Resources,"** the top of the proposed building would be visible when looking south on Lefferts Place in the S/NR-listed Clinton Hill South Historic District. The proposed building would also be visible when looking northwest from Franklin Avenue in the S/NR-eligible Bedford Hill Historic District. However, these changes would not be significant or adverse. The study area is a dense urban environment with multiple mid- and high-rise buildings that currently form the backdrop for the two historic districts. The proposed building would not substantially change the visual setting of either historic district so as to affect those characteristics that make either eligible for listing on the S/NR.

Additionally, in the future with the Proposed Actions, no incompatible visual, audible, or atmospheric elements would be introduced to any historic resource's setting. The proposed building would not alter the relationship of any identified historic architectural resources to the streetscape, as all streets in the study area would remain open and all historic resources' relationships to the street would remain unchanged in the future with the Proposed Actions. The proposed building would not eliminate or screen public views of any historic architectural resources, which would remain visible in view corridors on adjacent public streets and sidewalks. No primary facades, significant architectural ornamentation, or notable features of any contributing resource in the Clinton Hill South Historic District or the Bedford Hill Historic District would be obstructed by the proposed building.

The Proposed Actions would not result in development that would diminish the qualities that make the S/NR-listed Clinton Hill South Historic District or the S/NR-eligible Bedford Hill Historic District historically and architecturally significant. As such, the Proposed Actions would not result in any significant adverse indirect or contextual impacts on historic architectural resources.

Construction-Related Impacts

Any new construction taking place within historic districts or adjacent to individual landmarks has the potential to cause damage to contributing buildings to those historic resources from ground-borne construction vibrations. As noted above, the New York City Building Code provides some measure of protection for all properties against accidental damage from adjacent construction by requiring that all buildings, lots, and service facilities adjacent to foundation and earthwork areas be protected and supported. Additional protective measures apply to LPC-designated and S/NR-listed historic resources located within 90 linear feet of a proposed construction site. For these structures, DOB's TPPN #10/88 applies. TPPN #10/88 supplements the standard building protections afforded by the Building Code by requiring, among other things, a monitoring program to reduce the likelihood of construction damage to adjacent LPC-designated or S/NR-listed resources (within 90 feet) and to detect at an early stage the beginnings of damage so that construction procedures can be changed.

As the Proposed Development Site is located immediately south of the S/NR-listed Clinton Hill South Historic District, construction facilitated by the Proposed Actions would be subject to TPPN #10/88. Under the TPPN, a construction protection plan would be provided to the LPC for review and approval prior to any work on the Proposed Development Site. The construction protection plan would take into account the guidance provided in the *CEQR Technical Manual*, Chapter 9, Section 523, "Construction Protection Plan." As such, no construction-related impacts on historic resources would occur as a result of the Proposed Actions.

Shadows Impacts

The Proposed Action would not result in any significant adverse shadows impacts on historic resources. As described in a letter from the LPC received on January 29, 2021 (see **Appendix F**) and detailed further in **Attachment F, "Shadows,"** there are no sunlight-sensitive historic resources located in the vicinity of the Project Area. While the St. Peter Claver Institute (S/NR-eligible) at 1 Jefferson Avenue and the St. Peter Claver Church (SN/R-eligible) at 21 Claver Place fall within the Tier I and Tier II shadow study area (refer to **Figure G-1**), neither historic resource contain sunlight-sensitive features. As such, project-generated shadows would not result in significant adverse shadows impacts on historic resources.

Attachment I
Urban Design and Visual Resources

1045 Atlantic Avenue Rezoning EAS
Attachment I: Urban Design and Visual Resources

I. INTRODUCTION

This attachment considers the potential effects of the Proposed Actions and subsequent development on urban design and visual resources. As defined in the *City Environmental Quality Review* (CEQR) *Technical Manual*, urban design is the totality of components that may affect a pedestrian's experience of public space. Elements such as streets, buildings, visual resources, open space, natural resources, wind, and sunlight play an important role in the pedestrian experience. The Proposed Actions would facilitate the development of a new mixed-use building along Atlantic Avenue between Franklin and Classon avenues in the Bedford-Stuyvesant/Crown Heights neighborhood of Brooklyn Community District (CD) 3, as well as allow for streetwall flexibility along the Proposed Project's Atlantic Avenue frontage.

In accordance with *CEQR Technical Manual* guidance, the assessment focuses on the components of the Proposed Actions and resultant development that may have the potential to alter the arrangement, appearance, and functionality of the built environment. As described in Attachment A, "Project Description," in the future with the Proposed Actions, the Applicant proposed to construction a new 17-story (175-feet in height) predominantly residential building with commercial office and retail uses on the first two floors, with a total of approximately 477,098 gsf and a floor area ratio (FAR) of 8.5 (the "Proposed Project"). It is anticipated that the Proposed Project would contain approximately 357,436 gsf of residential space (422 dwelling units [DUs]), approximately 34,470 gsf of commercial retail space, approximately 28,334 gsf of commercial office space, and 8,995 gsf of community facility space (0.19 FAR), as well as approximately 152 accessory parking spaces in a single cellar level and 5,561 gsf of mechanical space.[1]

However, as presented in Attachment A, the Proposed Actions would increase the maximum permitted commercial FAR on the Proposed Development Site, and as such this EAS examines the potential impacts of a second reasonable worst-case development scenario (RWCDS). Under this second RWCDS, the Applicant could reasonably construct a 16-story mixed-use building containing approximately 113,587 gsf of commercial office uses, 33,111 gsf of commercial retail uses, 273,072 gsf (337 DUs) of residential uses, approximately 152 accessory parking spaces (approximately 46,022 gsf), and 5,798 gsf of mechanical uses (the "Alternate Commercial Scenario").[2] It is expected that either the Proposed Project or Alternate Commercial Scenario would be completely constructed and fully occupied by 2024.

In the absence of the Proposed Actions (the No-Action condition), it is assumed that while no new construction is planned for the Proposed Development Site, it is conservatively assumed that the currently vacant, approximately 12,240 gsf former industrial building on Lot 70 would be reoccupied with light industrial/warehousing uses in the No-Action condition. As a result, the Applicant-owned Proposed Development Site would be occupied by approximately 30,101 gsf of light industrial uses, 6,807 gsf of

[1] For reasonable worst-case analysis purposes, the 5,561 gsf of mechanical uses will be conservatively assigned as commercial office uses.

[2] Similar to Footnote #1 above, for reasonable worst-case analysis purposes, the 5,798 gsf of mechanical uses will be conservatively assigned as commercial office uses.

office uses, and 1,438 gsf of retail uses. No other changes to the remaining Project Area lots are anticipated in the future without the Proposed Actions. The effect of the Proposed Actions represents the incremental effect on conditions resulting from the net change in development at the Proposed Development Site between No-Action and With-Action conditions.

II. PRINCIPAL CONCLUSIONS

The Proposed Actions and subsequent development would not have a significant adverse impact on the area's urban design and visual resources. The Proposed Actions would facilitate new development at the Proposed Development Site, including residential and commercial uses adjacent to existing residential and commercial development, and along a major commercial corridor (Atlantic Avenue) and within blocks of a major shopping thoroughfare (Fulton Street) in Bedford-Stuyvesant/Crown Heights, Brooklyn. Each of the RWCDS buildings (i.e., the Proposed Project and the Alternate Commercial Scenario) would replace several underutilized single- and two-story commercial, industrial, and vacant buildings with a new 17-story mixed-use building that is expected to bring a range of uses to the Project Area that will activate the street throughout the day and night. Consistent with the proposed zoning text amendment to allow for streetwall flexibility along the frontage of the Proposed Project, each of the RWCDS buildings would be set back by approximately 2'-9" from the street line along the site's Atlantic Avenue frontage creating a strong streetwall in harmony with surrounding development. The Proposed Project's and Alternate Commercial Scenario's proposed ground floor uses and retail, office, and residential entrances along Atlantic Avenue would further activate the streetscapes by increasing pedestrian traffic, which would further be supported by the proposed streetwall flexibility along the Proposed Project's frontages along Atlantic Avenue.

The Proposed Actions would not result in any significant adverse impacts on the existing street network or grid, nor would they affect any view corridors. While the RWCDS buildings under With-Action conditions would be larger and taller than the existing buildings and anticipated/planned No-Action developments within the study area, they are expected to complement the existing scale and building context along and within the vicinity of Atlantic Avenue, which includes a variety of residential and mixed-use residential and commercial building typologies. The With-Action building would also be consistent with surrounding neighborhood context in terms of use and lot placement, forming consistent and active streetwalls with buildings lining Atlantic Avenue, a major thoroughfare that connects the Brooklyn waterfront with Jamaica, Queens.

Although the Proposed Actions would result in a building that is larger in height and bulk (scale) than those found in the immediate surrounding neighborhood,[3] from a pedestrian's perspective, each of the RWCDS buildings would not obstruct important view corridors. The RWCDS buildings would be prominent along Atlantic Avenue, and could be viewed from various streets within the secondary study area (refer to Figures I-8 and I-9, below). Furthermore, the bulk of both RWCDS buildings would generally be massed away from adjacent residential buildings along Lefferts Place in the With-Action condition and toward

[3] However, it should be noted that the height of the RWCDS buildings (175-feet in height) would be consistent with the projected and potential development sites identified in the 1034-1042 Atlantic Avenue Rezoning, which is currently under review and in ULURP. If approved. The projected development site at 1034-1042 Atlantic Avenue (located just outside the secondary study area) and the potential development site at 1050 Atlantic Avenue (located within the secondary study area) would each rise to a building height of 175-feet.

Atlantic Avenue, a wide street.[4] As discussed in Attachment C, "Land Use, Zoning, & Public Policy," the secondary study area includes projects (1034-42 Atlantic Avenue) that would be built to a similar scale as the Proposed Development. Additionally, the scale of the Proposed Development would match the scale of Atlantic Avenue west of the secondary study area. The scale of future development would be appropriate for the scale of the streets and elevated Franklin Avenue Shuttle line adjacent to the Proposed Development Site and secondary study area.

The Proposed Actions would not result in any development that would obstruct or eliminate any public views or affect any existing view corridors or views of visual resources in the study area. As such, the Proposed Actions would not result in any significant adverse impacts to urban design or visual resources.

III. METHODOLOGY

Pursuant to the *CEQR Technical Manual*, an assessment of urban design is appropriate when a proposed action(s) may have effects on one or more of the elements that contribute to the pedestrian experience of public space. The assessment focuses on the components of a proposed action(s) that may have the potential to alter the arrangement, appearance, and functionality of the built environment.

As described in the *CEQR Technical Manual*, a preliminary urban design analysis is appropriate when there is potential for a pedestrian to observe from the street level a physical alteration beyond that allowed by existing zoning. A preliminary analysis provides a "snapshot" of the project, comparing existing and future conditions with and without the Proposed Actions. The following analysis examines each of the elements that play an important role in the pedestrian experience, including street hierarchy and streetscape (including the arrangement and orientation of streets); building scale, form and arrangement; and natural features, open space, and topography.

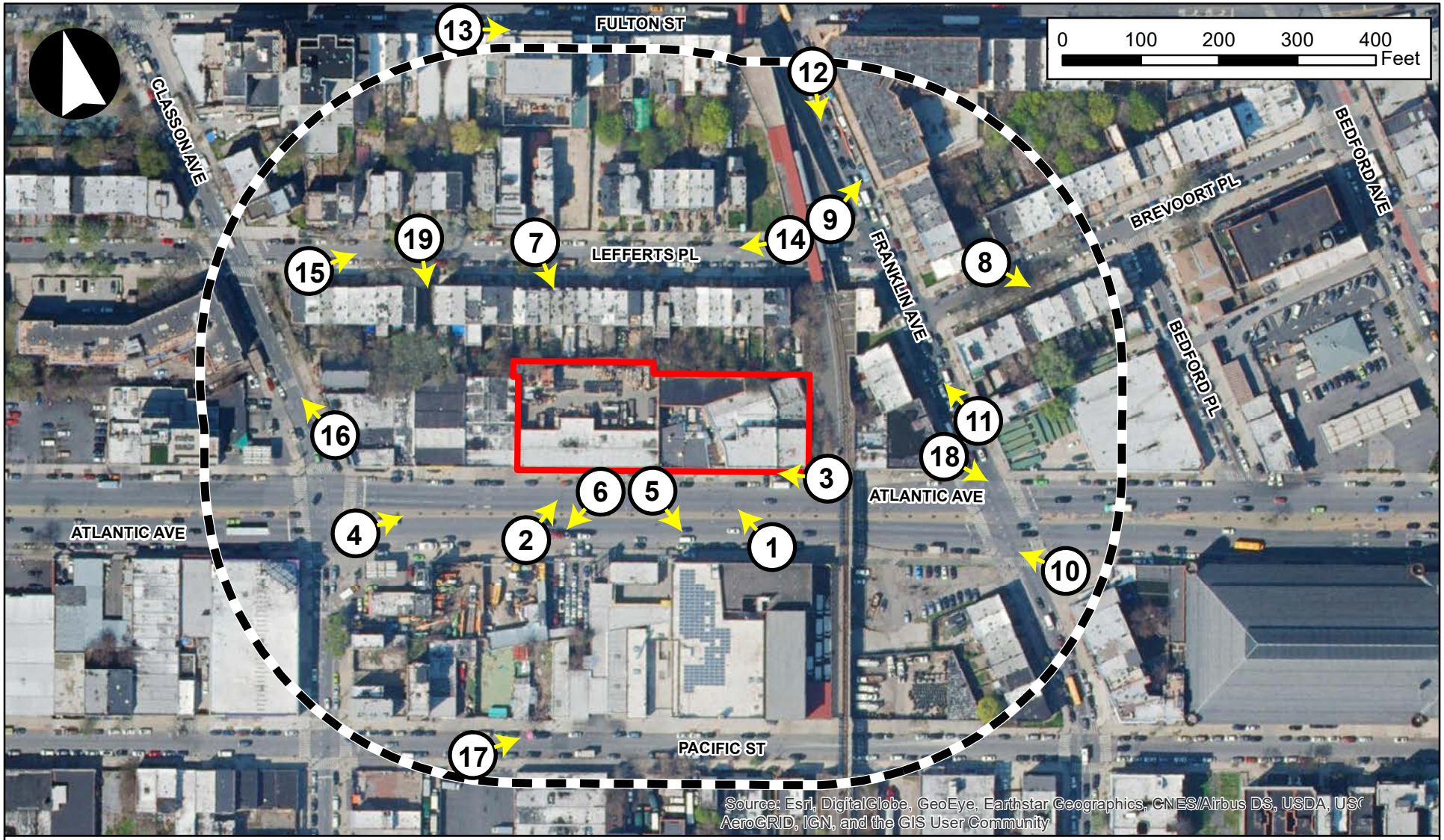
Per criteria of Section 230 of the *CEQR Technical Manual,* a wind condition analysis is not warranted for the Proposed Actions. The Project Area and the Applicant-owned Proposed Development Site is not located in a high wind location (such as along west and northwest-facing waterfronts), and the RWCDS would not result in the construction of more than two tall buildings that would have the potential to alter wind conditions.

The analysis is based on field visits, aerial views, photographs, and other graphic images of the Project Area and surrounding neighborhood. Zoning calculations, including floor area calculations, building heights and lot coverage information is also provided.

The following preliminary analysis also considers the effects of the Proposed Actions and associated RWCDS on the area's visual resources, which are generally considered to be important public view corridors, vistas, or natural or built features. Visual resources can include waterfront views, public parks, landmark structures or districts, or natural features, such as rivers or geologic formations.

Based on *CEQR Technical Manual* guidance, the study area for urban design is the area where the Proposed Actions may influence land use patterns and the built environment. The urban design study area consists of both a primary study area (where urban design effects of the Proposed Actions are direct) and

[4] It should be noted that compared to the Alternate Commercial Scenario, the Proposed Project would better achieve the Applicant's goal of shifting massing away from the adjacent low-rise residential buildings directly north of the Proposed Development Site (refer to Figures I-8 and I-9).



1045 Atlantic Avenue Rezoning EAS

Figure I-1
Urban Design Study Areas and Existing Conditions Photo Key

a secondary study area. For this assessment, the primary study area encompasses the Project Area. Consistent with the analysis of land use, zoning, and public policy, the secondary study area for urban design resources has been defined as being within approximately 400 feet of the Project Area (see Figure I-1).

As stated in the *CEQR Technical Manual*, for visual resources, the view corridors within the study area from which such resources are publicly viewable should be identified. While the land use study area may serve as the initial basis for analysis, in many cases where significant visual resources exist, it may be appropriate to look beyond the land use study area to encompass views outside of the area, as is often the case with waterfront sites or sites within or near historic districts. For this analysis, prominent visual resources (both within and outside of the urban design study area) that are visible from the Project Area and study area were identified. The primary view sheds of these visual resources that would be affected by construction of the RWCDS were the focus of the visual resources analysis.

IV. PRELIMINARY ASSESSMENT

Existing Conditions

As noted above, Figure I-1 shows both the primary (i.e., Project Area) and 400-foot secondary study area, and provides a photograph key for the approximate locations of where each of the photographs included in Figures I-2, I-3a and I-3b, I-4a and I-4b, and I-7 had been taken.

Urban Design

Primary Study Area (Project Area)

The approximately 47,527 sf Project Area, which is coterminous with the primary study area, comprises the 46,752-sf Applicant-owned Brooklyn Block 2020, Lots 68, 70, 73, 74, and 77 (the "Proposed Development Site"), as well as portions of non-Applicant-owned Lots 35-40, 42-44, 46, and 7503 in the Bedford-Stuyvesant/Crown Heights neighborhood of Brooklyn CD 3. The Project Area has frontage on Atlantic Avenue (a wide street) to the south, whereas Lots 35-40, 42-44, and 7503 contain frontages along Lefferts Place and Lot 46 contains frontages along both Atlantic Avenue and Lefferts Place (refer to Figure I-1).

Building Bulk, Use, Type, and Arrangement

The Applicant-owned Proposed Development Site at 1045 Atlantic Avenue (Brooklyn Block 2020, Lots 68, 70, 73, 74, and 77) is an irregular-shaped property that has approximately 370 feet of frontage along the north side of Atlantic Avenue. The site as a whole is largely underbuilt, and is occupied by several single- and two-story buildings. Specifically, Lot 68 is currently occupied by a two-story red-brick building containing an auto-body mechanic shop and comprised of 10,526 sf of industrial space on a 5,720-sf lot (1.84 FAR); Lot 70 is currently occupied by a former two-story yellow-brick warehouse building containing 12,240 sf on a 6,833-sf lot that is now vacant (0.0 FAR); Lot 73 is vacant and unimproved, and is utilized by the neighboring auto-body mechanic shop on Lot 68 as an accessory open space; Lot 74 is currently occupied by a single-story brick building that includes a bar and an extension of the auto-body mechanic shop on Lot 68 with 3,273 sf of floor area on a 5,120-sf lot (0.64 FAR); and Lot 77, which is the largest parcel within the Proposed Development Site, is currently occupied by two single-story red-brick buildings

with 6,807 sf of commercial office space and 5,500 sf of industrial uses (plumbing and heating supply story) on a 27,400-sf lot (0.45 FAR). As shown in Figure I-2, the existing structures at the Project Area are generally built to the lot line (see photographs #1 and 2 of Figure I-2). The New York City Department of Buildings (DOB) estimates that the existing buildings on Lot 68, 70, and 74 were constructed in 1930, whereas the existing building on Lot 77 was constructed in 1950.

Block Form, Street Pattern, and Street Hierarchy

Atlantic Avenue is a two-way principal east-west corridor in Brooklyn, running roughly from Brooklyn Bridge Park/Pier 6 and the Brooklyn-Queens Expressway (BQE) to the Long Island Rail Road (LIRR) Jamaica Yard and Van Wyck Expressway. The width of the section of Atlantic Avenue fronting the Project Area is approximately 120 feet, and is therefore considered by zoning to be a "wide street." Near the Project Area, Atlantic Avenue features a central concrete median lined with raised LIRR train vents and is largely flanked with industrial and commercial uses (refer to photographs #3 and 4 of Figures I-2). Atlantic Avenue is a wide, heavily trafficked corridor containing up to six lanes of traffic as well as on-street parking on both the north and south side of the street.

Streetscape Elements

Streetscape elements along the Project Area's street frontages include several street trees, parking signage, and fire hydrants along Atlantic Avenue's north sidewalk, which is an approximately 17'-3" wide sidewalk on the portions which front the Project Area (see Figures I-2). There are several curb cuts along the Project Area's Atlantic Avenue frontage that generally serve parking/loading uses. Specifically, Lots 68, 70, and 74 each contain a single curb cut, whereas Lot 77 contains two curb cuts. One lane of parallel, on-street parking is permitted along the north side of Atlantic Avenue, restricting overnight parking between 3 to 6 AM on Mondays, Wednesdays, and Fridays.

Topography, Natural Features and Open Space

The topography of the primary study area is generally flat. There are no natural features or open spaces within the Project Area.

Secondary Study Area

As discussed above, the secondary study area has been defined as the area within an approximate 400-foot radius of the Project Area. As shown in Figure I-1, it is generally bound by Fulton Street to the north, Bedford Place to the east, Pacific Street to the south, and Classon Avenue to the west.

Building Bulk, Use, Type, and Arrangement

Table C-1 in Attachment C, "Land Use, Zoning, and Public Policy," summarizes the existing generalized land uses within the 400-foot land use study area by tax lots and land area. Overall, as reflected in Table C-1 and shown in the photographs of Figures I-3 and I-4, the secondary study area contains a wide mix of residential, mixed-use residential and commercial, and industrial uses, as well as some transportation/utility, community facility, and parking facility uses. Residential uses, generally located in the northern half of the secondary study area, include attached and detached two- and three-story single- to two-family homes, as well as taller higher density four- to six-story multifamily walkup and elevator residential buildings. Higher density multifamily residential buildings are generally located closer to the avenues, and one- and two-family homes generally characterize the midblocks between the avenues.



1) Looking north towards the Project Area from Atlantic Avenue.



2) Looking east towards the Project Area from Atlantic Avenue.



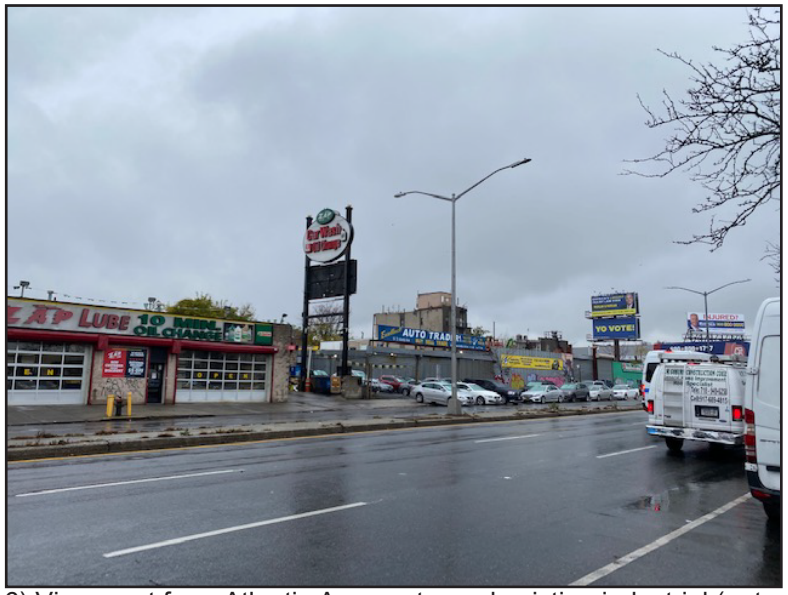
3) Looking northwest along Atlantic Avenue towards the Project Area.



4) Looking east towards the Project Area from the intersection of Atlantic and Classon avenues.



5) View south from Atlantic Avenue toward existing industrial buildings.



6) View west from Atlantic Avenue toward existing industrial (auto-related) buildings.



7) View south from Lefferts Place toward typical three- to four-story residential “Brownstone” buildings.



8) View south from Brevoort Place toward typical three- to four-story residential “Brownstone” buildings.



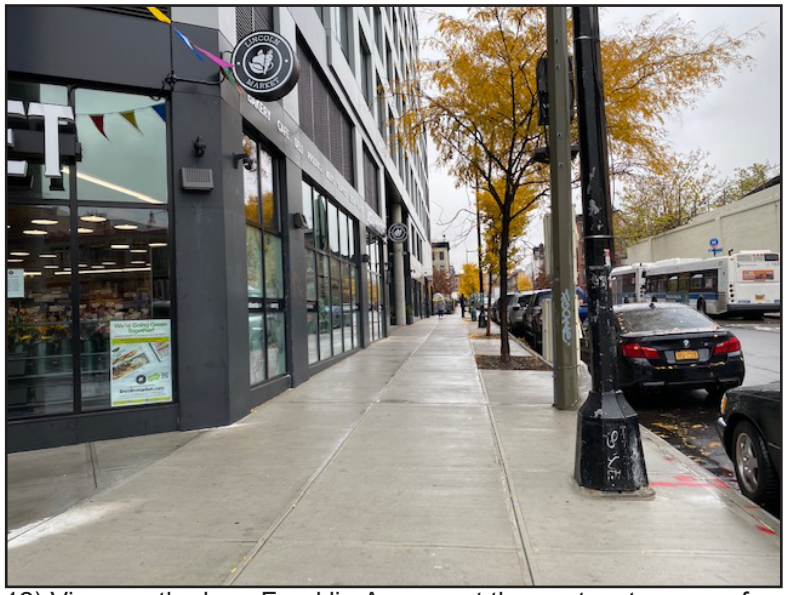
9) View east from Franklin Avenue toward the eight-story mixed-use building at 1134 Fulton Street.



10) View north from the southeast corner of Atlantic and Franklin avenues, toward the elevated Franklin Avenue Shuttle.



11) View north along Franklin Avenue just north of Atlantic Avenue



12) View south along Franklin Avenue at the souteast corner of Franklin Avenue and Fulton Street.



13) View east along Fulton Street.



14) View west along Lefferts Place just west of Franklin Avenue and the elevated Franklin Avenue Shuttle.



15) View east along Lefferts Place.



16) View north along Classon Avenue from the northeast corner of Classon and Atlantic avenues.



17) View east along Pacific Street.



18) View souteast toward the 23rd Regiment Armory from the northwest corner of Atlantic and Franklin avenues.

Low-rise industrial, parking, and transportation/utility uses are primarily located in the southern half of the secondary study area along Atlantic Avenue and Pacific Street, and generally consist of one- to two-story warehouse and light manufacturing buildings. Community facility uses, which include a house of worship (Bethel Church of the Nazarene) and a charter school (Brooklyn Prospect Clinton Hill Charter School), are located on Classon Avenue and Fulton Street, respectively. Most properties in the study area are developed though there are several vacant, undeveloped properties along Atlantic Avenue, Lefferts Place, Pacific Street, and Classon Avenue. Commercial and mixed-use residential and commercial uses are largely concentrated along Fulton Street and Franklin Avenue and generally range between one- and six-stories in height, with exception to two eight-story mixed-use residential and commercial buildings (1134 Fulton Street and 1007 Atlantic Avenue) and one nine-story mixed-use residential and commercial building at 1078 Fulton Street (see photographs #9, 13, and 16).

As shown in Figure I-5, most buildings within the study area contain less than six stories. Many of the one- and two-family homes along Lefferts and Brevoort places are typical Brooklyn "brownstone" rowhouses setback from the property line and generally contain patios, porches, or small stoops, but do not include driveways or garages (see photographs #7 and 8 in Figure I-3a). Fulton Street and the portion of Franklin Avenue between Fulton Street and Lefferts Place are active commercial corridors featuring low- to mid-rise commercial and mixed-use residential and commercial uses including a variety of restaurants, clothing and accessory stores, liquor stores, laundromats, and other services (see #9 in Figure I-3b and #12 and 13 in Figure I-4a). Most of the retail uses are small establishments. Building signage is prominent along Fulton Street.

Most buildings are oriented to the street, and largely built at the street line, or include shallow fenced front yards. Various built FARs are scattered throughout the study area, and range in FAR between 0 and 6.38. However, buildings along Fulton Street, Lefferts Place, Franklin Avenue, and Classon Avenue generally have greater built FARs (generally ranging in FAR from 1.5 to 6) as compared to the portions of the study area along Atlantic Avenue and Pacific Street (generally less than 2.0 FAR) (see Figure I-6).

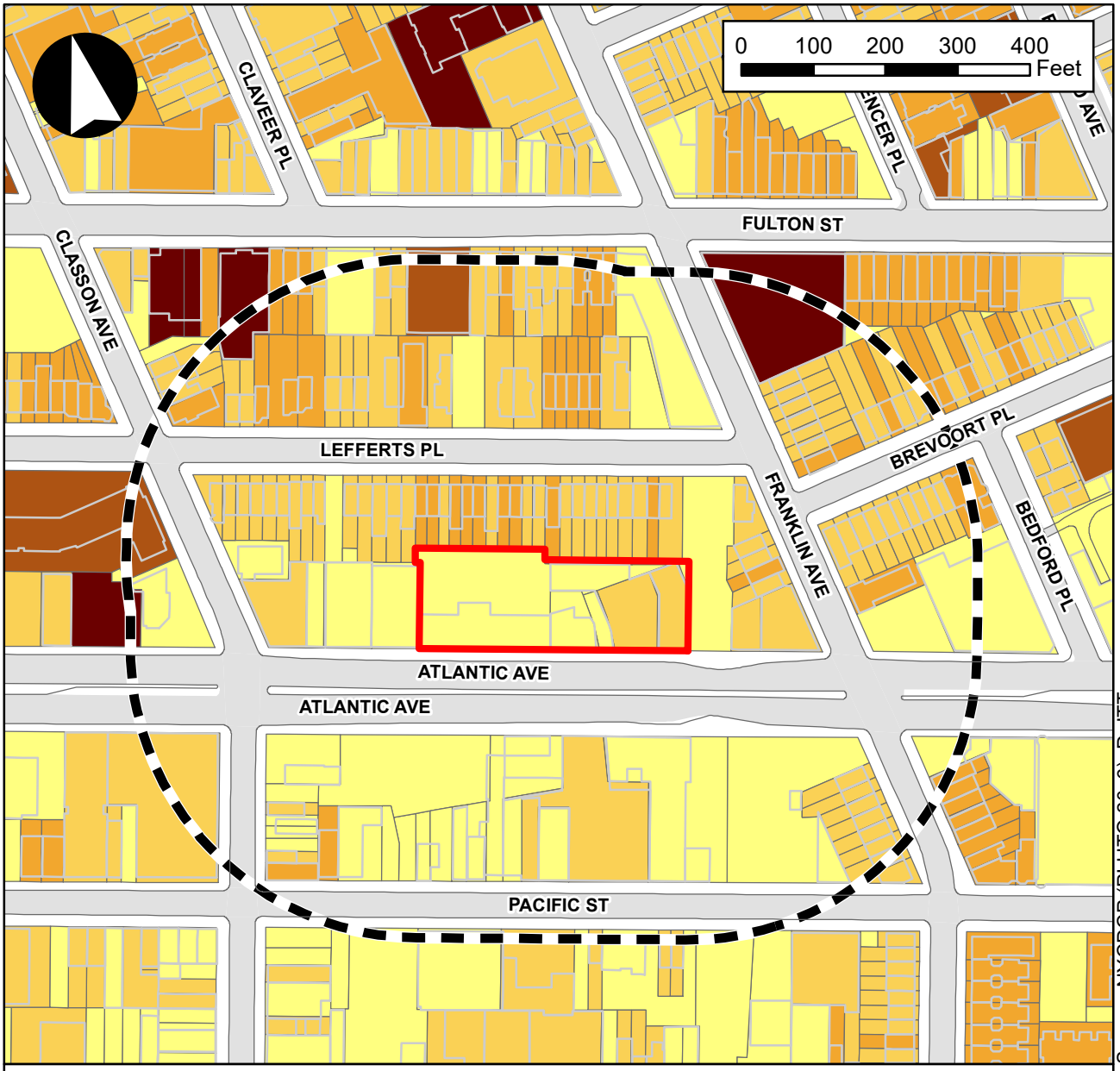
Block Form, Street Pattern, and Street Hierarchy

The surrounding street pattern is set up in a regular grid pattern, with east-west oriented blocks with Franklin and Classon avenues extending perpendicularly at a slight angle through the study area. Due to the slight angle at which the avenues are oriented, the street grid within the secondary study area has generally resulted in somewhat irregular-shaped lots that vary in size and width adjacent to the avenues, and regular rectangular-shaped lots at the midblock. Atlantic Avenue, Lefferts Place, and Fulton Street provide two-way traffic, whereas Classon Avenue, Franklin Avenue, Brevoort Place, and Pacific Street are one-way. All streets within the secondary study area generally have on-street parking. The portion of Franklin Avenue within the secondary study area is complimented by the elevated Franklin Avenue Shuttle line which generally runs adjacent to Franklin Avenue and is directly east of the Project Area. The elevated shuttle line creates unique overhang conditions across several roadways within the secondary study area, including Lefferts Place, Atlantic Avenue, and Pacific Street.

Streetscape Elements

Concrete sidewalks flank all streets in the secondary study area and are generally in good condition. All sidewalks in the secondary study area accommodate street lights, street signs, fire hydrants, trash receptacles, mail boxes, and street trees. As described above, Atlantic Avenue, which accommodates six lanes of two-way traffic, features a central concrete median lined with raised LIRR train vents. Subway

Figure I-5
Study Area Building Heights



Source: NYCDCP (PLUTO 20v6); DoITT

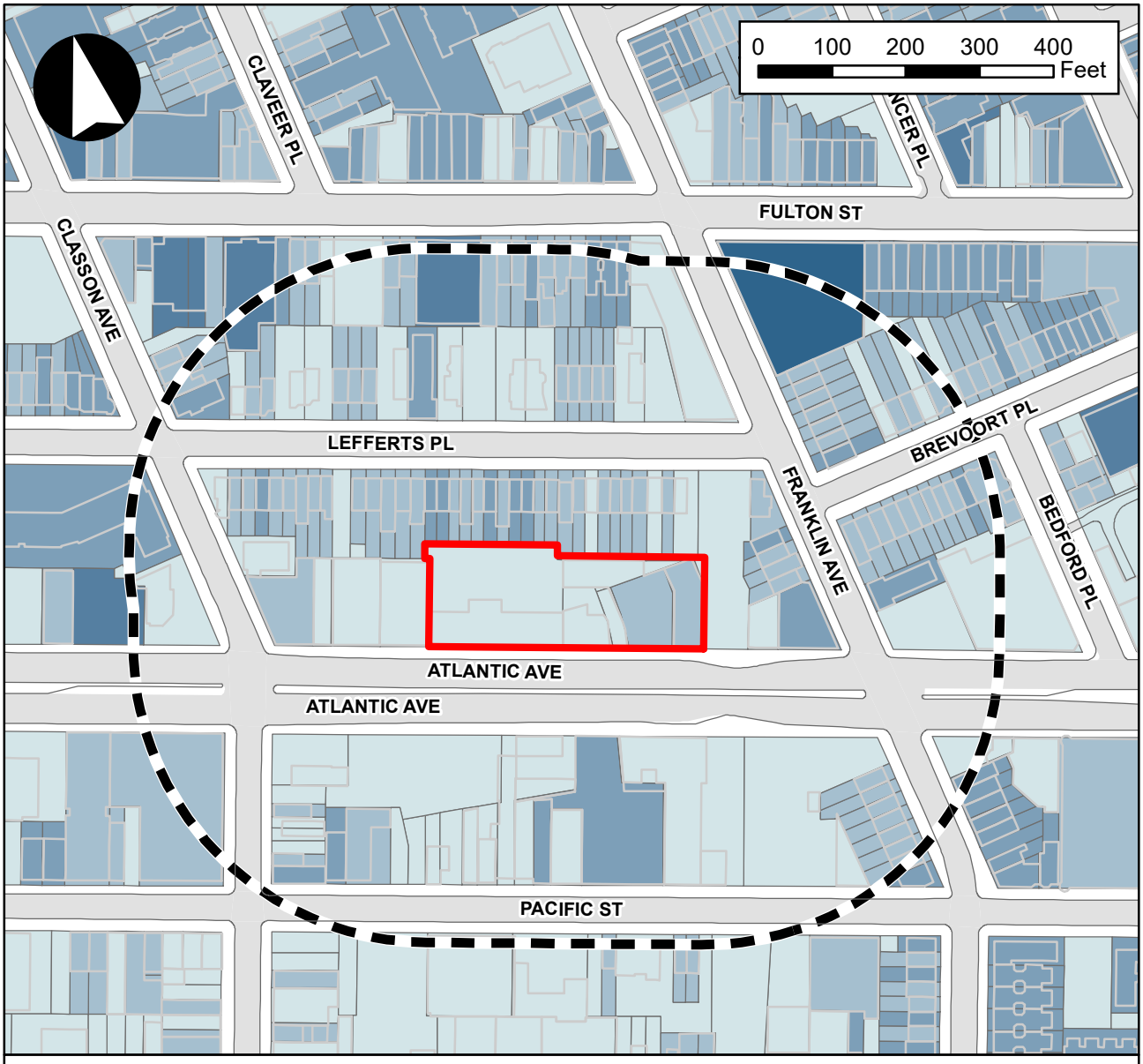
Legend

- Primary Study Area (Project Area)
- Secondary Study Area (400-ft Radius)
- Existing Building Footprint

No. of Floors

- 1 Floor
- 2-3 Floors
- 4-5 Floors
- 6-7 Floors
- 8 or More Floors

Figure I-6
Study Area Built FAR



Source: NYCDCP (PLUTO 20v6); DoITT

Legend

- Primary Study Area (Project Area)
- Secondary Study Area (400-ft Radius)
- Existing Building Footprint

Built FAR

- <1.0 FAR
- 1.0 - 2.0 FAR
- 2.0 - 4.0 FAR
- 4.0 - 6.0 FAR
- >6.0 FAR

entrances for eastbound and westbound C train service and southbound Franklin Avenue shuttle service are located on the southeast and northeast corners of the Fulton Street and Franklin Avenue intersection. Additionally, as mentioned above, the elevated Franklin Avenue Shuttle line creates unique overhang conditions across several roadways and their associated sidewalks within the secondary study area, including the sidewalks along Lefferts Place, Atlantic Avenue, and Pacific Street. Bus stop benches and shelters are also located along Franklin Avenue. In addition, there is one Citibike bicycle docking station on the north side of Lefferts Place directly beneath the elevated Franklin Avenue shuttle.

Topography, Natural Features, and Open Space

As the area is an urbanized location, the topography of the secondary study area is generally flat. While there are no natural features within the secondary study area, there is one publicly accessible open space: the Lefferts Place Block Association Community Garden (see Figure I-7). The community garden features raised garden beds with various types of vegetation, potted planters, and several large trees.

Visual Resources

Primary Study Area (Project Area)

No visual resources are located within the Project Area. However, two visual resource can be seen from the Project Area: the Williamsburg Savings Bank tower and the 23rd Regiment Armory. The Williamsburg Savings Bank, located at One Hanson Place, is a 512-foot-tall LPC-designated and SN/R-listed landmark and prominent feature of the Downtown Brooklyn skyline, featuring a polished rainbow granite and limestone base, arched windows, granite columns, ornamental corbels, buff-colored brick, decorative terra-cotta bands, a gilded copper dome, and a four-faced dial clock. However, due to the distance between the Project Area and the Williamsburg Savings Bank, most of these listed features are not visible from the Project Area. The 23rd Regiment Armory, located at 1164 Atlantic Avenue, is an LPC-designated and SN/R-listed military building constructed in the Romanesque Revival styles and features deep red, pressed brick, rough-faced, red Potsam stone, red terra-cotta friezes, a series of circular corner towers, narrow round-arched windows, turrets, and crenelated roofs (see Figure I-4b, photo #18).

Secondary Study Area

No visual resources are located within the study area. However, the Williamsburg Savings Bank and 23rd Regiment Armory are all visual resources located outside of the study area that can be seen from various points within the study area. Both the Williamsburg Savings Bank and 23rd Regiment Armory are visible from Atlantic Avenue, whereas the 23rd Regiment Armory can also be viewed from Pacific Street.

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

In absence of the Proposed Actions, the Project Area would remain retain its M1-1/R6B zoning designation, and it is assumed that while no new construction is planned for the Proposed Development Site, it is conservatively assumed that the currently vacant, approximately 12,240 gsf former industrial building on Lot 70 would be reoccupied with light industrial/warehousing uses in the No-Action condition. As a result, the Applicant-owned Proposed Development Site would be occupied by approximately 30,101 gsf of light industrial uses, 6,807 gsf of office uses, and 1,438 gsf of retail uses. No other changes to the remaining Project Area lots are anticipated in the future without the Proposed Actions. In addition, and as described in Attachment C, "Land Use, Zoning, and Public Policy," there is one known development (173 Lefferts Place) and one potential development (1050 Atlantic Avenue) within the secondary study



19) View south toward the Lefferts Place Block Association Community Garden, from Lefferts Place.

area that is expected to be completed by the 2024 analysis year. The planned development at 173 Lefferts Place would introduce a four-story residential building containing approximately 5,673 gsf (8 DUs) of residential uses. 1050 Atlantic Avenue, which is identified as a potential development site associated with the ongoing 1034-1042 Atlantic Avenue Rezoning (CEQR No. 21DCP170K) could introduce a 17-story predominantly residential building with ground floor retail containing approximately 176,538 gsf (177 DUs; of which, 35 units would be permanently set aside as affordable) of residential uses, 26,408 gsf of local retail, and 97 below-grade parking spaces (71 accessory spaces and 26 publicly accessible spaces). Additionally, as a result of the ongoing 1034-1042 Atlantic Avenue Rezoning, there are also two additional projected development sites (1034-1042 Atlantic Avenue and 1039-1041 Pacific Street) located just outside the secondary study area. The projected development at 1034-1042 Atlantic Avenue would introduce a mixed-used building containing a 17-story tower and a nine-story tower and would include approximately 206,353 gsf (210 DUs; of which, 42 units would be permanently set aside as affordable) of residential uses, 12,850 gsf of ground floor local retail, 12,730 of community facility space, and 20 below-grade accessory parking spaces. The projected development at 1039-1041 Pacific Street would introduce a nine-story building containing approximately 17,064 gsf (17 DUs; of which, three units would be permanently set aside as affordable) of residential uses and 2,704 gsf of ground floor local retail.

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

This section describes the effects of the Proposed Actions and resultant RWCDS on the urban design and visual resource conditions in the primary and secondary study areas by 2024 and evaluates the potential for the Proposed Actions to result in significant adverse impacts.

In the future with the Proposed Actions (the With-Action condition), the proposed zoning map and zoning text amendments would be implemented in the Project Area. As such, the Proposed Rezoning Area would be remapped with a C6-3A (R9A equivalent) zoning district, and the new district would be designated as a MIH area. Under With-Action conditions, the maximum allowable residential FAR at the Proposed Development Site would increase from 0.0 to 8.5 with MIH, community facility use FAR would increase from 2.4 to 7.5, and commercial use FAR would increase from 1.0 to 6.0. Additionally, the Proposed Development Site would no longer be governed by the sky-exposure plane, and instead permit a base height ranging between 60 and 125 feet and maximum permitted building height of 175 feet under With-Action conditions.[5] Manufacturing uses would no longer be permitted on the Proposed Development Site.

As detailed in Attachment A, "Project Description," the Proposed Actions would facilitate construction of the Proposed Project, which would include market-rate and affordable residential units, commercial retail and office space on the first two floors, community facility space, and accessory parking at the Applicant-owned Proposed Development Site at 1045 Atlantic Avenue. The Proposed Project would consist of a new, 17-story building with a total built floor area of 477,098 gsf, containing approximately 357,436 gsf (422 DUs) of residential space, approximately 34,470 gsf of commercial retail space, approximately 28,334 gsf of commercial office space, and 8,995 gsf of community facility space, as well as approximately 152 accessory parking spaces (approximately 42,302 gsf) in a single cellar level and 5,561 gsf of mechanical space. Of the proposed residential units, 30 percent or up to 126 units would designated as permanently affordable pursuant to either Option 2 or Option 4 (the "Workforce" option) of the City's MIH program. In addition, the Proposed Project's street wall would be set back approximately 2'-9" from Atlantic Avenue, thus increasing the portion of the north sidewalk along Atlantic Avenue fronting the Proposed

[5] The maximum permitted building height of 175 feet in a C6-3A (R9A equivalent) district assumes the provision of a qualifying ground floor. Absent a qualifying ground floor, the Proposed Development Site would permit a maximum building height of 170 feet in a C6-3A district, in accordance with ZR Section 23-664.

Project from a width of 17'-3" to 20'. The Proposed Project would generally include a 12-story base with a streetwall height of approximately 125 feet recessed approximately 2'-9" from the street line along Atlantic Avenue. Above the base, the building would setback 10 feet before reaching the building's maximum height of 17-stories (175-feet in height), which is consistent with height and setback regulations for C6-3A districts. The proposed residential lobby would be located on Atlantic Avenue, and the proposed below-grade garage and at-grade parking/loading areas would be accessible from two curb cuts (one 12-foot-wide curb cut and one 20-foot-wide curb cut, separated by approximately eight feet) located on the easternmost portion of the Proposed Project's Atlantic Avenue frontage.

In addition, under the Alternate Commercial Scenario, the Applicant could reasonably construct a mixed-use building containing approximately 113,587 gsf of commercial office uses, 33,111 gsf of commercial retail uses, 273,072 gsf (337 DUs) of residential uses (of which, a minimum of 84 units would be permanently affordable under the City's MIH program), approximately 152 accessory parking spaces (approximately 46,022 gsf), and 5,798 gsf of mechanical uses.

Urban Design

Primary Study Area (Project Area)

Development facilitated by the Proposed Actions would be built on an existing block, and would not entail any changes to topography, street patterns and hierarchy, block shapes or natural features in the proposed rezoning area. The Proposed Actions would introduce one new mixed-use building to an underutilized site.

In accordance with the proposed C6-3A (R9A equivalent) zoning district and the proposed zoning text amendment to allow flexibility in the location of the street wall, the Applicant-owned development would be built setback approximately 2'-9" from the street line along the Proposed Development Site's Atlantic Avenue frontage, resulting in a strong street wall presence and a widened sidewalk to support the additional project-generated pedestrian activity. Both RWCDS buildings (the Proposed Project and Alternate Commercial Scenario) would have a maximum height of approximately 175 feet, and each would generally be massed towards Atlantic Avenue – a 120-foot-wide street – and away from the adjacent low-rise residential buildings along Lefferts Place to the north of the Proposed Development Site. As shown in Figures I-8, the Proposed Project would vary in height and setback, serving to break up the building's mass and to establish a natural transition with the surrounding context (particularly with the low-rise residential buildings immediately north of the Proposed Development Site), whereas the Alternate Commercial Scenario's massing would be slightly bulkier, containing large floorplates and greater floor-to-ceiling heights on the base four stories (which would be conducive to the commercial office uses located on those floors), with smaller, narrower floorplates for the floors above. Much of the ground-floor of both RWCDS buildings would be occupied by local retail space with floor heights of approximately 15 feet.

Both RWCDS buildings would have approximately 370 feet of frontage along Atlantic Avenue, where all vehicular and pedestrian access would be provided. An accessory below-grade parking garage with 152 enclosed parking spaces would be accessible at both building's easternmost frontage along Atlantic Avenue. Vehicles would enter each parking garage using a new 20-foot curb cut located approximately 190 feet west of Franklin Avenue. An additional 12-foot curb cut would be located directly west of the proposed parking garage curb cut, which would serve one loading berth required for each project per ZR Section 36-62. It is anticipated that the main residential entrance to the two development scenarios would

be located west of the proposed curb cuts, approximately 230 feet east of Franklin Avenue, with an additional service entrance located further west along Atlantic Avenue, approximately 460 feet west of Franklin Avenue. Retail entrances would be located at various locations along Atlantic Avenue. Additionally, as described above, the proposed streetwall location setback 2'-9" from the street line along the Proposed Development Site's Atlantic Avenue frontage would increase the portion of sidewalk fronting the site from 17'-3" to 20'.

As discussed above, according to the RWCDS it is anticipated that the existing structures on the Proposed Development Site would be demolished, and the site would be redeveloped in accordance with the proposed C6-3A zoning district and MIH Area regulations. Both RWCDS buildings are anticipated to be redeveloped to the maximum permitted FAR of 8.5 with approximately 470,000 gsf of residential and commercial uses, and approximately 152 below-grade accessory parking spaces.

The Proposed Actions and subsequent RWCDS would further enhance the pedestrian environment and enliven the streetscape and establish a 24-hour presence at the Project Area with the introduction of new residents and a full, activated streetwall setback approximately 2'-9" from the street line along Atlantic Avenue, which would result in a sidewalk widening for the portions of the sidewalk fronting the Proposed Development Site. In addition, in accordance with zoning regulations, and depending on feasibility and existing sub-grade conditions, new street trees would be planted along every 25 feet of street frontage on the Proposed Development Site's Atlantic Avenue frontage.

As shown in Figures I-8 and I-9, the Proposed Actions would substantially change the urban design character of the primary study area. With the base height and maximum building height of the RWCDS buildings being approximately 125 feet and 175 feet, respectively, and each containing approximately 470,000 gsf, the height and bulk of the anticipated buildings would be substantially taller than the single- and two-story structures currently occupying the Proposed Development Site. The increased scale, both in terms of bulk and height, would be a notable change from the pedestrian's perspective to the appearance and character of the Project Area compared to the No-Action condition. However, both the Proposed Project and the Alternate Commercial Scenario would each result in buildings whose massings would be shifted away from the low-rise, residential uses directly north of the Proposed Development Site and towards Atlantic Avenue – a 120-foot-wide roadway.

Compared to the future without the Proposed Actions, in the future with the Proposed Actions, the visual appearance of the pedestrian experience at the Proposed Development Site would change significantly as a 17-story (175-feet-tall) building with a 12-story (125-feet-tall) base (as a part of either the Proposed Project or Alternate Commercial Scenario) would replace the existing single- and two-story structures currently on the site; however, this change would not meet the 2014 *CEQR Technical Manual* threshold for a significant adverse urban design impact in that it would not alter the arrangement, appearance, or functionality of the Proposed Development Site such that the alteration would negatively affect a pedestrian's experience of the area. Furthermore, the two RWCDS buildings at the Proposed Development Site would be oriented towards a 120-foot-wide street (Atlantic Avenue) and its adjoining sidewalks with building entrances to the proposed/anticipated residential and commercial uses located on a recessed streetwall (approximately 2'-9" from the street line) primarily along Atlantic Avenue, a wide street.

Secondary Study Area

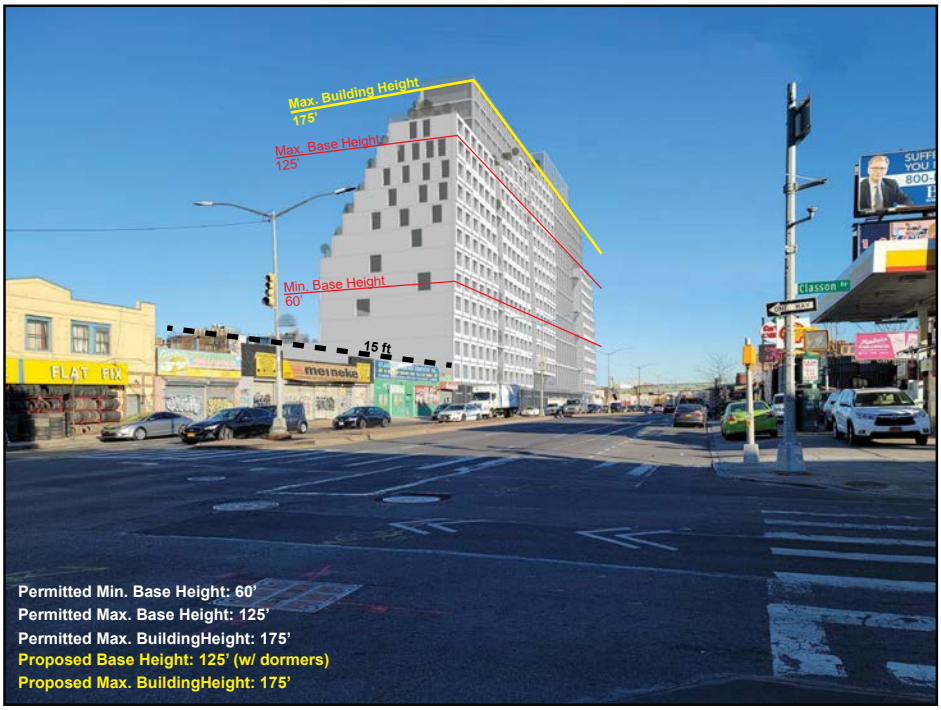
As the Proposed Actions are site-specific, they would not result in any changes in the urban design in the secondary study area. New development facilitated by the Proposed Actions would be limited to the

Figure I-8a

No-Action vs. With-Action Comparison:
View from SW Corner of Atlantic and Classon Avenues - Proposed Project



Existing/No-Action



With-Action
(Proposed Project)

Figure I-8b

No-Action vs. With-Action Comparison:
View from SE Corner of Atlantic and Franklin Avenues - Proposed Project



Existing/No-Action



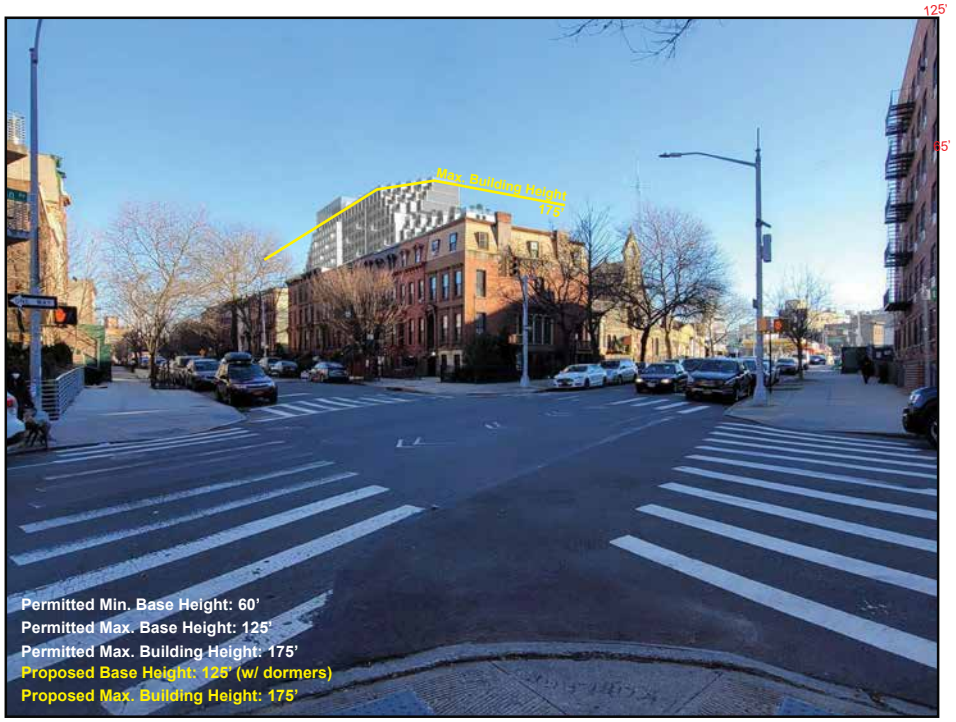
With-Action
(Proposed Project)

Figure I-8c

No-Action vs. With-Action Comparison:
View from NW corner of Classon Avenue and Lefferts Place - Proposed Project



Existing/No-Action



With-Action
(Proposed Project)

Figure I-8d

No-Action vs. With-Action Comparison:
View south from east side of Franklin Avenue at Lefferts Place - Proposed Project



Existing/No-Action



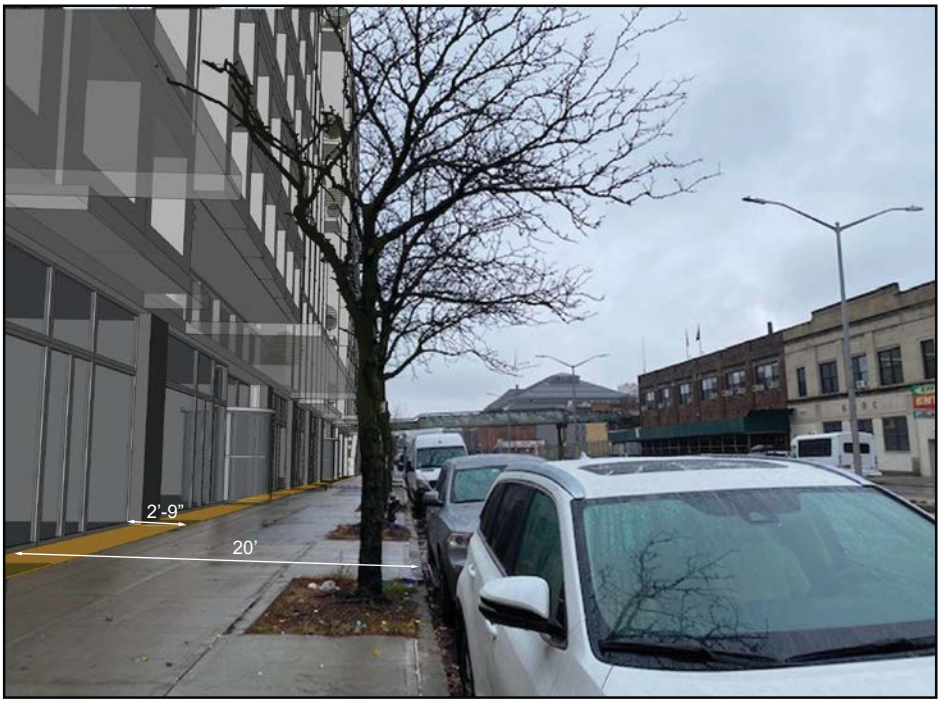
With-Action
(Proposed Project)

Figure I-8e

No-Action vs. With-Action Comparison:
View east along north sidewalk of Atlantic Avenue - Proposed Project



Existing/No-Action



With-Action
(Proposed Project)

Proposed Development Site within the Project Area. The Proposed Actions would not alter any street patterns, street hierarchies, block forms, building uses, and bulk regulations in the secondary study area. The proposed C6-3A zoning district is a contextual district governed by Quality Housing bulk regulations, which encourages high lot coverage buildings set at or near the street line with height limits. While the RWCDS buildings would represent a departure from the urban design character of the secondary study area in terms of height and bulk (with exception to two eight-story buildings at 1134 Fulton Street and 1007 Atlantic Avenue and one nine-story building at 1078 Fulton Street), it would be consistent with study area buildings' land uses, including active ground floors uses, and building placement and orientation along the property line.

The proposed zoning changes are intended to facilitate development that would be appropriate for a transit accessible area along a major thoroughfare. Additionally, the Proposed Actions would facilitate the construction of a new building that would be in keeping with the largely residential character of the area that would also retain commercial office and retail space along a prominent commercial corridor. The With-Action development would bring a 24-hour presence to the Proposed Development Site with the introduction of new residential uses. The proposed/anticipated retail uses with entrances along Atlantic Avenue are also expected to enhance the pedestrian realm making the surrounding area more inviting to pedestrians. The anticipated commercial office uses in the both RWCDS buildings would also further enhance the pedestrian experience by introducing office workers to the site during the workweek. In addition, the improvements to the streetscape, including landscaping and the planting of street trees, would enliven the secondary study area.

The RWCDS buildings would introduce strong streetwalls along Atlantic Avenue that would be consistent with surrounding development. With both development scenarios having a maximum height of approximately 175 feet, the upper floors of the building would be visible from surrounding streets (refer to Figures I-8 and I-9). As described previously, the surrounding area supports a mix of building types, scales and heights, including low-rise two- to three-story single- and two-family residential buildings, single-story industrial buildings, four- to six-story multifamily apartment buildings, and taller six- to nine-story mixed-use residential and commercial buildings. While the RWCDS buildings would be taller than the existing structures in the secondary study area, each building would provide various types of setbacks from the streetwall (e.g., the Proposed Project would include a series of setbacks at various heights creating a unique façade along Atlantic Avenue, whereas the Alternate Commercial Scenario would provide a more typical initial setback above the building's four-story commercial base). However, the RWCDS buildings would be as tall (175-feet in height) as several of the projected and potential development sites (specifically, the projected development site at 1034-1042 Atlantic Avenue and the potential development site at 1050 Atlantic Avenue) within and just outside the secondary study area that would be constructed as a result of the 1034-1042 Atlantic Avenue Rezoning if approved. As such, the Proposed Actions are not anticipated to result in any significant adverse impacts to urban design in the study area surrounding the Project Area, nor would they result in significant adverse impacts to the experience of the pedestrian within that study area.

Visual Resources

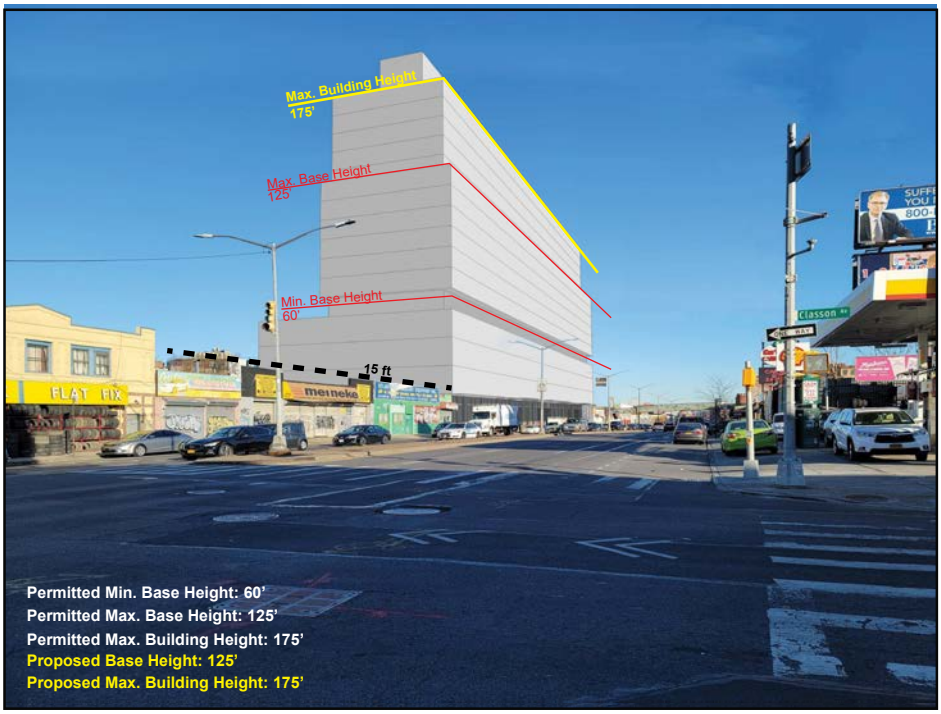
As discussed above, neither the Project Area nor the secondary study area contain any visual resources, which would not change in the future with the Proposed Actions. The Proposed Development Site would accommodate a RWCDS building that would rise to a maximum height of 175 feet under With-Action conditions. However, no view corridors of significant visual resources located outside the study area (i.e., the Williamsburg Savings Bank and the 23rd Regiment Armory) would be obstructed as a result of these

Figure I-9a

No-Action vs. With-Action Comparison:
View from SW Corner of Atlantic and Classon Avenues - Alternate Commercial Scenario



Existing/No-Action



With-Action
(Alternate Commercial Scenario)

Figure I-9b

No-Action vs. With-Action Comparison:
View from SE Corner of Atlantic and Franklin Avenues - Alternate Commercial Scenario



Existing/No-Action



With-Action
(Alternate Commercial Scenario)

Figure I-9c

No-Action vs. With-Action Comparison:
View from NW corner of Classon Avenue and Lefferts Place - Alternate Commercial Scenario



Existing/No-Action



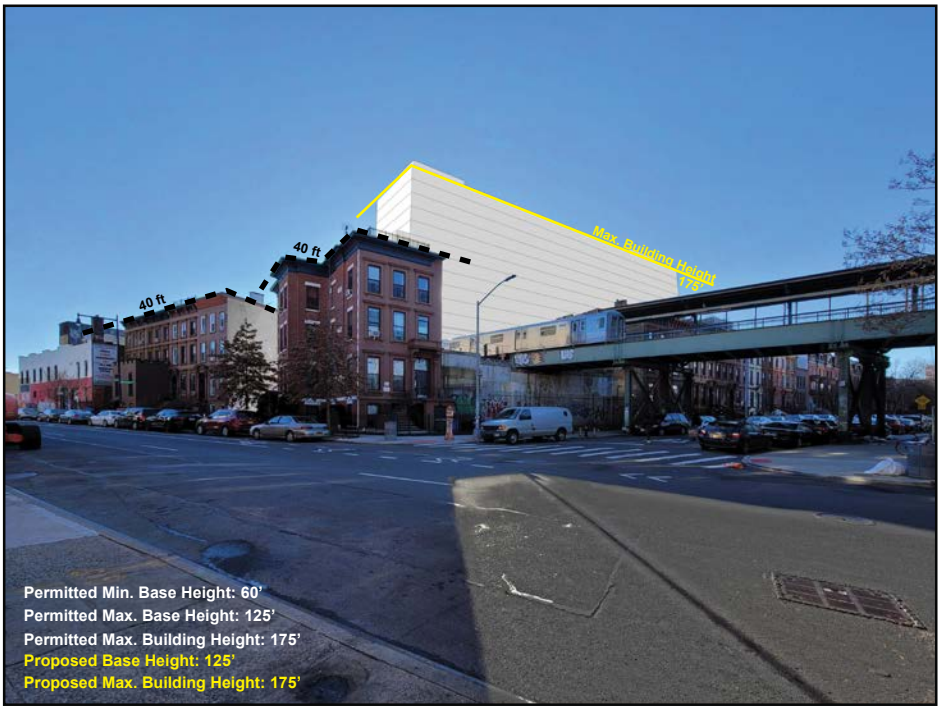
With-Action
(Alternate Commercial Scenario)

Figure I-9d

No-Action vs. With-Action Comparison:
View south from east side of Franklin Avenue at Lefferts Place - Alternate Commercial Scenario



Existing/No-Action



With-Action
(Alternate Commercial Scenario)

height and density increases in the Project Area. All new development would occur within an existing block. Each of the anticipated RWCDS buildings on the Proposed Development Site are expected to further define view corridors in the secondary study area by replacing several underutilized single- and two-story commercial, industrial, and vacant buildings with a mixed-use development with solid streetwalls along Atlantic Avenue.

In summary, the Proposed Actions and associated RWCDS would not change urban design features such that the context of natural or built features are adversely altered and would not partially or fully block any significant public views to a visual resource. Therefore, the Proposed Actions would not result in significant adverse impacts to study area visual resources.

Attachment J
Water and Sewer Infrastructure

1045 Atlantic Avenue Rezoning EAS
Attachment J: Water and Sewer Infrastructure

I. INTRODUCTION

This chapter assesses the potential effects of the Proposed Actions on the City's water supply, wastewater treatment, and stormwater management infrastructure.

As described in **Attachment A, "Project Description,"** the Proposed Actions and resultant RWCDS would facilitate the development of a 17-story mixed-use building comprising approximately 477,098 gross square feet (gsf) of residential and commercial office and retail uses (the "Proposed Project") on Brooklyn Block 2020, Lots 68, 70, 73, 74, and 77 (the "Proposed Development Site") in the Bedford-Stuyvesant/Crown Heights neighborhood of Brooklyn Community District (CD) 3. Under the reasonable-worst case development scenario (RWCDS), the Proposed Actions would facilitate the incremental development of up to 422 dwelling units (DUs) (including a net increase of up to approximately 126 affordable DUs), 27,088 gsf of commercial office uses, 33,032 gsf of commercial retail uses, 8,995 gsf of community facility uses, and 152 below-grade accessory parking spaces, as well as a net reduction in light industrial uses (-30,101 gsf) by the 2024 Analysis Year. However, as stated in **Attachment A**, the Proposed Actions could facilitate an Alternate Commercial Scenario, which has the potential to result in the incremental development of up to 337 DUs (including a net increase of up to approximately 101 affordable DUs), 112,578 gsf of commercial office uses, 31,673 gsf of commercial retail uses, and 152 below-grade accessory parking spaces, as well as a net reduction in light industrial uses (-31,101 gsf). Absent the Proposed Actions, the Project Area would retain its M1-1/R6B zoning designation, and it is assumed that while no new construction is planned for the Proposed Development Site, it is conservatively assumed that the currently vacant, approximately 12,240 gsf former industrial building on Lot 70 would be reoccupied with light industrial/warehousing uses in the No-Action condition.

II. PRINCIPAL CONCLUSIONS

Based on the methodology set forth in the 2014 *City Environmental Quality Review* (CEQR) *Technical Manual*, the analysis finds that the Proposed Actions would not result in a significant adverse impact on the City's water supply, wastewater and stormwater conveyance and treatment infrastructure.

Water Supply

The Proposed Actions would generate an incremental water demand of approximately 101,855 gallons per day (gpd) over No-Action conditions. The increased demand associated with the Proposed Actions would represent approximately 0.01 percent of the over one billion gallons of water supplied daily to New York City by the New York City Department of Environmental Protection (DEP). As changes of this magnitude would not be large enough to have a significant adverse impact on the City's water system pursuant to *CEQR Technical Manual* guidelines, the incremental demand as a result of the Proposed Actions would not adversely affect the City's water supply or system water pressure. Therefore, no significant adverse impacts on area water supply would result in the future with the Proposed Actions.

Sanitary (Dry Weather) Flows

The Red Hook Water Pollution Control Plant (WPCP), which is designed to treat a dry weather flow of 60 million gallons per day (mgd), handled an average of 26.25 mgd of sewage flow between October 2019 and September 2020. Based on rates in the *CEQR Technical Manual*, the Proposed Actions have the potential to result in an increase of up to approximately 0.07 mgd of sanitary sewage flow. This amount represents approximately 0.03 percent of the average daily flow of 26.25 mgd at the Red Hook WPCP and would not result in an exceedance of the plant's permitted capacity of 60 mgd. Because the City's sewers are sized and designed based on the designated zoning of an area and related population density and surface coverage characteristics, the Proposed Actions may result in development that is inconsistent with the design of the existing built sewer system. To be issued a permit to connect to the City sewer, a site-specific hydraulic analysis may be required to determine whether the existing sewer system is capable of supporting higher density development and related increases in sanitary flows prior to development of the Proposed Project; sewer improvements and/or a new drainage plan may also be required of the Applicant at the time of the site connection proposal. Pursuant to CEQR methodology, as the projected increase in sanitary sewage would not cause the Red Hook WPCP to exceed its operational capacity or State Pollution Discharge Elimination System (SPDES)-permitted capacity, the Proposed Actions would not result in significant adverse impacts to sanitary sewage conveyance and treatment. In addition, per the New York City Plumbing Code (Local Law 33 of 2007), while not accounted for in the quantitative analysis, low-flow fixtures would be required to be implemented and would help to reduce sanitary flows as a result of the Proposed Actions.

The Applicant would be required to file a site connection proposal for approval from DEP to tie into the City's sewer system. In order to obtain a sewer connection permit from DEP, the Applicant would be required to demonstrate that the existing system could handle the increased flows due to the Proposed Project. Any analysis and improvements, if required, would be undertaken prior to construction of the Proposed Project and would be coordinated with DEP for review and approval.

Stormwater (Wet Weather) Flows

Compared to existing conditions, in the future with the Proposed Actions, the combined wet weather flows from the Proposed Development Site would increase slightly (by up to 0.01 mg to up to 0.07 mg, depending on rainfall duration and intensity). The Proposed Development Site is located in an area that is well served by combined sewer infrastructure. In addition, as a New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-10-001) is required for any development that would involve soil disturbance of one or more acres, a Stormwater Pollution Prevention Plan (SWPPP), consisting of both temporary erosion and sediment controls and post-construction stormwater best management practices (BMPs), may be required of the Applicant. Specific BMP methods would be determined with further refinement of the building design and in consultation with DEP as a part of the site connection approval process, but may include a combination of detention or infiltration techniques identified in the *NYC Green Infrastructure Plan* (e.g., green roofs, subsurface detention and infiltration, permeable pavement, etc.).

As the wastewater treatment capacity at the Red Hook WPCP and the sewer conveyance infrastructure near the Project Area would be sufficient to handle wastewater flows that would result from the Proposed Actions, there would not be any significant adverse impacts on wastewater treatment or stormwater conveyance infrastructure.

III. METHODOLOGY

According to the *CEQR Technical Manual*, a preliminary water supply infrastructure analysis is needed if a project would result in an exceptionally large demand for water (e.g., more than one mgd) or is located in an area that experiences low water pressure (e.g., areas at the end of the water supply distribution system). While the Proposed Actions would not generate more than one million gpd of incremental water demand, and an analysis is not warranted, water demand estimates are provided in this chapter to inform the wastewater and stormwater conveyance and treatment analysis.

For wastewater and stormwater conveyance and treatment, the *CEQR Technical Manual* indicates that a preliminary assessment would be needed if a project is located in a combined sewer area and would exceed the following incremental development of residential units or commercial space above the predicted No-Action scenario: (a) 1,000 residential units or 250,000 sf of commercial space or more in Manhattan; or (b) 400 residential units or 150,000 sf of commercial space or more in the Bronx, Brooklyn, Staten Island, or Queens. As the Proposed Actions would result in a net increase of more than 400 residential units in Brooklyn, a preliminary assessment of wastewater and stormwater infrastructure is provided.

To assess the Proposed Actions' potential impacts on water and sewer infrastructure, this attachment:

- Describes the existing water and sewer infrastructure serving the Project Area and estimates water demand and sewage and stormwater generation under existing conditions and in the No-Action condition (for the 2024 Analysis Year). Existing and future water demands for the existing and future Proposed Development Site uses are based on information provided in the *CEQR Technical Manual*. Stormwater runoff and sanitary flows are calculated using the New York City Department of Environmental Protection (DEP) Flow Calculation Matrix.
- Describes relevant planned infrastructure improvements including the affected area, project components, and current schedules.
- Forecasts water demand and sewage and stormwater generated by the Proposed Actions and RWCDS based on *CEQR Technical Manual* guidelines.
- Assesses the effects of the Proposed Actions' and RWCDS's water demand and sewage and stormwater generation on the City's water and sewer infrastructure, pursuant to *CEQR Technical Manual* guidelines.

IV. EXISTING CONDITIONS

Water Supply

The New York City water supply system comprises a network of reservoirs, lakes, and aqueducts extending into the Catskill region and a pipe network that distributes water within the City. New York City obtains nearly all of its water from the Delaware, Catskill, and Croton watersheds, which are located within 125 miles of the City. Water from the watersheds is stored at 19 reservoirs and three control lakes, having a combined capacity of approximately 580 billion gallons. The water is then carried into the City by aqueducts. The water enters the City via City Tunnel No. 1, which runs through the Bronx, Manhattan, and Queens, and City Tunnel No. 2, which runs through the Bronx, Queens, and Brooklyn. The partially complete City Tunnel No. 3 serves the Bronx, Manhattan, and Queens, and, when fully complete, will

terminate in Brooklyn. Staten Island obtains its water via the Richmond Tunnel, which is an extension of City Tunnel No. 2.

Once in the City, the three aqueducts distribute water into a network of water mains. Water mains up to 96 inches in diameter feed the smaller mains, which deliver water to their final destination. These are the same mains that provide water to fire hydrants. Nearly all of the water reaches its consumers by gravity alone, although some four percent (generally located at the outer limits of the system where in-line pressure is lowest, at high elevations, or at a pressure extremity, such as Far Rockaway) is pumped to its final destination. Pressure regulators throughout the City monitor and control the water pressure.

Water conservation measures taken by DEP in the 1990s have resulted in a steady reduction in the City's overall water demand over the last 20 years. As of 2014, the in-City water consumption totaled approximately 1,000 mgd.

The Project Area is served by a 20-inch water main located beneath Atlantic Avenue. As indicated in **Attachment A, "Project Description,"** the Proposed Development Site with a lot area of approximately 46,752 sf, is currently occupied by a number of buildings housing predominantly retail and light industrial uses. This includes five interconnected buildings with a total of approximately 28,846 gsf of built floor area that are occupied by a two-story auto-body mechanic shop on Lot 68, a vacant two-story industrial (warehouse) building on Lot 70, a one-story building containing retail and industrial uses on Lot 74, and two single-story building containing office and light industrial uses (a plumbing and heating supply store) on Lot 77; Lot 73 is vacant and unimproved. As presented in **Table J-1,** the existing uses at the Proposed Development Site are estimated to generate approximately 5,126 gpd of daily sanitary sewage, with a total water demand of approximately 9,564 gpd. Existing sanitary flows generated at the Proposed Development Site are conveyed to the Red Hook WPCP during dry weather events via the existing combined sewers serving the sites.

TABLE J-1
Existing Water Consumption and Wastewater Generation at the Proposed Development Site

Land Use	Rate[1]	Area (gsf)	Domestic Water/ Wastewater Generation (gpd)	A/C (gpd)
Office	Domestic: 0.1 gpd/sf A/C: 0.17 gpd/sf	6,807	681	1,157
Retail	Domestic: 0.24 gpd/sf A/C: 0.17 gpd/sf	1,438	345	244
Light Industrial	N/A; see Note.	17,861	4,100	3,036
Total Daily Water Consumption			9,564	
Total Daily Wastewater Generation			5,126	

Notes:
[1] Based on average daily water use rates provided in Table 13-2 of the *CEQR Technical Manual*:
- Commercial Office: 0.1 gpd/sf, plus 0.17 gpd/sf for A/C.
- Commercial Retail: 0.24 gpd/sf, plus 0.17 gpd/sf for A/C.
- Light Industrial: As no rate is provided in the *CEQR Technical Manual*, domestic generation rate is from DEP's *Draft Rules and Regulations Governing the Construction of Private Sewers and Drains*; assumes 10,000 gpd per acre.

Sewer System

According to the *CEQR Technical Manual*, wastewater is considered to include sanitary sewage, wastewater generated by industries, and stormwater. Water used for air conditioning generates a negligible amount of wastewater as it recirculates or evaporates in the cooling and heating process.

New York City's sewer system consists of a grid of sewers beneath the streets that send wastewater flows to fourteen different WPCPs. The City's WPCPs are regulated by the NYSDEC, which issues permits regulating the discharge of treated effluent. Combined, all fourteen WPCPs in New York City have a SPDES permitted total capacity of 1.8 billion gpd. The area served by each plant is called a "drainage area" or "catchment area." The majority of New York City's sewers are combined sewers, since they receive both sanitary wastewater and stormwater runoff. During wet weather, large volumes of rainfall runoff enter the combined system through storm drains and catch basins in streets and mix with sanitary sewage, then flow through regulators (relief valves), before being sent to the WPCPs through interceptor sewers. During such wet-weather events, excessive volumes of stormwater runoff (ten to 50 times the dry-weather flow) can enter the combined sewer system and, if transported to the WPCP, could exceed the treatment design capacity. Flow into the interceptor sewers are controlled by regulators along the length of the interceptor sewers. The purpose of the regulators is to divert sanitary flow from the existing combined sewers to the interceptor sewers during normal flow periods (dry weather) and limit the flow to the interceptor sewers to twice the dry weather flow during storm periods (wet weather). The existing tide gates placed on the combined sewer overflows (CSOs) downstream of the regulators are designed to keep tidal water from entering the existing combined sewers and the interceptor sewers. Tide gates can be part of the regulator structure or stand-alone chambers. The New York City sewer system currently (in 2015) treats approximately 1.3 billion gpd of municipal wastewater and a portion of combined sewer flow during wet weather events.

Sanitary sewers can be one to two feet in diameter on side streets and three or four feet in diameter under larger roadways. They connect to trunk sewers, which are generally five to seven feet in diameter. Combined sewers discharge to regulators and the interceptors carry wastewater to the WPCPs for treatment. The wastewater collection system at the Project Area consists of one 12-inch combined sewer line beneath Atlantic Avenue. The existing combined sewer beneath Atlantic Avenue fronting the Proposed Development Site begins just east of the intersection of Atlantic and Classon avenues and flows east to the chamber beneath the intersection of Atlantic and Franklin avenues, where it connects with the north-flowing combined sewer beneath Franklin Avenue, which then connects with a northeast-flowing combined sewer beneath Brevoort Place.

The Project Area is served by the Red Hook WPCP, which treats wastewater by physical and biological processes before it is discharged into the East River. The quality of the treated wastewater (effluent) is regulated by a SPDES permit issued by the NYSDEC, which establishes limits for effluent parameters (i.e., suspended solids, fecal coliform bacteria, and other pollutants). As the volume of flow to a WPCP affects the level of treatment a plant can provide, the maximum permitted capacity for the Red Hook WPCP is 60 mgd. As presented in **Table J-2**, the average daily flows to the Red Hook WPCP for the 12-month period ending in September 2020 was approximately 26.25 mgd, which is well below the maximum permitted capacity of 60 mgd.

TABLE J-2
Existing Red Hook WPCP Average Daily Sewer Flows

Year	Month	Average Daily Flows (mgd)
2019	October	30
	November	25
	December	32
2020	January	25
	February	26
	March	26
	April	26
	May	22
	June	24
	July	27
	August	26
	September	26
12-Month		26.25

Source: DEP "Monthly Operating Efficiency (2019 and 2020)" tables.

Sanitary Flows (Dry Weather)

As presented in **Table J-1** above, the Proposed Development Site under existing conditions is estimated to generate approximately 5,126 gpd of daily sanitary sewage, with a total water demand of approximately 9,564 gpd. Existing sanitary flows generated at the Proposed Development Site are conveyed to the Red Hook WPCP during dry weather events via the existing combined sewers serving the sites.

Stormwater Flows (Wet Weather)

As outlined in **Attachment A, "Project Description,"** the Proposed Development Site totals approximately 46,752 sf. **Table J-3** describes the surfaces, surface areas, and the weighted runoff coefficient (the fraction of precipitation that becomes surface runoff) for each surface type present at the Proposed Development Site. Based on visual inspections of the Proposed Development Site, and as indicated in **Table J-3**, the majority of the Proposed Development Site (approximately 58 percent) is comprised of roof area surfaces, while approximately 42 percent of the Proposed Development Site is comprised of paved surfaces; the Proposed Development Site does not include any permeable surfaces. Based on the existing surface areas of the Proposed Development Site, the weighted runoff coefficient of the site is 0.94.

TABLE J-3
Existing Surface Areas and Runoff Coefficients at the Proposed Development Site

Surface Type	Roof	Pavement and Walks	Other	Grass and Softscape	Total
Area	58%	42%	0%	0%	100%
Surface Area (sf)	27,259	19,493	0	0	46,752
Runoff Coefficient[1]	1.00	0.85	0.85	0.20	0.94

Notes:
[1] Weighted runoff coefficient calculations based on the DEP Flow Volume Calculation Matrix provided in the *CEQR Technical Manual.*

For this analysis, the runoff coefficients were used to calculate the amount of stormwater runoff during a range of storm events, with rainfall averaging from 0.00 to 2.50 inches over durations of 3.80 to 19.50 hours. **Table J-4** shows the existing stormwater runoff for the Proposed Development Site. As indicated in

the table, the Proposed Development Site currently generates between 0.00 and 0.07 mg of wet weather flows for different rainfall intensities.

TABLE J-4
Existing Stormwater and Sanitary Sewage Flow Volumes at the Proposed Development Site

Rainfall Volume (in)	Rainfall Duration (hr)	Runoff Volume Direct Drainage	Runoff Volume to CSS	Sanitary Volume to CSS (MG)	Total Volume to CSS (MG)
0.00	3.80	0.00	0.00	0.00	0.00
0.40	3.80	0.00	0.01	0.00	0.01
1.20	11.30	0.00	0.03	0.00	0.04
2.50	19.50	0.00	0.07	0.00	0.07

Notes:
CSS = combined sewer system; MG = million gallons

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

In the future without the Proposed Actions (the No-Action condition), while no new construction would be planned for the Applicant-owned Proposed Development Site, for conservative analysis purposes it is assumed the currently vacant, approximately 12,240 sf former industrial building on Lot 70 would be reoccupied with light industrial/warehousing uses in the No-Action condition. No other changes to the remaining lots within the Proposed Development Site are anticipated in the future without the Proposed Actions.

Water Supply

The overall water supply system in New York City is not expected to change materially in the future without the Proposed Actions. In the No-Action condition, the Project Area would continue to be served by a 20-inch water main located beneath Atlantic Avenue. Additionally, in 2011, DEP launched the Water for the Future program, a comprehensive long-term planning effort to repair leaks in sections of the Delaware Aqueduct by 2024. To support this program, a newly created Demand Management Unit within DEP was tasked with the development of a citywide strategy that will outline DEP's plan for the implementation of water demand management projects. DEP's 2013 *Water Demand Management Plan* identified five key strategies for managing water demand in New York City and detailed 21 specific initiatives to be implemented by 2024 in order to achieve targeted water demand reductions. It is anticipated that these initiatives will offset much of the increased demands citywide that may result from population growth and new development.

As presented in **Table J-5**, the No-Action condition is estimated to have a total daily water demand of 14,455 gpd, including 7,936 gpd of domestic demand and 6,519 gpd of air conditioning (A/C) demand.

TABLE J-5
No-Action Water Consumption and Wastewater Generation at the Proposed Development Site

Land Use	Rate[1]	Area (gsf)	Domestic Water/ Wastewater Generation (gpd)	A/C (gpd)
Office	Domestic: 0.1 gpd/sf A/C: 0.17 gpd/sf	6,807	681	1,157
Retail	Domestic: 0.24 gpd/sf A/C: 0.17 gpd/sf	1,438	345	244
Light Industrial	N/A; see Note	30,101	6.910	5,117
	Total Water Consumption		14,455	
	Total Wastewater Generation		7,936	

Notes:
[1] Based on average daily water use rates provided in Table 13-2 of the *CEQR Technical Manual*:
- Commercial Office: 0.1 gpd/sf, plus 0.17 gpd/sf for A/C.
- Commercial Retail: 0.24 gpd/sf, plus 0.17 gpd/sf for A/C.
- Light Industrial: As no rate is provided in the *CEQR Technical Manual*, domestic generation rate is from DEP's *Draft Rules and Regulations Governing the Construction of Private Sewers and Drains*; assumes 10,000 gpd per acre.

Sewer System

Sanitary Flows (Dry Weather)

The Project Area would continue to be served by the Red Hook WPCP in the future without the Proposed Actions, and, as presented in **Table J-5** and described above, is expected to generate approximately 7,936 gpd of daily sanitary sewage with a total water demand 14,455 gpd.

Stormwater Flows (Wet Weather)

As presented in **Table J-6**, compared to existing conditions, the No-Action condition would not result in any changes to roof surfaces (approximately 58 percent) or paved area surfaces (approximately 42 percent) present at the Proposed Development Site. As there would be no changes in the Proposed Development Site's surface areas, the weighted runoff coefficient of the Proposed Development Site would remain at 0.94 in the future without the Proposed Actions, as under existing conditions.

TABLE J-6
No-Action Surface Areas and Runoff Coefficients at the Proposed Development Site

Surface Type	Roof	Pavement and Walks	Other	Grass and Softscape	Total
Area	58%	48%	0%	0%	100%
Surface Area (sf)	27,259	19,493	0	0	46,752
Runoff Coefficient[1]	1.00	0.85	0.85	0.20	0.94

Notes:
[1] Weighted runoff coefficient calculations based on the DEP Flow Volume Calculation Matrix provided in the *CEQR Technical Manual.*

As shown in **Table J-7**, in the No-Action condition, approximately 0.00 to 0.07 mg of stormwater and approximately 0.00 to 0.01 mg of sanitary sewage would be conveyed to the existing combined sewers, for a total of 0.00 to 0.07 mg of combined volumes to the combined sewer system. Compared to existing conditions, the total wet weather flows from the Proposed Development Site would increase slightly by up to 0.01 mg, depending on rainfall duration and intensity.

TABLE J-7
No-Action Development Site Stormwater and Sanitary Sewage Flow Volumes

Rainfall Volume (in)	Rainfall Duration (hr)	Runoff Volume Direct Drainage	Runoff Volume to CSS	Sanitary Volume to CSS (MG)	Total Volume to CSS (MG)
0.00	3.80	0.00	0.00	0.00	0.00
0.40	3.80	0.00	0.01	0.00	0.01
1.20	11.30	0.00	0.03	0.00	0.04
2.50	19.50	0.00	0.07	0.01	0.07

Notes:
CSS = combined sewer system; MG = million gallons

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

In the 2024 future with the Proposed Actions (the With-Action condition), the proposed zoning map and text amendments would be approved and the Proposed Development Site would be redeveloped with a new 17-story, mixed-use building comprising of approximately 357,436 gsf of residential uses (422 DUs), 28,334 gsf of commercial office uses, 34,470 gsf of commercial retail uses, 8,995 gsf of community facility uses), 42,302 gsf of below-grade accessory parking uses, and 5,561 gsf of mechanical uses (the "Proposed Project"). However, the Applicant could reasonably construct a 16-story, mixed-use building containing 113,587 gsf of commercial office uses, 33,111 gsf of commercial retail uses (totaling 3.0 FAR of commercial uses), 273,072 gsf of residential uses (5.0 FAR of residential uses, with 337 DUs), 46,022 gsf of below-grade accessory parking uses, and 5,798 gsf of mechanical uses (the "Alternate Commercial Scenario"). As the projected water demand of the Alternate Commercial Scenario (116,309 gpd) would exceed that of the Proposed Project (113,913 gpd), for conservative analysis purposes, the potential effects to area water supply and sewer systems in the future with the Proposed Actions is based on the Alternative Commercial Scenario.

Water Supply

The Proposed Actions would generate increased demand on the DEP water supply system, compared to No-Action conditions (see **Table J-8**). As indicated in the table, the Proposed Actions would generate an incremental water demand of approximately 101,855 gpd. The incremental demand represents approximately 0.01 percent of the approximately one billion gallons of water supplied daily to New York City by DEP. These estimated demands include water for both domestic uses and air conditioning systems.

As discussed above, the Project Area is served by a 20-inch water main located beneath Atlantic Avenue. The existing water main that is located along the Project Area's Atlantic Avenue street frontage are expected to adequately accommodate the incremental water demand generated by the Proposed Actions. As such, given the relatively minor incremental increase in water consumption (as compared to city-wide demand) and the Project Area's location in an area well-served by water infrastructure, the Proposed Actions is not expected to adversely affect the City's water supply or system water pressure.

Sewer System

Sanitary Flows (Dry Weather)

As indicated in **Table J-8**, the estimated amount of sanitary sewage generated by the Proposed Actions would be 90,385 gpd. This amount would represent approximately 0.03 percent of the average daily flow

of 26.25 mgd at the Red Hook WPCP and would not result in an exceedance of the plant's permitted capacity of 60 mgd. In addition, per the New York City Plumbing Code (Local Law 33 of 2007), low-flow fixtures would be required to be implemented, which would help to reduce sanitary flows from the projected developments.

TABLE J-8
Expected Water Demand at Proposed Development Site – No-Action vs. With-Action Conditions

	Use	Size (gsf/person)[1]	Domestic Use (gpd)[1]	Air Conditioning (gpd)[1]
No-Action Condition	Office	6,807 gsf	681	1,157
	Retail	1,438 gsf	345	244
	Light Industrial	30,101 gsf	6,910	5,117
	Total No-Action Water Supply Demand			14,455
	Total No-Action Sewage Generation			7,936
With-Action Condition[2]	Office	119,385 gsf	11,939	20,295
	Retail	33,111 gsf	7,947	5,629
	Light Industrial	0 gsf	-	-
	Residential	705 persons	70,500	-
	Total With-Action Water Supply Demand			116,309
	Total With-Action Sewage Generation			90,385
Increment	***Incremental Water Supply Demand***			101,855
	Incremental Sewage Generation			82,449

Notes:
[1] Based on average daily water use rates provided in Table 13-2 of the *CEQR Technical Manual* (unless otherwise indicated):
- Commercial Office: 0.1 gpd/sf, plus 0.17 gpd/sf for A/C.
- Commercial Retail: 0.24 gpd/sf, plus 0.17 gpd/sf for A/C.
- Light Industrial: As no rate is provided in the *CEQR Technical Manual*, domestic generation rate is from DEP's *Draft Rules and Regulations Governing the Construction of Private Sewers and Drains*; assumes 10,000 gpd per acre.
- Residential: 100 gpd/person.

[2] With-Action development assumptions for Proposed Development Site are based on the Alternate Commercial Scenario for conservative analysis purposes.

Connecting to the City's sewer system requires certification from DEP as part of the building permit process, which is not a discretionary approval. The Applicant would be required to file a site connection proposal for approval from DEP to tie into the sewer system. In this process, before a building permit can be issued, site connection proposals must be certified for sewer availability by DEP. The Applicant would be required to demonstrate that the existing sanitary system could handle the sanitary flows from the Proposed Actions and resultant RWCDS. Because the City's sewers are sized and designed based on the designated zoning of an area and related population density and surface coverage characteristics, the Proposed Actions may result in development that is inconsistent with the design of the existing built sewer system. To be issued a permit to connect to the City sewer, a site-specific hydraulic analysis may be required to determine whether the existing sewer system is capable of supporting higher density development and related increases in sanitary flows. Completion of sewer improvements and/or a new drainage plan may also be required at the time of the site connection proposal. In addition, in accordance with the New York City Plumbing Code (Local Law 33 of 2007), while not accounted for in the quantitative analysis, low-flow fixtures would be required to be implemented and would help to reduce sanitary flows as a result of the Proposed Actions.

As the Proposed Actions are not expected to result in a significant increase in dry weather flows to the combined sewer system, no significant adverse impacts would result.

Stormwater Flows (Wet Weather)

As presented in **Table J-9**, below, based on the proposed site plan (refer to **Figure A-5** in **Attachment A, "Project Description"**), the Proposed Actions would result in an increase in the amount of roof area (increasing to approximately 92 percent of the Proposed Development Site) and softscape (increasing to approximately eight percent) present at the Proposed Development Site, while there would no longer be any area comprised of pavement and walks. For conservative analysis purposes, potential green roof and softscape terrace spaces have been considered rooftop. Based on these anticipated changes in the Proposed Development Site's surface areas, the weighted runoff coefficient of the Proposed Development Site would remain at 0.94 in the future with the Proposed Actions, as under existing and No-Action conditions.

TABLE J-9
Proposed Development Site Runoff Coefficient – With-Action Condition

Surface Type	Roof[2]	Pavement and Walks	Other	Grass and Softscape	Total
Area	92%	0%	0%	8%	100%
Surface Area (sf)	43,152	0	0	3,600	46,752
Runoff Coefficient[1]	1.00	0.85	0.85	0.20	0.94

Notes:
[1] Weighted runoff coefficient calculations based on the DEP Flow Volume Calculation Matrix provided in the *CEQR Technical Manual.*
[2] Conservative estimate of the total roof areas on site, not accounting for potential green roof areas and softscape terraces of the Proposed Project.

Using these sanitary and stormwater flow calculations, the DEP Flow Volume Calculation Matrix was completed for the future With-Action condition and compared to the existing conditions presented in **Table J-4**, above. The calculations from the Flow Volume Calculation Matrix help to determine the change in wastewater flow volumes to the combined sewer system from existing conditions to With-Action conditions, based on four rainfall volume scenarios with varying durations. The drainage analysis assumes that all stormwater runoff from the Proposed Development Site would flow via the existing combined sewer infrastructure adjacent to the Proposed Development Site. The summary tables, taken from the DEP Flow Volume Calculation Matrix, are presented in **Table J-10**.

TABLE J-10
Proposed Development Site Stormwater and Sanitary Sewage Flow Volumes – With-Action vs. Existing Conditions

Rainfall Volume (in)	Rainfall Duration (hr)	Runoff Volume Direct Drainage (MG)	Runoff Volume to CSS (MG)	Sanitary Volume to CSS (MG)	Total Volume to CSS (MG)	Incremental Volume to CSS over Existing Conditions (MG)[1]
0.00	3.80	0.00	0.00	0.01	0.01	+0.01
0.40	3.80	0.00	0.01	0.01	0.03	+0.02
1.20	11.30	0.00	0.03	0.04	0.08	+0.04
2.50	19.50	0.00	0.07	0.07	0.14	+0.07

Notes:
CSS = combined sewer system; MG = million gallons
[1]Refer to **Table J-4**.

As shown in **Table J-10**, in the future With-Action condition, approximately 0.00 to 0.07 mg of stormwater and approximately 0.01 to 0.07 mg of sanitary sewage would be conveyed to the existing combined

sewers, for a total of 0.01 to 0.14 mg of combined volumes to the combined sewer system. Compared to existing conditions, the total wet weather flows from the Proposed Development Site would increase by 0.01 to 0.07 mg, depending on rainfall duration and intensity. The Flow Volume Matrix calculations presented in **Table J-10** do not reflect the use of sanitary and stormwater source control BMPs to reduce sanitary flow and stormwater runoff volumes to the combined sewer system.

The Project Area is located in an area that is well-served by combined sewer infrastructure. As previously noted, the wastewater collection system at the Project Area consists of a 12-ince combined sewer beneath Atlantic Avenue. Given the size of the combined sewer facilities in the vicinity of the Project Area, it is anticipated that there is ample capacity in the adjacent sewer infrastructure to accommodate the additional combined flows generated by the Proposed Actions.

Stormwater Best Management Practices

A broad range of BMPs could be implemented on the Proposed Development Site to facilitate stormwater source controls and limit the stormwater release rate to the required 0.25 cubic feet per second (cfs) or ten percent of the allowable flow per the drainage plan, whichever is greater.[1] The implementation of low-flow fixtures, as per the New York City Plumbing Code, Local Law 33 of 2007, and the U.S. Environmental Protection Agency's WaterSense Program, would help control sanitary flows. To further offset these increases, on-site stormwater control measures of BMPs could be implemented to retain or slowly release stormwater runoff with controlled discharge rates to the City's combined sewer system.

In addition, as a NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-10-001) is required for any development that would involve soil disturbance of one or more acres, the Applicant may be required to prepare a SWPPP, consisting of both temporary erosion and sediment controls and post-construction stormwater BMPs. Post-construction stormwater management measures that would be integrated into the Proposed Project as part of the SWPP could include measures such as underground detention, infiltration practices, and vegetated areas. The following typical BMP measures could be used to help manage stormwater flows: the implementation of BMPs described in the *New York City Green Infrastructure Plan* and/or green technologies, such as blue and green roofs, subsurface detention and infiltration, porous pavement, enhanced tree pits, and rain cisterns, depending on site conditions. The design of detention tanks, green roofs, and/or other chosen stormwater control BMPs, could achieve an overall release rate of 0.25 cfs or ten percent of DEP's allowable flow rate (whichever is greater) from the Proposed Development Site.

Therefore, with the incorporation of appropriate BMPs that would be required as part of the site connection approval process to be reviewed and approved by DEP, the overall volume of sanitary sewer discharge and stormwater runoff, as well as the peak stormwater runoff rate, would be substantially reduced. As the wastewater treatment capacity at the Red Hook WPCP and the sewer conveyance infrastructure near the Project Area would be sufficient to handle wastewater flows that would result from the Proposed Actions, there would not be any significant adverse impacts on wastewater treatment or stormwater conveyance infrastructure.

[1] Pursuant to Chapter 31 of Title 15 of the Rules of the City of New York.

Attachment K
Transportation

I. INTRODUCTION

This attachment presents the findings of the analyses of traffic, parking, transit, and pedestrian conditions for the Reasonable Worst Case Development Scenario (RWCDS). As discussed in **Attachment A, "Project Description,"** the applicant is seeking a zoning map and a zoning text amendment in order to facilitate the construction of a new 17-story mixed-use building on Brooklyn Block 2020, Lots 68, 70, 73, 74, and 77 (the "Proposed Development Site") in the Bedford-Stuyvesant/Crown Heights neighborhood of Brooklyn Community District (CD) 3. The proposed discretionary actions would rezone a portion of the Brooklyn Block 2020 from a M1-1 district to a C6-3A district, and would also include a zoning text amendment to designate the proposed rezoning area as a Mandatory Inclusionary Housing (MIH) Area (the "Proposed Actions"). The Proposed Development Site is bounded by Lefferts Place to the north, Franklin Avenue to the east, Atlantic Avenue to the south, and Classon Avenue to the west (refer to **Figure K-1**).

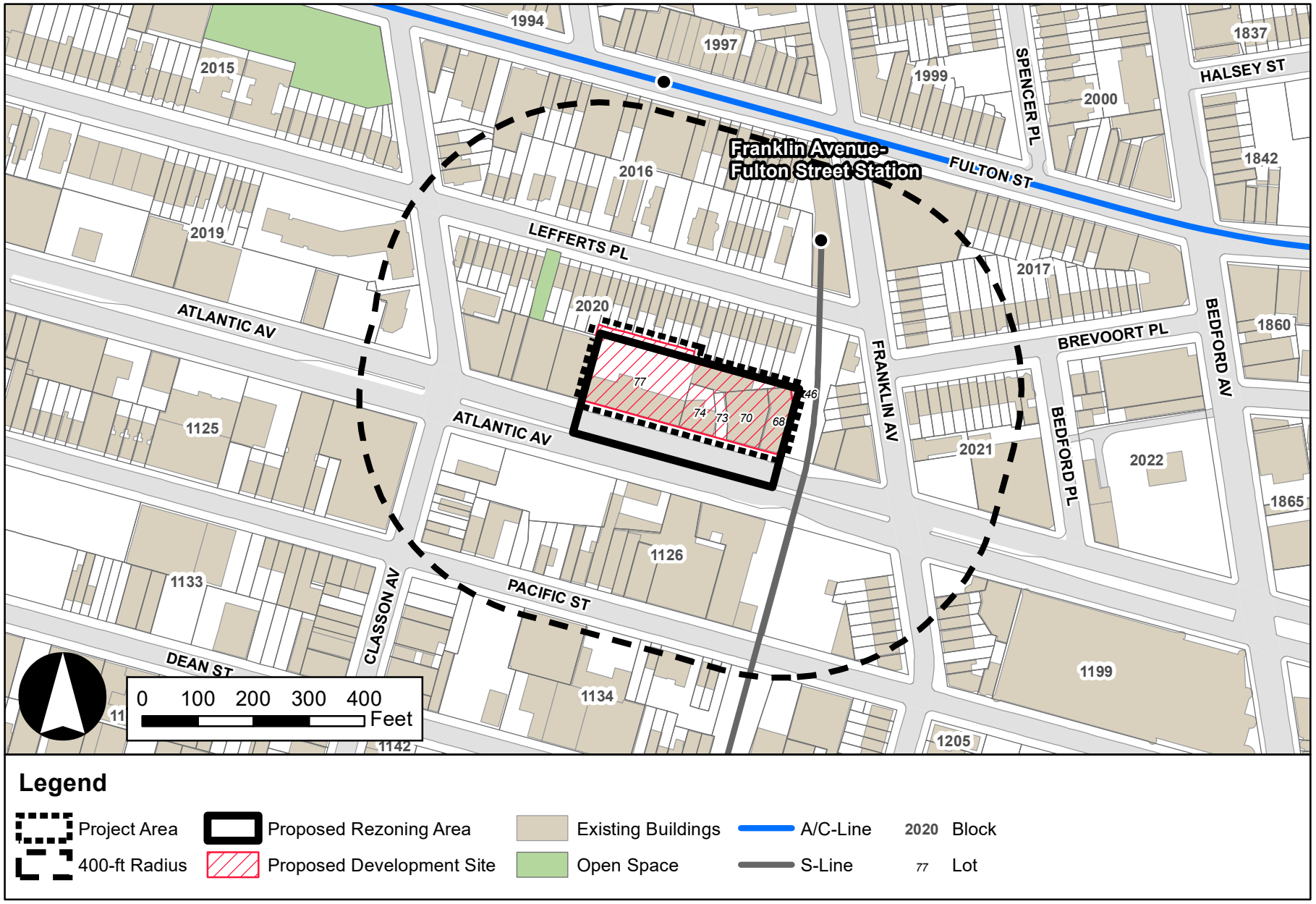
In the future with the Proposed Actions, the Applicant proposes to construct a new 17-story building containing approximately 422 dwelling units (DUs), 34,470 gsf of local retail space, 33,895 gsf of office space, 8,995 gsf of community facility (medical office) space and 152 accessory parking spaces (the "Proposed Project"). It should be noted that although the EAS states that the approximately 8,995 gsf of community facility space would be occupied by childcare uses, for travel demand forecasting purposes, the space was conservatively assumed to be occupied by medical office uses as the worst-case scenario for transportation. In addition, as the Proposed Actions would increase the maximum permitted commercial FAR to 6.0, a second reasonable worst-case development scenario (RWCDS) will be assessed (the "Alternate Commercial Scenario"). Under the Alternate Commercial Scenario, the Applicant could reasonably construct a mixed-use building containing approximately 337 DUs, 33,111 gsf of local retail space, 119,385 gsf of office space, and 152 accessory parking spaces.

In the future without the Proposed Actions, it is assumed that the existing conditions at the Proposed Development Site would remain unchanged with the exception of Lot 70 where a currently vacant, approximately 12,240 gsf former industrial building would be re-occupied with light industrial uses. Overall, it is assumed that the Proposed Development Site would be occupied by approximately 1,438 gsf of retail space, 6,807 gsf of office space, and 30,101 gsf of light industrial space under No-Action conditions.

The proposed development is expected to be completed and fully operational by 2024. The incremental difference between the No-Action and With-Action scenarios serve as the basis of the transportation impact analysis, which was conducted in accordance with the 2020 City Environmental Quality Review (*CEQR) Technical Manual*.

II. PRINCIPAL CONCLUSIONS

Based on the following detailed analysis, the anticipated level of new transportation demand generated by the Proposed Actions is not expected to result in any significant adverse impacts to traffic, parking, transit or pedestrian conditions in the vicinity of the project site. As per *CEQR Technical* Manual criteria,



1045 Atlantic Ave Rezoning

Figure K-1
Project Site Location

detailed parking analyses were not warranted. A total of three signalized intersections were analyzed as part of a detailed traffic analysis, the Franklin Avenue (C, S) station was analyzed as part of the detailed subway station analysis and a total of seven pedestrian elements (four sidewalks and three corners) were analyzed as part of the detailed pedestrian analysis, with no impacts anticipated as a result of project-generated trips.

Additionally, crash data for the traffic and pedestrian study area intersections were obtained from the New York City Department of Transportation (DOT) for the 3-year reporting period between January 1, 2016 and December 31, 2018. While no intersections were found to have experienced a total of 48 or more crashes in any one year during this period, the intersections of Atlantic Avenue and Bedford Avenue, and Atlantic Avenue and Nostrand Avenue each experienced greater than five pedestrian and bicycle injury crashes within one year. Therefore, safety measures, such as restriping of pavement markings, will be coordinated with NYCDOT.

III. PRELIMINARY ANALYSIS METHODOLOGY

The 2020 *City Environmental Quality Review* (CEQR) *Technical Manual* describes a two-level screening procedure for the preparation of a "preliminary analysis" to determine if quantified operational analyses of transportation conditions are warranted. As discussed below, the preliminary analysis begins with a trip generation (Level 1) analysis to estimate the number of person and vehicle trips attributable to the RWCDS. According to the *CEQR Technical Manual*, if the RWCDS development is expected to result in fewer than 50 peak hour vehicle trips and fewer than 200 peak hour transit or pedestrian trips, further quantified analyses are not warranted. When these thresholds are exceeded, detailed trip assignments (Level 2) are to be performed to estimate the incremental trips that could be incurred at specific transportation elements and to identify potential locations for further analyses. If the trip assignments show that the RWCDS would generate 50 or more peak hour vehicle trips at an intersection, 200 or more peak hour subway trips at a station, 50 or more peak hour bus trips in one direction along a bus route, or 200 or more peak hour pedestrian trips traversing a sidewalk, corner area, or crosswalk, then further quantified operational analyses may be warranted to assess the potential for significant adverse impacts on traffic, transit, pedestrians, parking, and vehicular and pedestrian safety.

IV. LEVEL 1 SCREENING ASSESSMENT

A Level 1 trip generation screening assessment was conducted in order to estimate the number of person and vehicle trips by mode expected to be generated by the Proposed Actions during the weekday AM, midday, PM, and Saturday midday peak hours. These estimates were then compared to the *CEQR Technical Manual* analysis thresholds of 50 peak hour vehicle trips, 200 peak hour subway/rail riders, 50 peak hour bus riders, and 200 peak hour pedestrian trips to determine if a Level 2 screening and/or quantified operational analyses may be warranted. The travel demand assumptions used for this assessment are discussed below and a detailed travel demand forecast is provided.

Tables K-1a and K-1b below provide a comparison of the 2024 No-Action and 2024 With-Action conditions identified for analysis purposes under the Proposed Project and the Alternate Commercial Scenario, respectively. As shown in **Table K-1a**, by 2024, the incremental (net) change that would result under the Proposed Project is a net increase of approximately 422 DUs, 33,032 gsf of local retail space, 27,088 gsf of office space, 8,995 gsf of community facility (medical office) space and 152 accessory parking spaces, and a net decrease of approximately 30,101 gsf of light industrial space. As shown in **Table K-1b**, the net

change that would result under the Alternate Commercial Scenario is a net increase of approximately 337 DUs, 31,673 gsf of local retail space, 112,578 gsf of office space and 152 accessory parking spaces, and a net decrease of approximately 30,101 gsf of light industrial space. As the incremental development would have the potential to exceed *CEQR Technical Manual* analysis thresholds, preliminary travel demand forecasts were prepared.

Table K-1a
Comparison of 2024 No-Action and 2024 With-Action Conditions (Proposed Project)

Land Use	No-Action Condition	With-Action Condition	Net Increment
Residential	0 DUs	422 DUs	422 DUs
Local Retail	1,438 gsf	34,470 gsf	33,032 gsf
Office	6,807 gsf	33,895 gsf	27,088 gsf
Light Industrial	30,101 gsf	0 gsf	(30,101 gsf)
Community Facility (Medical Office)	0 gsf	8,995 gsf	8,995 gsf
Accessory Parking Spaces	0 spaces	152 spaces	152 spaces

Table K-1b
Comparison of 2024 No-Action and 2024 With-Action Conditions (Alternate Commercial Scenario)

Land Use	No-Action Condition	With-Action Condition	Net Increment
Residential	0 DUs	337 DUs	337 DUs
Local Retail	1,438 gsf	33,111 gsf	31,673 gsf
Office	6,807 gsf	119,385 gsf	112,578 gsf
Light Industrial	30,101 gsf	0 gsf	(30,101 gsf)
Accessory Parking Spaces	0 spaces	152 spaces	152 spaces

Transportation Planning Factors

Table K-2 shows the transportation planning factors that were used to forecast the travel demand generated by the proposed uses in the weekday AM, midday, PM and Saturday midday peak hours. These include trip generation rates, temporal and directional distributions, mode choice factors, vehicle occupancies, and truck trip factors for the incremental differences between the No-Action and With-Action scenarios under both the Proposed Project and the Alternate Commercial Scenario (refer to **Tables K-1a and K-1b**). The factors in **Table K-2** were based on data cited 2020 *City Environmental Quality Review (CEQR) Technical Manual;* 2015-2019 American Community Survey (ACS) journey-to-work data for Brooklyn census tracts in proximity to the Development Site (tracts 201, 203, 221, 227, 229, 231, 245, 247 and 305); American Association of State Highway Transportation Officials (AASHTO) Census Transportation Planning Products (CTPP) reverse journey-to-work five-year data; New York City Department of Transportation (DOT) survey data; and factors developed for recent environmental reviews. Factors are shown for the weekday AM and PM peak hours (typical peak periods for commuter travel demand) and the weekday midday and Saturday peak hours (typical peak periods for retail demand).

Travel Demand Forecast

Tables K-3a and K-3b summarize the results of that travel demand forecast for the Proposed Project and **Tables K-4a and K-4b** summarize the results for the Alternate Commercial Scenario, based on the factors shown in **Table K-2** and discussed above. **Tables K-3a and K-4a** show the weekday peak hour person trips, transit trips, walking trips, and vehicle trips that would be generated by each of the proposed uses in 2024 with the construction of the Proposed Project and Alternate Commercial Scenario, respectively.

Table K-2
Transportation Planning Factors

Land Use:	**Residential**	**Local Retail**	**Office**	**Medical Office**	**Light Industrial/ Manufacturing**
Trip Generation:	(1)	(1)	(1)	(2)	(4)
Weekday	8.075	205.0	18	76.0	14.7
Saturday	9.6	240.0	3.9	39.0	2.2
	per DU	per 1,000 gsf	per 1,000 gsf	per 1,000 gsf	per 1,000 gsf
Temporal Distribution:	(1)	(1)	(1)	(2)	(4)
AM	10%	3.0%	12%	11%	13.2%
Midday	5%	19.0%	15%	13%	11.0%
PM	11.0%	10.0%	14%	9%	14.2%
Saturday	8.0%	10.0%	17%	17%	10.7%
Modal Splits:	(5)	(2)	(3)	(2)	(4)(6)
	All Periods	All Periods	AM/PM/SAT MD	All Periods	AM/PM/SAT MD
Auto	11.3%	11.0%	12.0% 2.0%	24.0%	33.8% 2.0%
Taxi	1.3%	0.0%	1.0% 1.0%	6.0%	1.3% 1.0%
Subway	70.7%	3.0%	77.0% 7.0%	59.0%	35.3% 7.0%
Transit Bus	4.1%	2.0%	6.0% 7.0%	9.0%	15.4% 7.0%
Walk/Other	12.6%	84.0%	4.0% 83.0%	2.0%	14.2% 83.0%
	100.0%	100.0%	100.0% 100.0%	100.0%	100.0% 100.0%
In/Out Splits:	(3)	(3)(4)	(3)(4)	(2)	(4)
	In Out	In Out	In Out	In Out	In Out
AM	20% 80%	50% 50%	96% 4%	62% 38%	88.0% 12.0%
Midday	51% 49%	50% 50%	39% 61%	47% 53%	50.0% 50.0%
PM	65% 35%	50% 50%	5% 95%	35% 65%	12.0% 88.0%
Saturday	51% 49%	55% 45%	60% 40%	49% 51%	47.0% 53.0%
Vehicle Occupancy:	(3)(5)	(2)	(3)	(2)	(4)
	All Periods	All Periods	All Periods	All Periods	All Periods
Auto	1.08	1.20	1.42	1.50	1.20
Taxi	1.40	1.20	1.42	1.50	1.20
Truck Trip Generation:	(1)	(1)	(1)	(4)	(4)
Weekday	0.06	0.35	0.32	0.67	0.67
Saturday	0.02	0.04	0.01	0.67	0.67
	per DU	per 1,000 gsf	per 1,000 sf	per 1,000 sf	per 1,000 sf
Truck Temporal Distribution:	(1)	(1)	(1)	(4)	(4)
AM	12%	8.0%	10.0%	14.0%	14.0%
MD	9%	11.0%	11.0%	9.0%	9.0%
PM	2%	2.0%	2.0%	1.0%	1.0%
Saturday	9%	11.0%	11.0%	0.0%	0.0%
Truck Directional Distribution:	In Out	In Out	In Out	In Out	In Out
AM	50% 50%	50% 50%	50% 50%	50% 50%	50% 50%
MD	50% 50%	50% 50%	50% 50%	50% 50%	50% 50%
PM	50% 50%	50% 50%	50% 50%	50% 50%	50% 50%
Saturday	50% 50%	50% 50%	50% 50%	50% 50%	50% 50%

Notes :

(1) *2020 City Environmental Quality Review (CEQR) Technical Manual.*
(2) Based on data provided by NYCDOT.
(3) Based on data from the *809 Atlantic Avenue EAS* , 2019.
(4) Based on data from the *East New York Rezoning Proposal FEIS* , 2016.
(5) 2015-2019 ACS journey-to-work data for Brooklyn Census Tracts 201, 203, 221, 227, 229, 231, 245, 247, and 305.
(6) 2012-2016 AASHTO CTTP reverse journey-to-work data for Brooklyn Census Tracts 201, 203, 221, 227, 229, 231, 245, 247, and 305.

Table K-3a
Travel Demand Forecast – Proposed Project

Land Use:	Residential		Local Retail		Office		Medical Office		Light Industrial/ Manufacturing			
Size/Units:	422 DUs		33,032 gsf		27,088 gsf		8,995 gsf		-30,101 gsf			
Peak Hour Trips:											**Total Trips**	
AM	342		154		59		75		-58		572	
Midday	172		966		73		89		-50		1,250	
PM	376		508		68		62		-64		950	
Saturday	326		596		18		60		-8		992	
Person Trips:												
AM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	8	31	8	8	7	0	11	7	-17	-2	17	44
Taxi	1	4	0	0	1	0	3	2	-1	0	4	6
Subway	48	193	2	2	44	2	26	17	-19	-2	101	212
Bus	3	11	2	2	3	0	4	3	-8	-1	4	15
Walk/Other	9	34	65	65	2	0	1	1	-7	-1	70	99
Total	69	273	77	77	57	2	45	30	-52	-6	196	376
Midday	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	10	10	53	53	1	1	10	11	-1	-1	73	74
Taxi	1	1	0	0	0	0	3	3	0	0	4	4
Subway	61	60	14	14	2	3	25	27	-2	-2	100	102
Bus	4	3	10	10	2	3	4	4	-2	-2	18	18
Walk/Other	11	11	406	406	24	37	1	1	-20	-20	422	435
Total	87	85	483	483	29	44	43	46	-25	-25	617	633
PM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	28	15	28	28	0	8	5	10	-3	-19	58	42
Taxi	3	2	0	0	0	1	1	2	0	-1	4	4
Subway	172	93	8	8	3	49	13	24	-3	-19	193	155
Bus	10	5	5	5	0	4	2	4	-1	-9	16	9
Walk/Other	31	17	213	213	0	3	0	1	-1	-8	243	226
Total	244	132	254	254	3	65	21	41	-8	-56	514	436
Saturday	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	19	18	36	30	1	1	7	7	-1	-1	62	55
Taxi	2	2	0	0	0	0	2	2	0	0	4	4
Subway	117	113	10	8	9	6	17	17	-1	-1	152	143
Bus	7	7	7	5	1	0	3	3	-1	-1	17	14
Walk/Other	21	20	275	225	0	0	1	1	-1	-1	296	245
Total	166	160	328	268	11	7	30	30	-4	-4	531	461
Vehicle Trips :											**Total**	
AM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	7	29	7	7	5	0	7	5	-14	-2	12	39
Auto (Dropoff)	0	0	0	0	0	0	0	0	0	0	0	0
Taxi (Balanced)	4	4	0	0	1	1	3	3	-1	-1	7	7
Truck	2	2	0	0	0	0	0	0	-1	-1	1	1
Total	13	35	7	7	6	1	10	8	-16	-4	20	47
Midday	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	9	9	44	44	1	1	7	7	-1	-1	60	60
Auto (Dropoff)	0	0	0	0	0	0	0	0	0	0	0	0
Taxi (Balanced)	2	2	0	0	0	0	4	4	0	0	6	6
Truck	1	1	1	1	0	0	0	0	-1	-1	1	1
Total	12	12	45	45	1	1	11	11	-2	-2	67	67
PM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	26	14	23	23	0	6	3	7	-3	-16	49	34
Auto (Dropoff)	0	0	0	0	0	0	0	0	0	0	0	0
Taxi (Balanced)	3	3	0	0	1	1	2	2	-1	-1	5	5
Truck	0	0	0	0	0	0	0	0	0	0	0	0
Total	29	17	23	23	1	7	5	9	-4	-17	54	39
Saturday	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	18	17	30	25	1	1	5	5	-1	-1	53	47
Taxi (Balanced)	2	2	0	0	0	0	2	2	-1	-1	3	3
Truck	0	0	0	0	0	0	0	0	0	0	0	0
Total	20	19	30	25	1	1	7	7	-2	-2	56	50

Notes:
25% linked-trip credit appled to local retail uses.

Table K-3b
Travel Demand Forecast Summary – Proposed Project

Peak Hour	Vehicle Trips			Person Trips											
				Subway			Bus			Walk/Other			Total Pedestrian Trips[1]		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
AM	20	47	67	101	212	313	4	15	19	70	99	169	175	326	501
Midday	67	67	134	100	102	202	18	18	36	422	435	857	540	555	1,095
PM	54	39	93	193	155	348	16	9	25	243	226	469	452	390	842
Saturday	56	50	106	152	143	295	17	14	31	296	245	541	465	402	867

Notes:
[1]Includes walk-only trips and pedestrians en route to/from nearby subway stations and bus stops.

As shown in **Table K-3a**, under the RWCDS, the Proposed Project would generate a net increase of approximately 572 person trips (in + out combined) in the weekday AM peak hour, 1,250 in the weekday midday, 950 in the weekday PM and 992 in the Saturday peak hour. As shown in **Table K-3b**, peak hour vehicle trips (including auto, taxi and truck trips) would increase by a net total of approximately 67, 134, 93 and 106 (in + out combined) during these same periods, respectively. Peak hour subway trips would increase by a net total of approximately 313, 202, 348 and 295 trips, respectively, and bus trips would increase by approximately 19, 36, 25 and 31 respectively. Lastly, trips made entirely on foot (walk-only trips) would increase by 169, 857, 469 and 541, during the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively.

Tables K-4a and K-4b show an estimate of the net incremental change in peak hour person trips and vehicle trips (versus the No-Action condition) that would occur in 2024 with implementation of the Proposed Actions, assuming development of the Alternate Commercial Scenario under With-Action conditions. As shown in **Table K-4a**, under the RWCDS, the Alternate Commercial Scenario would generate a net increase of approximately 607 person trips (in + out combined) in the weekday AM peak hour, 1,318 in the weekday midday, 1,008 in the weekday PM and 900 in the Saturday peak hour.

As shown in **Table K-4b**, peak hour vehicle trips (including auto, taxi and truck trips) would increase by a net total of approximately 58, 116, 90 and 86 (in + out combined) during these same periods, respectively. Peak hour subway trips would increase by a net total of approximately 364, 141, 422 and 258 trips, respectively, and bus trips would increase by approximately 19, 41, 29 and 24 respectively. Lastly, trips made entirely on foot (walk-only trips) would increase by 162, 1,009, 451 and 515, during the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively.

As the incremental person trips generated during the Saturday peak hour would be substantially lower than the weekday midday peak hour (i.e. 900 trips/hour compared to 1,318 trips/hour during the weekday midday peak hour under the Alternate Commercial Scenario), significant adverse impacts on Saturday over and above those identified for the weekday peak hours are considered unlikely. It should also be noted that the distribution of trips to the local traffic and pedestrian networks in the Saturday peak hour is expected to be similar to the distribution in the weekday midday, a period that would experience over 400 additional person trips. The Saturday peak hour will therefore not be analyzed.

As shown in **Tables K-3a and K-4a**, the Alternate Commercial Scenario would generate a greater amount of overall travel demand during the weekday AM, midday and PM peak hours than the Proposed Project. However, the Proposed Project would generate a greater amount of incremental vehicle trips during the weekday AM, midday and PM peak hours than the Alternate Commercial Scenario. Therefore, the transit and pedestrian screening analyses focus on the RWCDS under the Alternate Commercial Scenario, and the traffic screening analyses focus on the RWCDS under the Proposed Project.

Table K-4a
Travel Demand Forecast – Alternate Commercial Scenario

Land Use:	Residential		Local Retail		Office		Light Industrial/ Manufacturing			
Size/Units:	337 DUs		31,673 gsf		112,578 gsf		-30,101 gsf			
Peak Hour Trips:									**Total Trips**	
AM	274		148		243		-58		607	
Midday	138		926		304		-50		1,318	
PM	300		488		284		-64		1,008	
Saturday	260		572		76		-8		900	
Person Trips:										
AM	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	6	25	8	8	28	1	-17	-2	25	32
Taxi	1	3	0	0	2	0	-1	0	2	3
Subway	39	154	2	2	181	7	-19	-2	203	161
Bus	2	9	1	1	14	1	-8	-1	9	10
Walk/Other	7	28	63	63	9	0	-7	-1	72	90
Total	55	219	74	74	234	9	-52	-6	311	296
Midday	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	8	8	51	51	2	4	-1	-1	60	62
Taxi	1	1	0	0	1	2	0	0	2	3
Subway	48	48	14	14	8	13	-2	-2	68	73
Bus	3	3	9	9	8	13	-2	-2	18	23
Walk/Other	9	9	389	389	98	155	-20	-20	476	533
Total	69	69	463	463	117	187	-25	-25	624	694
PM	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	22	12	27	27	2	32	-3	-19	48	52
Taxi	3	1	0	0	0	3	0	-1	3	3
Subway	138	74	7	7	11	207	-3	-19	153	269
Bus	8	4	5	5	1	16	-1	-9	13	16
Walk/Other	25	13	205	205	1	11	-1	-8	230	221
Total	196	104	244	244	15	269	-8	-56	447	561
Saturday	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	15	14	35	28	5	4	-1	-1	54	45
Taxi	2	2	0	0	0	0	0	0	2	2
Subway	94	90	9	8	36	23	-1	-1	138	120
Bus	5	5	6	5	3	2	-1	-1	13	11
Walk/Other	17	16	265	216	2	1	-1	-1	283	232
Total	133	127	315	257	46	30	-4	-4	490	410
Vehicle Trips :									**Total**	
AM	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	6	23	7	7	20	1	-14	-2	19	29
Taxi (Balanced)	3	3	0	0	1	1	-1	-1	3	3
Truck	1	1	0	0	2	2	-1	-1	2	2
Total	10	27	7	7	23	4	-16	-4	24	34
Midday	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	7	7	43	43	1	3	-1	-1	50	52
Taxi (Balanced)	2	2	0	0	2	2	0	0	4	4
Truck	1	1	1	1	2	2	-1	-1	3	3
Total	10	10	44	44	5	7	-2	-2	57	59
PM	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	20	11	23	23	1	23	-3	-16	41	41
Taxi (Balanced)	3	3	0	0	2	2	-1	-1	4	4
Truck	0	0	0	0	0	0	0	0	0	0
Total	23	14	23	23	3	25	-4	-17	45	45
Saturday	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	14	13	29	23	4	3	-1	-1	46	38
Taxi (Balanced)	2	2	0	0	0	0	-1	-1	1	1
Truck	0	0	0	0	0	0	0	0	0	0
Total	16	15	29	23	4	3	-2	-2	47	39

Notes:
25% linked-trip credit appled to local retail uses.

Table K-4b
Travel Demand Forecast Summary – Alternate Commercial Scenario

Peak Hour	Vehicle Trips			Person Trips											
				Subway			Bus			Walk/Other			Total Pedestrian Trips[1]		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
AM	24	34	58	203	161	364	9	10	19	72	90	162	284	261	545
Midday	57	59	116	68	73	141	18	23	41	476	533	1,009	562	629	1,191
PM	45	45	90	153	269	422	13	16	29	230	221	451	396	506	902
Saturday	47	39	86	138	120	258	13	11	24	283	232	515	434	363	797

Notes:
[1]Includes walk-only trips and pedestrians en route to/from nearby subway stations and bus stops.

As the number of peak hour vehicle, subway and pedestrian trips resulting from the proposed development would exceed the *CEQR Technical Manual* analysis thresholds for traffic, subway and pedestrians (including walk-only, subway, and bus trips) during one or more peak hours, a Level 2 assessment was undertaken to identify specific transportation elements where additional detailed analysis may be warranted. As the number of incremental peak hour bus trips would not exceed the *CEQR Technical Manual* analysis threshold, additional detailed analysis is not required.

V. LEVEL 2 SCREENING ASSESSMENT

A Level 2 screening assessment involves the assignment of project-generated trips to the study area's pedestrian elements, and street network, and the identification of specific locations where the incremental increase in demand may potentially exceed *CEQR Technical Manual* analysis thresholds and, therefore, require a quantitative analysis. As the incremental traffic, transit (subway), and pedestrian trips generated by the Proposed Actions exceed the *CEQR Technical Manual* thresholds, Level 2 screenings were conducted and are discussed below.

Transportation Network

Traffic

As shown in **Table K-3b** and discussed above, the Proposed Actions under the Alternate Commercial Scenario RWCDS are expected to result in incremental increases of approximately 67, 134, and 93 vehicle trips in the weekday AM, midday and PM peak hours, respectively. As these traffic volumes exceed 50 trips in each peak hour (the *CEQR Technical Manual* Level 1 screening threshold for a detailed analysis), a preliminary assignment of these incremental traffic volumes was prepared for each period to help identify individual intersections for analysis (a Level 2 screening assessment).

The assignments of auto and taxi trips to the street network in proximity to the Proposed Development Site are based on the anticipated origins and destinations of vehicle trips associated with the different land uses under the Proposed Actions. The origins/destinations of the residential trips used for the assignments were based upon 2015-2019 ACS journey-to-work data for Brooklyn census tracts 201, 203, 221, 227, 229, 231, 245, 247 and 305. The origins/destinations for the local retail trips that are mostly local in nature were based on population density in neighborhoods within a half-mile radius of the Project Site. The origins/destinations of the office and light industrial trips used for the assignments were based on 2012-2016 AASHTO CTPP Reverse-Journey-to-Work data for Brooklyn census tracts 201, 203, 221, 227, 229, 231, 245, 247 and 305. Taxis were assigned to the building frontage on Atlantic Avenue. Trucks were

assigned to DOT-designated truck routes—i.e., Atlantic Avenue (a Through Truck Route)—and then to the most direct paths to and from the Proposed Development Site's loading docks on Atlantic Avenue.

The assignment of net incremental peak hour vehicle trips at intersections in proximity to the Proposed Development Site are shown in **Figure K-2**. As shown in **Figure K-2**, a total of three signalized intersections were selected for detailed analysis as they would exceed the 50-trip threshold in one or more peak hours.

Traffic Analysis Locations

- Atlantic Avenue and Classon Avenue (signalized)
- Atlantic Avenue and Franklin Avenue (signalized)
- Lefferts Place and Classon Avenue (signalized)

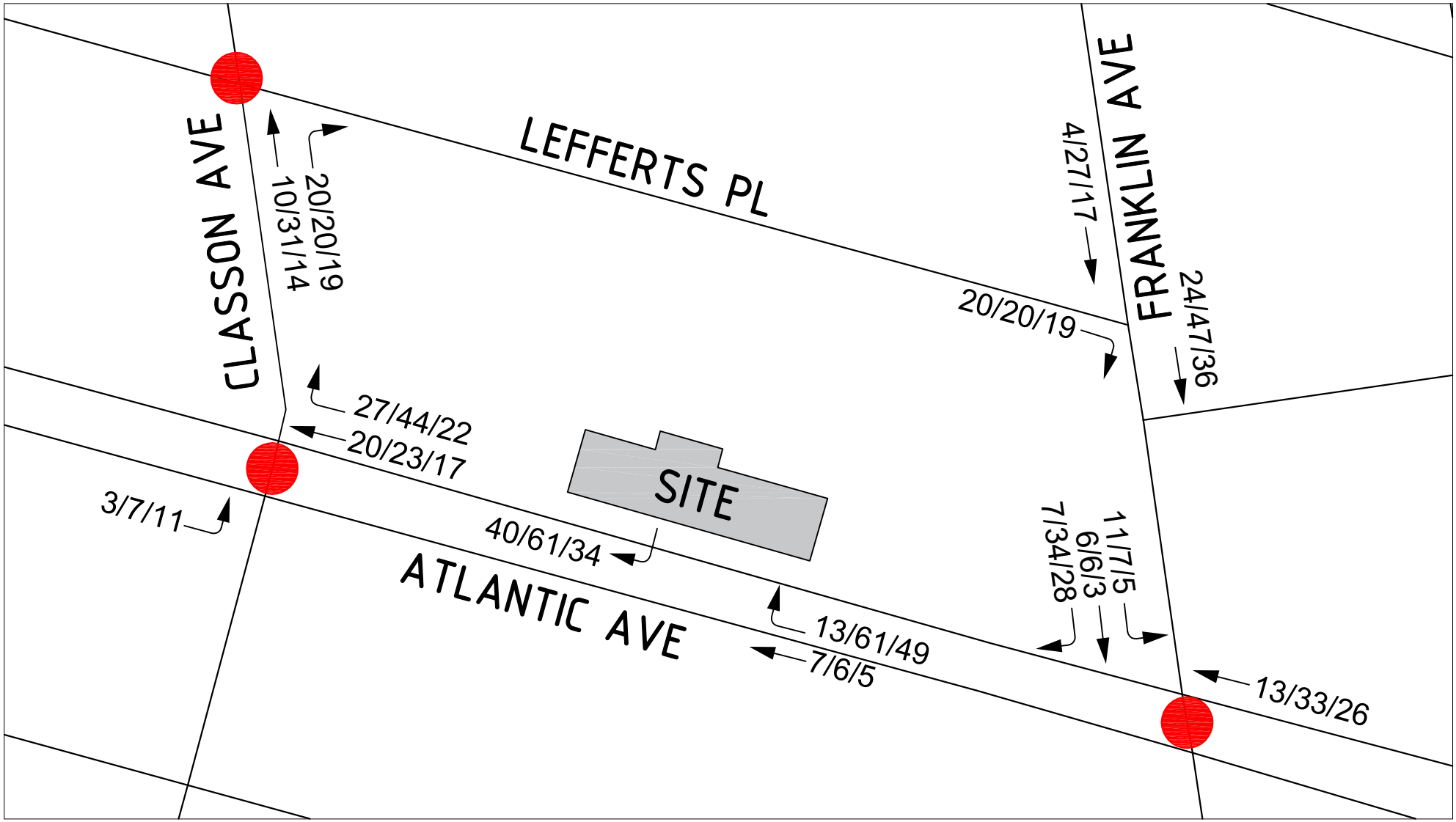
Parking

As shown in **Tables K-1a and K-1b**, the Proposed Project would provide a total of 152 accessory parking spaces under each scenario. As the Proposed Project RWCDS would generate a greater amount of incremental vehicle trips in each peak hour, a parking demand forecast was prepared for the Proposed Project.

Table K-5, below, shows a forecast of the total hourly weekday parking demand that would be generated by the Proposed Project RWCDS. The parking forecast was derived from the forecast of daily auto trips from the proposed uses. Parking demand from the local retail, office, and medical office uses would typically peak in the midday, while the residential use would typically in the evening/overnight period. As shown in **Table K-5**, parking demand from the local retail use would peak with 19 occupied spaces in the 11 AM – 12 PM period, while demand from the office and medical office uses would peak with 11 and 10 occupied spaces, respectively, in the midday period. Additionally, parking demand from the residential use would peak in the overnight period with 118 occupied spaces. Overall, parking demand would peak with approximately 121 spaces in the 6 PM – 7 PM period. As 152 accessory parking spaces would be provided as part of the Proposed Project, the peak parking demand would be fully accommodated on-site. Therefore, a detailed parking analysis is not warranted as impacts are not expected.

Transit

According to the general thresholds used by the Metropolitan Transportation Authority (MTA) specified in the 2020 *CEQR Technical Manual*, detailed transit analyses are generally not required if a proposed development is projected to result in fewer than 200 peak hour subway/rail or bus transit riders. If a proposed action would result in 50 or more bus passengers assigned to a single bus route (in one direction), or it would result in an increase of 200 or more passengers at a single subway station or on a single subway line, a detailed bus and/or subway analysis would be warranted. Transit analyses typically focus on the weekday AM and PM commuter peak hours as it is during these periods that overall demand on the subway and bus system is usually highest.



LEGEND: xx/xx/xx - AM/MD/PM Traffic Volumes Traffic Analysis Location

Table K-5
Weekday Hourly Parking Accumulation – Proposed Project

	Local Retail 34,470 gsf			Office 33,895 gsf			Residential 422 D.U.			Medical Office 8,995 gsf			Total Demand		
	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.
12-1 AM	0	0	0	0	0	0	2	0	116	0	0	0	2	0	116
1-2	0	0	0	0	0	0	2	0	118	0	0	0	2	0	118
2-3	0	0	0	0	0	0	0	0	118	0	0	0	0	0	118
3-4	0	0	0	0	0	0	0	0	118	0	0	0	0	0	118
4-5	0	0	0	0	0	0	0	0	118	0	0	0	0	0	118
5-6	0	0	0	0	0	0	2	4	116	0	0	0	2	4	116
6-7	0	0	0	1	0	1	2	12	106	0	0	0	3	12	107
7-8	4	2	2	1	0	2	2	18	90	0	0	0	7	20	94
8-9	8	8	2	6	0	8	7	29	68	7	5	2	28	42	80
9-10	16	11	7	4	1	11	5	7	66	8	3	7	33	22	91
10-11	16	8	15	1	1	11	8	10	64	7	4	10	32	23	100
11-12	17	13	19	0	1	10	8	7	65	5	6	9	30	27	103
12-1 PM	17	19	17	0	0	10	7	7	65	3	4	8	27	30	100
1-2	46	46	17	1	1	10	9	9	65	7	7	8	63	63	100
2-3	20	20	17	2	1	11	9	6	68	5	5	8	36	32	104
3-4	20	20	17	1	1	11	13	4	77	5	4	9	39	29	114
4-5	20	23	14	1	4	8	20	8	89	5	6	8	46	41	119
5-6	24	24	14	0	7	1	26	14	101	3	7	4	53	52	120
6-7	17	20	11	0	1	0	17	8	110	0	4	0	34	33	**121**
7-8	9	14	6	0	0	0	12	8	114	0	0	0	21	22	120
8-9	7	10	3	0	0	0	12	8	118	0	0	0	19	18	**121**
9-10	2	5	0	0	0	0	6	7	117	0	0	0	8	12	117
10-11	0	0	0	0	0	0	6	8	115	0	0	0	6	8	115
11-12	0	0	0	0	0	0	4	5	114	0	0	0	4	5	114
Total	243	243		18	18		179	179		55	55		495	495	

Notes:
Assumes 100% renter auto ownership units 0.27 autos/DU.

Subway Assignment and Analyzed Stations

As shown in **Table K-4b**, the Proposed Actions under the Alternate Commercial Scenario RWCDS are expected to generate a net total of approximately 364 and 422 incremental subway trips in the weekday AM and PM peak hours, respectively. The majority of these trips are expected to use the Franklin Avenue station which is located an approximately 0.2-mile walk from the Proposed Development Site (see **Figure K-3**). This station is served by C local trains operating on the Fulton Street Line through central and downtown Brooklyn and along the west side of Manhattan via the Eighth Avenue Line; and by Franklin Avenue Shuttle trains operating between Franklin Avenue and the Prospect Park station in Flatbush where connections are available to B and Q trains operating on the Brighton Line in Brooklyn and the Sixth Avenue Line in Manhattan. In addition, it is anticipated that some incremental subway trips would also likely occur at the Nostrand Avenue (A, C), Classon Avenue (G), and Franklin Avenue (2, 3, 4, 5) stations located approximately 0.5-miles east, 0.7-miles north, and 0.7-miles south of the Project Area, respectively. It should be noted that although the Nostrand Avenue station is an approximately 0.5-mile walk to the east, it is likely that some trips to and from the east would use this station to directly access A trains which provide express service along the Fulton Street and Eighth Avenue lines. (C trains also serve this station.)

Table K-6

Net Incremental Peak Hour Subway Trips by Station – Alternate Commercial Scenario

Station	AM Peak Hour			PM Peak Hour		
	Into Project	Out of Project	Total	Into Project	Out of Project	Total
Franklin Ave (C, S)	174	155	329	147	235	382
Nostrand Ave (A, C)	15	3	18	3	18	21
Classon Ave (G)	10	3	13	2	12	14
Franklin Ave (2, 3, 4, 5)	4	0	4	1	4	5
Total	**203**	**161**	**364**	**153**	**269**	**422**

As shown in **Table K-6**, the highest number of peak hour subway trips are expected to occur at Franklin Ave station which would experience an incremental increase of approximately 329 and 382 subway trips (in and out combined) during the weekday AM and PM peak hours, respectively. The second highest number of incremental trips would occur at the Nostrand Avenue station which would experience approximately 18 and 21 subway trips during the weekday AM and PM peak hours, respectively. The other two stations would experience minimal incremental grow due to the distance and location from the Project Area.

As shown in **Table K-6**, based on these assignments, it is estimated that new subway demand from the Proposed Actions would likely exceed the 200-trip *CEQR Technical Manual* analysis threshold in the AM and PM periods at the Franklin Avenue (C, S) station, and this station was therefore selected for detailed analysis. Key circulation elements (e.g., stairs and fare arrays) expected to be used by concentrations of new demand from the Proposed Actions will be analyzed.

Subway Line Haul

As discussed above, the Proposed Actions under the Alternate Commercial Scenario is expected to generate 329 and 382 incremental subway trips at the Franklin Avenue (C, S) station during the weekday AM and PM peak hours, respectively. **Table K-7** provides the assignment of project-generated subway trips for the weekday AM and PM peak hours, by line and direction. As shown below in **Table K-7**, the Proposed Actions under the Alternate Commercial Scenario would generate approximately 165 and 167 Manhattan-bound trips along the C subway route during the weekday AM and PM peak hours, and approximately 120 and 162 Brooklyn-bound trips during each respective period. In addition, the Proposed Actions under the Alternate Commercial Scenario would also generate approximately 44 and 53 bi-directional trips along the S subway route during the weekday AM and PM peak hours, respectively.

As the Proposed Actions would not generate the *CEQR Technical* Manual threshold of 200 or more new peak hour subway trips in any one direction of the C or S trains, an analysis of subway line haul conditions is not warranted as impacts are not expected.

Table K-7
Net Incremental Franklin Avenue (C, S) Subway Trips by Direction – Alternate Commercial Scenario

Subway Line	Direction	AM			PM		
		In	Out	Total	In	Out	Total
C	Manhattan-Bound	24	141	165	6	161	167
	Brooklyn-Bound	114	6	120	132	30	162
	Bi-Directional Total	**138**	**147**	**285**	**138**	**191**	**329**
S	**Bi-Directional Total**	**36**	**8**	**44**	**9**	**44**	**53**
Franklin Avenue Station (C,S) Total		**174**	**155**	**329**	**147**	**235**	**382**

Pedestrians

Many project-generated trips would include a walk component using local sidewalks, street corners, and crosswalks, to access the project site. As shown above in **Table K-4b**, the Proposed Actions under the Alternate Commercial Scenario RWCDS would generate a net total of 545, 1,191 and 902 pedestrian trips (including walk-only trips and pedestrians en route to and from subway and bus stops) during the weekday AM, midday and PM peak hours, respectively. As the number of project generated pedestrian trips would exceed the 200-trip *CEQR Technical Manual* threshold during each of the analyzed peak hours, a Level 2 screening is required.

Figure K-3 shows the assignment of project-generated pedestrian trips (walk-only, subway and bus trips) to pedestrian elements (sidewalks, corner area, and crosswalks) in the vicinity of the Project Area during the weekday AM, midday and PM peak hours. In the weekday AM and PM peak hours, new pedestrian trips would be most concentrated on sidewalks and crosswalks adjacent to the Proposed Development Site and along corridors connecting the site to nearby bus stops. In the midday period, pedestrian trips would tend to be more dispersed, as people travel throughout the area for dining, shopping and/or running errands.

Pedestrian Analysis Locations

Sidewalks

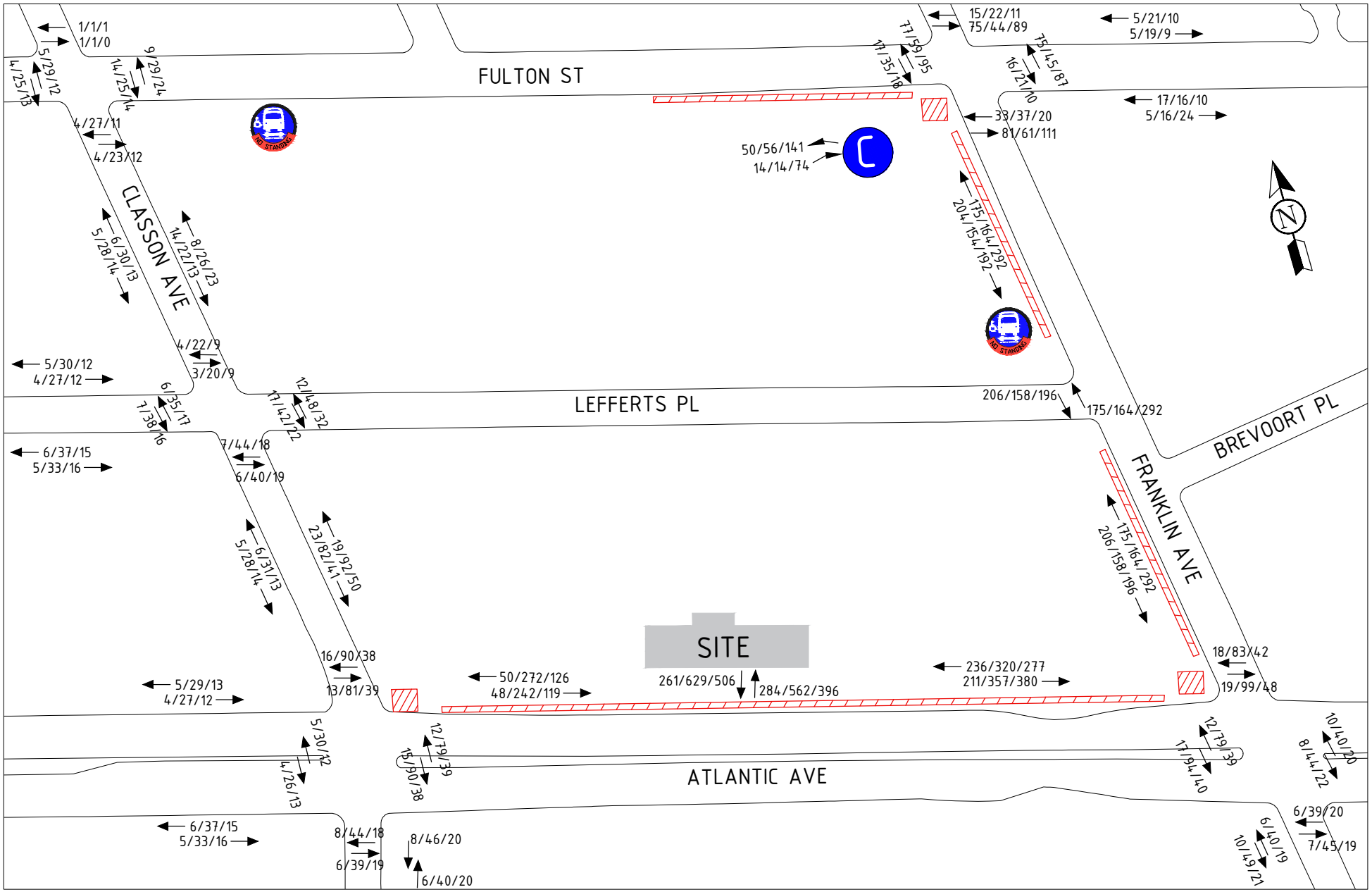
- North sidewalk along Atlantic Avenue between Classon Avenue and Franklin Avenue
- West sidewalk along Franklin Avenue between Atlantic Avenue and Lefferts Place
- West sidewalk along Franklin Avenue between Lefferts Place and Fulton Street
- South sidewalk along Fulton Street between Classon Avenue and Classon Avenue

Corner Areas

- Northeast corner at the intersection of Atlantic Avenue and Classon Avenue
- Northwest corner at the intersection of Atlantic Avenue and Franklin Avenue
- Southwest corner at the intersection of Fulton Street and Franklin Avenue

VI. TRANSPORTATION ANALYSES METHODOLOGIES

Traffic



LEGEND: MTA Bus Stop | Pedestrian Element Analysis Location | xx/xx/xx - AM/MD/PM Pedestrian Volumes

1045 Atlantic Avenue Rezoning EAS

Figure K-3

Project Increment Peak Hour Pedestrian Volumes

Analysis Methodology

The traffic analysis examines conditions in the weekday AM, midday and PM peak hours at three signalized intersections. Based on data collected in April and June 2021, the weekday peak hours selected for analysis are 8:30-9:30 AM, 1:00-2:00 PM, and 4:30-5:30 PM.

The capacity analyses at intersections were based on the methodology presented in the Highway Capacity Manual (HCM) and utilize HCS+ Version 5.5 software. Traffic data required for these analyses include the hourly volumes on each approach, turning movements, the percentage of trucks and buses, and pedestrian volumes at crosswalks. Field inventories are also necessary to document the physical layout and street widths, lane markings, curbside parking regulations, and other relevant characteristics needed for the analysis.

The HCM methodology produces a volume-to-capacity (v/c) ratio for each signalized intersection approach. The v/c ratio represents the ratio of traffic volume on an approach to the approach's carrying capacity. A v/c ratio of less than 0.90 is generally considered indicative of non-congested conditions in dense urban areas; when higher than this value, the ratio reflects increasing congestion. At a v/c ratio between 0.95 and 1.0, near-capacity conditions are reached and delays can become substantial. Ratios of greater than 1.0 indicate saturated conditions with queuing. The HCM methodology also expresses the quality of traffic flow in terms of level of service (LOS), which is based on the amount of delay that a driver typically experiences at an intersection. Levels of service range from A, representing minimal delay (ten seconds or less per vehicle), to F, which represents long delays (greater than 80 seconds per vehicle).

For unsignalized intersections, the HCM methodology generally assumes that traffic on major streets is not affected by traffic flows on minor streets. Left turns from a major street are assumed to be affected by the opposing, or oncoming, traffic flow on that major street. Traffic on minor streets is affected by all conflicting movements. Similar to signalized intersections, the HCM methodology expresses the quality of traffic flow at unsignalized intersections in terms of LOS based on the amount of delay that a driver experiences. Level of service definitions used to characterize traffic flows at unsignalized intersections differ somewhat from those used for signalized intersections, primarily because drivers anticipate different levels of performance from the two different kinds of intersections. For unsignalized intersections, LOS ranges from A, representing minimal delay (ten seconds or less per vehicle, as it is for signalized intersections), to F, which represents long delays (greater than 50 seconds per vehicle, compared to greater than 80 seconds per vehicle for signalized intersections).

Table K-8 shows the LOS/delay relationship for signalized and unsignalized intersections using the HCM methodology. Levels of service A, B, and C generally represent highly favorable to fair levels of traffic flow. At LOS D, the influence of congestion becomes noticeable. LOS E reflects heavy delay, and LOS F is considered to be unacceptable to most drivers. In these traffic impact analyses, a signalized lane grouping operating at LOS E or F or a v/c ratio of 0.90 or more is identified as congested. For unsignalized intersections, a movement with LOS E or F is also identified as congested.

TABLE K-8
Intersection Level of Service Criteria

LOS	Average Delay per Vehicle (seconds)	
	Signalized Intersections	Unsignalized Intersections
A	Less than 10.1	Less than 10.1
B	10.1 to 20.0	10.1 to 15.0
C	20.1 to 35.0	15.1 to 25.0
D	35.1 to 55.0	25.1 to 35.0
E	55.1 to 80.0	35.1 to 50.0
F	Greater than 80.0	Greater than 50.0

Source: *2000 Highway Capacity Manual*

Significant Impact Criteria

The identification of significant adverse traffic impacts at analyzed intersections is based on criteria presented in the *CEQR Technical Manual*. If a lane group in the With-Action condition would be LOS A, B, or C, or marginally acceptable LOS D (i.e., delay less than or equal to 45.0 seconds/vehicle for signalized intersections and 30.0 seconds/vehicle for unsignalized intersections), the impact is not considered significant. If the lane-group LOS would deteriorate from LOS A, B, or C in the No-Action condition to worse than mid-LOS D or to LOS E or F in the With-Action condition, a significant traffic impact is identified. For a lane group that would operate at LOS D in the No-Action condition, an increase in delay of 5.0 or more seconds in the With-Action condition is considered a significant impact if the With-Action delay would exceed mid-LOS D. For a lane group that would operate at LOS E in the No-Action condition, a projected With-Action increase in delay of 4.0 or more seconds is considered a significant impact. For a lane group that would operate at LOS F in the No-Action condition, a projected With-Action increase in delay of 3.0 or more seconds is considered a significant impact.

The same criteria apply to signalized and unsignalized intersections. However, for traffic on a minor street at an unsignalized intersection to result in a significant impact, 90 passenger car equivalents (PCEs) must be projected in the future With-Action condition in any peak hour.

Transit

Analysis Methodology

SUBWAY STATIONS

To determine existing conditions at analyzed subway station elements, subway ridership data was collected at the Franklin Avenue (C, S) subway station in November 2020. The methodology for assessing subway station pedestrian circulation elements (stairs, escalators, and passageways) and fare control elements (low turnstiles, high entry/exit turnstiles [HEETs], and high exit turnstiles [HXTs]) compares existing and projected pedestrian volumes with the element's design capacity to yield a v/c ratio. All analyses reflect pedestrian flow volumes over a 15-minute interval during each peak hour. Based on existing pedestrian volumes at the Franklin Avenue (C, S) station, the peak hours selected for the analysis of subway station conditions are 7:45-8:45 AM and 4:45-5:45 PM. (As noted previously, transit analyses

typically focus on the weekday AM and PM commuter peak hours as it is during these periods that overall demand on the subway and bus systems is usually highest.)

Under *CEQR Technical Manual* guidance, the capacity of a stairway or passageway is determined based on four factors: the NYCT guideline capacity, the effective width, and surging and counter-flow factors, if applicable. NYCT guideline capacity is ten passengers per foot-width per minute (pfm) for stairs and 15 pfm for passageways. The effective width of a stair or passageway is the actual width adjusted to reflect pedestrian avoidance of sidewalls and for center handrails, if present. A surging factor is applied to existing pedestrian volumes to reflect conditions where pedestrian flows tend to be concentrated (or surged) during shorter periods within the 15-minute analysis interval. This factor, which is based on the size of the station and the proximity of the pedestrian element to the station platforms, can reduce the calculated capacity by up to 25 percent. Lastly, a friction (or counter-flow) factor reducing calculated capacity by ten percent is applied where opposing pedestrian flows use the same stair or passageway. (No friction factor is applied if the flow is all or predominantly in one direction.)

By contrast with stairways and passageways, under *CEQR Technical Manual* guidance the capacity of an escalator or turnstile is determined based on only two factors: the NYCT guideline capacity for a 15-minute interval and a surging factor of up to 25 percent. **Table K-9** shows the *CEQR Technical Manual* LOS criteria for all subway station elements. As shown in **Table K-9**, six levels of service are defined with letters A through F. LOS A is representative of free flow conditions without pedestrian conflicts, and LOS F depicts severe congestion and queuing.

TABLE K-9
Level of Service Criteria for Subway Station Elements

LOS	Description	V/C Ratio
A	Free Flow	0.00 to 0.45
B	Fluid Flow	0.45 to 0.70
C	Fluid, somewhat restricted	0.70 to 1.00
D	Crowded, walking speed restricted	1.00 to 1.33
E	Congested, some shuffling and queuing	1.33 to 1.67
F	Severely congested, queued	> 1.67

Source: 2020 *CEQR Technical Manual*

Significant Impact Criteria

SUBWAY STATIONS

The *CEQR Technical Manual* identifies a significant impact for stairways and passageways in terms of the minimum width increment threshold (WIT) based on the minimum amount of additional capacity that would be required to restore conditions to either their No-Action v/c ratio or to a v/c ratio of 1.00 (LOS C/D), whichever is greater. Stairways that are substantially degraded in LOS or that experience the formation of extensive queues are classified as significantly impacted. Significant adverse stairway or passageway impacts are typically considered to have occurred once the thresholds shown in **Table K-10** are reached or exceeded. For turnstiles, escalators, and high-wheel exit gates, the *CEQR Technical Manual* defines a significant impact as an increase from a No-Action v/c ratio of below 1.00 to a v/c ratio of 1.00 or greater. Where a facility is already at a v/c ratio of 1.00 or greater, a 0.01 change in v/c ratio is also considered significant.

TABLE K-10
Significant Impact Thresholds for Stairways and Passageways

With-Action V/C Ratio	WIT for Significant Impact (inches)	
	Stairway	Passageway
1.00-1.09	8	13
1.10-1.19	7	11.5
1.20-1.29	6	10
1.30-1.39	5	8.5
1.40-1.49	4	6
1.50-1.59	3	4.5
≥1.6	2	3

Source: 2020 *CEQR Technical Manual*

Pedestrians

Analysis Methodology

Data on peak period pedestrian flow volumes was collected along the analyzed sidewalk and corner areas in the vicinity of the Project Area in November 2020. Peak hours were determined by comparing rolling hourly averages, and the highest 15-minute volumes within the selected peak hours were used for analysis. Based on existing peak pedestrian volumes within the study area, the 8:00 AM – 9:00 AM, 1:00 PM – 2:00 PM, and 5:00 PM – 6:00 PM periods were selected for analysis during the weekday AM, midday, and PM peak hours, respectively.

Peak 15-minute pedestrian flow conditions during the weekday midday period are analyzed using the *2000 Highway Capacity Manual* methodology and procedures outlined in the *CEQR Technical Manual*. Using this methodology, the congestion level of pedestrian facilities is determined by considering pedestrian volume, measuring the sidewalk or crosswalk width, determining the available pedestrian capacity and developing a ratio of volume flows to capacity conditions. The resulting ratio is then compared with LOS standards for pedestrian flow, which define a qualitative relationship at a certain pedestrian traffic concentration level. The evaluation of street crosswalks and corners is more complicated as these spaces cannot be treated as corridors due to the time incurred waiting for traffic lights. To effectively evaluate these facilities a "time-space" analysis methodology is employed which takes into consideration the traffic light cycle at intersections.

LOS standards are based on the average area available per pedestrian during the analysis period, typically expressed as a 15-minute peak period. LOS grades from A to F are assigned, with LOS A representative of free flow conditions without pedestrian conflicts and LOS F depicting significant capacity limitations and inconvenience. **Table K-11** defines the LOS criteria for pedestrian crosswalk/corner area and a sidewalk conditions, as based on the *Highway Capacity Manual* methodology.

Table K-11
Pedestrian Crosswalk/Corner Area and Sidewalk Levels of Service Descriptions

LOS	Crosswalk/Corner	Crosswalk/ Corner Area Criteria (ft^2/ped)	Non-Platoon Sidewalk Criteria (ft^2/ped)	Platoon Sidewalk Criteria (ft^2/ped)
A	(Unrestricted)	> 60	> 60	> 530
B	(Slightly Restricted)	> 40 to 60	> 40 to 60	> 90 to 530
C	(Restricted but fluid)	> 24 to 40	> 24 to 40	> 40 to 90
D	(Restricted, necessary to continuously alter walking stride and direction)	> 15 to 24	> 15 to 24	> 23 to 40
E	(Severely restricted)	> 8 to 15	> 8 to 15	> 11 to 23
F	(Forward progress only by shuffling; no reverse movement possible)	$\leq$ 8	$\leq$ 8	$\leq$ 11

Notes:
Based on average conditions for 15 minutes
f t^2/ped – square feet of area per pedestrian
Source: *CEQR Technical Manual*

The analysis of sidewalk conditions includes a "platoon" factor in the calculation of pedestrian flow to more accurately estimate the dynamics of walking. "Platooning" is tendency of pedestrians to move in bunched groups or "platoons" once they cross a street where cross traffic required them to wait. Platooning generally results in a level of service one level poorer than that determined for average flow rates.

Significant Impact Criteria

Sidewalks

As the Project Area is located within a Central Business District (CBD), *CEQR Technical Manual* guidelines define a significant adverse sidewalk impact to have occurred under platoon conditions if the average pedestrian space under the No-Action condition is greater than 39.2 square feet/pedestrian (sf/ped), and the average pedestrian space under the With-Action condition is 31.5 sf/ped or less (mid-LOS D or worse). If the average pedestrian space under the With-Action condition is greater than 31.5 sf/ped (mid-LOS D or better), the impact should not be considered significant. If the No-Action pedestrian space is between 6.4 and 39.2 sf/ped, a reduction in pedestrian space under the With-Action condition should be considered significant based on **Table K-12**, which shows a sliding-scale that identifies what decrease in pedestrian space is considered a significant impact for a given pedestrian space value in the No-Action condition. If the reduction in pedestrian space is less than the value in **Table K-12**, the impact is not considered significant. If the average pedestrian space under the No-Action condition is less than 6.4 sf/ped, then a reduction in pedestrian space greater than or equal to 0.3 sf/ped, under the With-Action condition, should be considered significant.

Corner Areas and Crosswalks

For CBD areas, *CEQR Technical Manual* impact criteria define a significant adverse corner area or crosswalk impact to have occurred if the average pedestrian space under the No-Action condition is greater than 21.5 sf/ped and, under the With-Action condition, the average pedestrian space decreases to 19.5 sf/ped or less (mid-LOS D or worse). If the pedestrian space under the With-Action condition is greater than 19.5 sf/ped (mid-LOS C or better), the impact should not be considered significant.

Table K-12
Impact Criteria for Sidewalks
With Platoon Flow in a CBD Location

No-Action Condition Pedestrian Flow (sf/ped)			With-Action Condition Pedestrian Flow Increment to be Considered a Significant Impact (sf/ped)
> 39.2			With-Action Condition < 31.5
38.7	to	39.2	Reduction ≥ 3.8
37.8	to	38.6	Reduction ≥ 3.7
36.8	to	37.7	Reduction ≥ 3.6
35.9	to	36.7	Reduction ≥ 3.5
34.9	to	35.8	Reduction ≥ 3.4
34.0	to	34.8	Reduction ≥ 3.3
33.0	to	33.9	Reduction ≥ 3.2
32.1	to	32.9	Reduction ≥ 3.1
31.1	to	32.0	Reduction ≥ 3.0
30.2	to	31.0	Reduction ≥ 2.9
29.2	to	30.1	Reduction ≥ 2.8
28.3	to	29.1	Reduction ≥ 2.7
27.3	to	28.2	Reduction ≥ 2.6
26.4	to	27.2	Reduction ≥ 2.5
25.4	to	26.3	Reduction ≥ 2.4
24.5	to	25.3	Reduction ≥ 2.3
23.5	to	24.4	Reduction ≥ 2.2
22.6	to	23.4	Reduction ≥ 2.1
21.6	to	22.5	Reduction ≥ 2.0
20.7	to	21.5	Reduction ≥ 1.9
19.7	to	20.6	Reduction ≥ 1.8
18.8	to	19.6	Reduction ≥ 1.7
17.8	to	18.7	Reduction ≥ 1.6
16.9	to	17.7	Reduction ≥ 1.5
15.9	to	16.8	Reduction ≥ 1.4
15.0	to	15.8	Reduction ≥ 1.3
14.0	to	14.9	Reduction ≥ 1.2
13.1	to	13.9	Reduction ≥ 1.1
12.1	to	13.0	Reduction ≥ 1.0
11.2	to	12.0	Reduction ≥ 0.9
10.2	to	11.1	Reduction ≥ 0.8
9.3	to	10.1	Reduction ≥ 0.7
8.3	to	9.2	Reduction ≥ 0.6
7.4	to	8.2	Reduction ≥ 0.5
6.4	to	7.3	Reduction ≥ 0.4
<6.4			Reduction ≥ 0.3

Source: 2020 *CEQR Technical Manual*

Table K-13
Significant Impact Criteria for Corners and Crosswalks in a CBD Location

No-Action Condition Pedestrian Space (sf/ped)			With-Action Condition Pedestrian Space Reduction to be Considered a Significant Impact (sf/ped)
> 21.5			With Action Condition < 19.5
21.3	to	21.5	Reduction ≥ 2.1
20.4	to	21.2	Reduction ≥ 2.0
19.5	to	20.3	Reduction ≥ 1.9
18.6	to	19.4	Reduction ≥ 1.8
17.7	to	18.5	Reduction ≥ 1.7
16.8	to	17.6	Reduction ≥ 1.6
15.9	to	16.7	Reduction ≥ 1.5
15	to	15.8	Reduction ≥ 1.4
14.1	to	14.9	Reduction ≥ 1.3
13.2	to	14	Reduction ≥ 1.2
12.3	to	13.1	Reduction ≥ 1.1
11.4	to	12.2	Reduction ≥ 1.0
10.5	to	11.3	Reduction ≥ 0.9
9.6	to	10.4	Reduction ≥ 0.8
8.7	to	9.5	Reduction ≥ 0.7
7.8	to	8.6	Reduction ≥ 0.6
6.9	to	7.7	Reduction ≥ 0.5
6	to	6.8	Reduction ≥ 0.4
5.1	to	5.9	Reduction ≥ 0.3
< 5.1			Reduction ≥ 0.2

Source: 2020 *CEQR Technical Manual*

If the average pedestrian space under the No-Action condition is between 5.1 and 21.5 sf/ped, a decrease in pedestrian space under the With- Action condition should be considered significant based on **Table K-13** which shows a sliding-scale that identifies what decrease in pedestrian space is considered a significant impact for a given amount of pedestrian space in the No-Action condition. If the decrease in pedestrian space is less than the value in **Table K-13**, the impact is not considered significant. If the average pedestrian space under the No-Action condition is less than 5.1 sf/ped, then a decrease in pedestrian space greater than or equal to 0.2 sf/ped should be considered significant.

Vehicular and Pedestrian Safety Evaluation

Pursuant to *CEQR Technical Manual* guidelines, an evaluation of vehicular and pedestrian safety is needed for locations within the traffic and pedestrian study areas that have been identified as high crash locations. These are defined as locations where 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicyclist injury crashes have occurred in any consecutive 12 months of the most recent three-year period for which data are available. For these locations, crash trends would be identified to determine whether projected vehicular and pedestrian traffic would further impact safety, or whether existing unsafe conditions could adversely impact the flow of the projected new trips. The determination of potential significant safety impacts depends on the type of area where the project site is located, traffic volumes, crash types and severity, and other contributing factors. Where appropriate, measures to improve traffic and pedestrian safety should be identified and coordinated with DOT.

VII. TRAFFIC

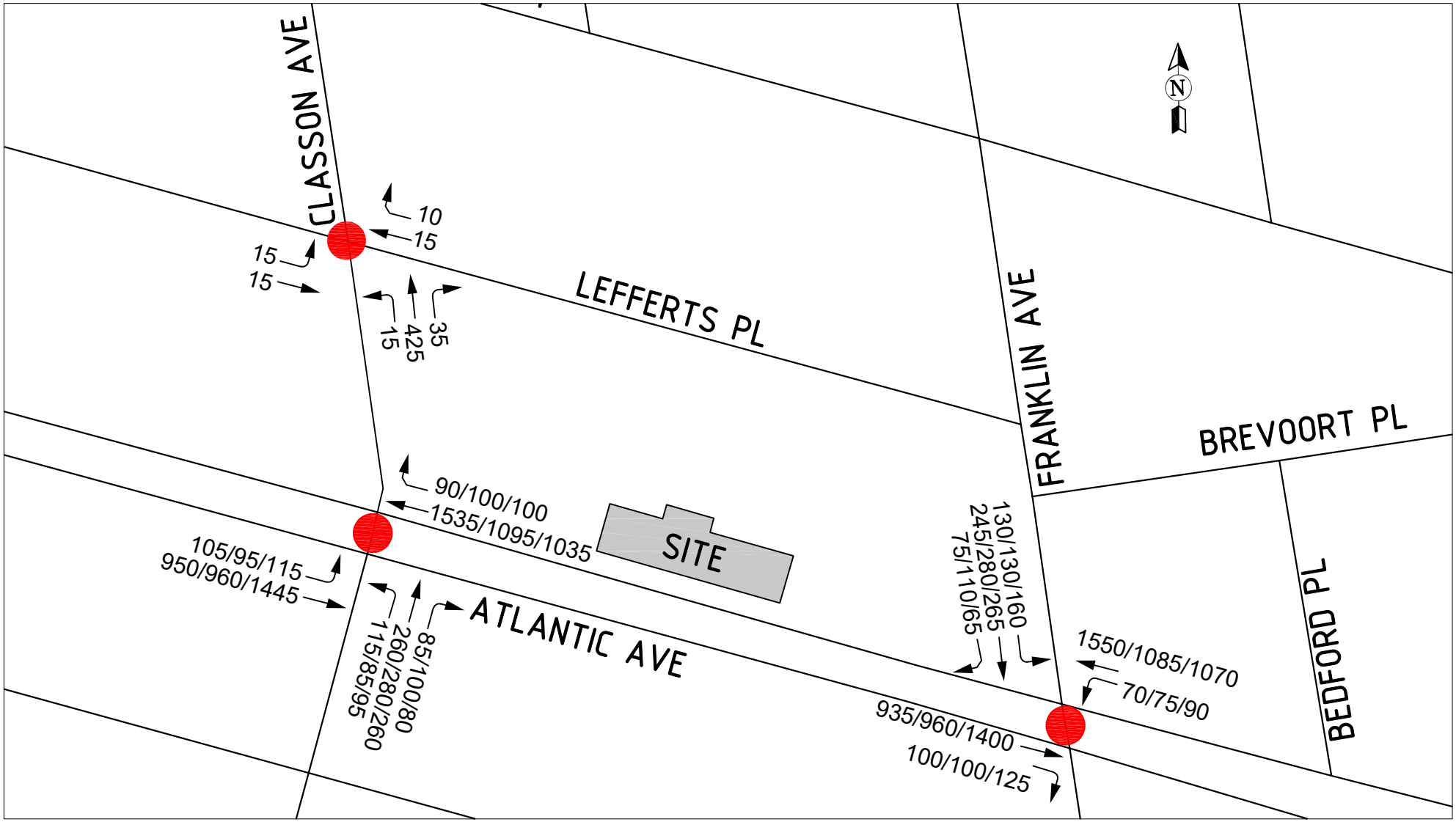
Existing Conditions

Study Area Street Network

As shown in **Figure K-2**, the street network in proximity to the Project Area is comprised of an irregular grid pattern of streets and avenues. The Project Area is bounded by Lefferts Place to the north, Franklin Avenue to the east, Atlantic Avenue to the south, and Classon Avenue to the west. In the vicinity of the Project Area, Lefferts Place operates as an east-west local street that is bounded by St. James Place to the west and Franklin Avenue to the east. To the east of the Project Area, Franklin Avenue operates as a one-way southbound local street, while Classon Avenue operates as one-way northbound local street to the west of the Project Area. Atlantic Avenue, to the south of the Project Area, operates as an east-west principal arterial, and the corridor is a NYCDOT-designated Through Truck Route.

Traffic Conditions

To establish the Existing conditions traffic network, traffic data was collected at the three analyzed intersections in April and June 2021. Physical inventory data needed for operational analysis—e.g., the number of traffic lanes, lane widths, pavement markings, turn prohibitions, bus stops, and typical parking regulations—were also collected in April and June 2021. Signal timing plans for signalized intersections within the study area were obtained from NYCDOT. **Figure K-4** shows existing traffic volumes during the weekday AM, midday and PM peak hours.



Note: Traffic volumes at the Lefferts Place/Classon Avenue intersection are only shown for the weekday MD peak hour

LEGEND: xx/xx/xx - AM/MD/PM Traffic Volumes

Traffic Analysis Location

Intersection Capacity Analysis

Existing v/c ratios, delays, and LOS for individual lane groups at analyzed intersections are shown in **Table K-14**. A lane group is considered congested in **Table K-14** if it operates at LOS E or F and/or with a v/c ratio of 0.90 or above. A v/c ratio of 1.00 or above reflects capacity conditions. As shown in **Table K-14**, the Atlantic Avenue and Classon Avenue intersection has one congested lane group in the weekday AM peak hour. As shown in **Table K-14**, under existing conditions**,** the westbound through-right movement at the intersection of Atlantic Avenue and Classon Avenue operates at LOS D with a v/c ratio of 0.91 during the weekday AM peak hour.

Table K-14
Existing Conditions Intersection Level of Service Analysis

	Existing AM Peak Hour						Existing Midday Peak Hour						Existing PM Peak Hour					
Signalized Intersections	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS		Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS		Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	
Atlantic Avenue (E-W) &	EB	TR	0.64	26.1	C		EB	TR	0.83	33.0	C		EB	TR	0.84	30.3	C	
Franklin Ave (SB)	WB	L	0.28	24.1	C		WB	L	0.29	25.7	C		WB	L	0.42	41.9	D	
	WB	T	0.70	19.2	B		WB	T	0.57	16.9	B		WB	T	0.45	12.8	B	
	SB	LT	0.62	42.0	D		SB	LT	0.60	31.7	C		SB	LT	0.64	45.3	D	
	SB	R	0.28	36.2	D		SB	R	0.34	28.7	C		SB	R	0.26	39.2	D	
Atlantic Avenue (E-W) &	EB	L	0.44	43.4	D		EB	L	0.34	29.0	C		EB	L	0.39	27.4	C	
Classon Ave (NB)	EB	T	0.40	11.3	B		EB	T	0.48	13.9	B		EB	T	0.59	13.9	B	
	WB	TR	0.91	36.0	D	*	WB	TR	0.85	32.1	C		WB	TR	0.61	24.2	C	
	NB	L	0.46	45.4	D		NB	L	0.26	27.0	C		NB	L	0.34	42.3	D	
	NB	TR	0.60	46.1	D		NB	TR	0.57	31.0	C		NB	TR	0.64	47.2	D	
Lefferts Place (E-W) &							EB	LT	0.12	22.9	C							
Classon Ave (NB)							WB	TR	0.08	22.3	C							
							NB	LTR	0.42	17.0	B							

Notes: EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
L-Left, T-Through, R-Right, DefL-Defacto Left
* - Denotes a congested movement

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

Future No-Action Traffic Growth

Between 2021 and 2024, it is expected that transportation demands in the vicinity of the Development Site will increase due to long-term background growth and other planned developments unrelated to the Proposed Actions. As shown in **Table K-1a** and **K-1b**, it is assumed that under the No-Action RWCDS, the Proposed Development Site would be occupied by approximately 1,438 gsf of retail space, 6,807 gsf of office space, and 30,101 gsf of light industrial space.

In order to forecast future traffic conditions without the Proposed Actions (the No-Action condition), the developments within ¼-mile of the Development Site listed in **Table C-3** in Attachment C, "Land Use, Zoning and Public Policy," were considered. The future No-Action traffic volumes also reflect annual background growth rates of 0.5 percent per year for the 2021 through 2024 period. These background growth rates, recommended in the 2020 *CEQR Technical Manual* for projects Brooklyn, are applied to account for smaller projects and as-of-right developments not reflected in **Table C-3**, and general increases in travel demand not attributable to specific development projects. Where new developments were found to generate relatively little new traffic through analyzed intersections, demand from these

sites was also assumed to be reflected as part of general background growth. **Figure K-5** shows total No-Action traffic volumes during the weekday AM, midday and PM peak hours, and Saturday peak hour.

Intersection Capacity Analysis

The peak hour v/c ratios, delays and LOS for lane groups at analyzed intersections under No-Action conditions are shown in **Table K-15**. As shown in **Table K-15**, the westbound-through movement at the intersection of Atlantic Avenue and Classon Avenue that operated at a congested LOS D with a v/c ratio of 0.91 under existing conditions would continue to operate at a congested LOS D under No-Action conditions with a v/c ratio of 0.92 during the weekday AM peak hour.

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

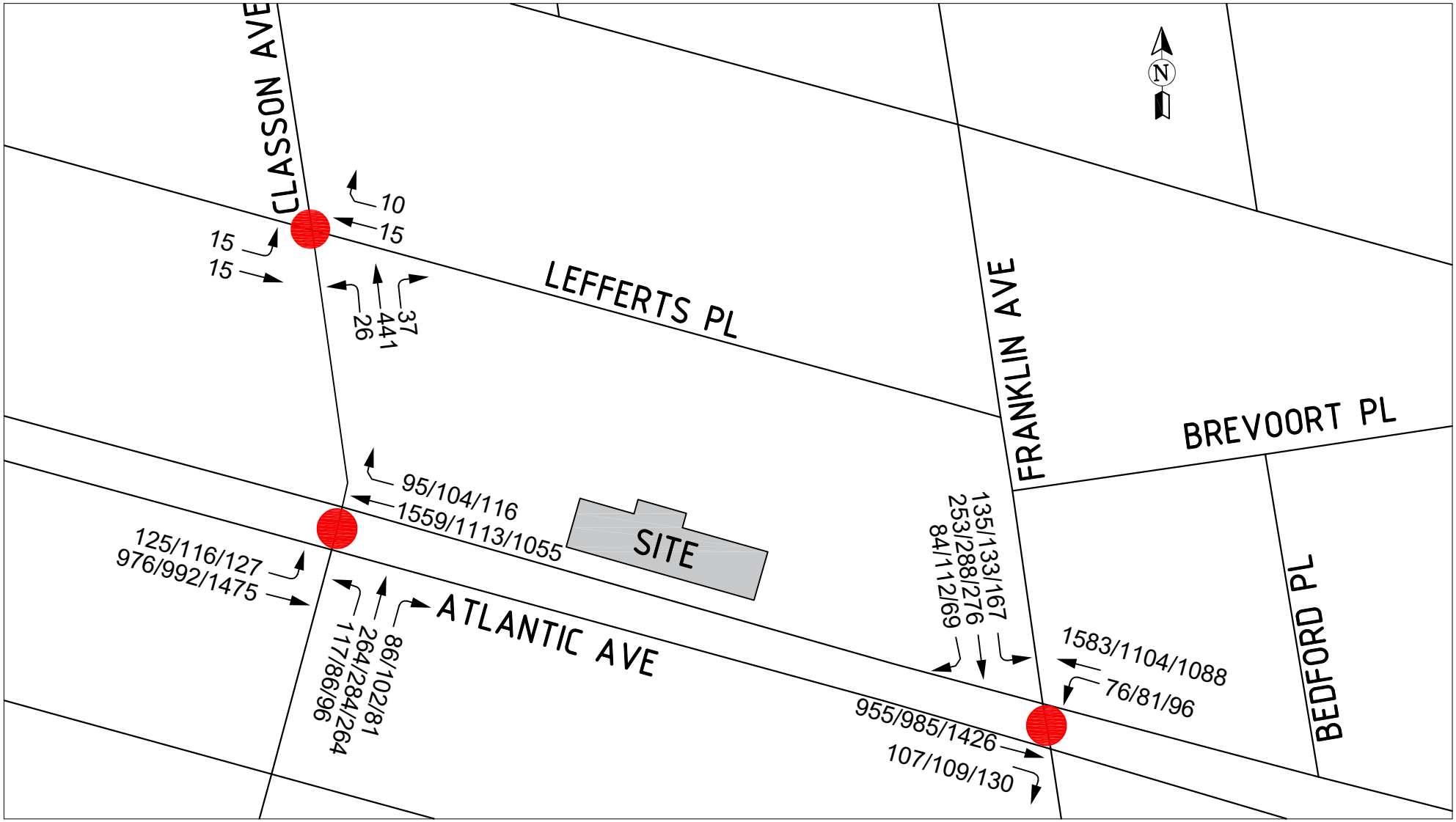
Future With-Action Traffic Growth

As shown in **Table K-3b**, based on projected development associated with the Proposed Actions, there would be a net total of approximately 67, 134, and 93 vehicle trips (auto, taxi and truck) in the weekday AM, midday and PM peak hours, respectively, under the Proposed Project RWCDS. **Figure K-2** shows the assignment of incremental vehicle trips (auto, taxi and truck) generated during the each analyzed peak hour under the Proposed Actions. **Figure K-6** shows the total traffic volumes at the three analyzed intersections for the 2024 future with the Proposed Actions. The volumes shown are the combination of the net incremental traffic generated by the Proposed Actions and the No-Action volumes.

Intersection Capacity Analysis

The peak hour v/c ratios, delays and LOS for lane groups at analyzed intersections under With-Action conditions are shown in **Table K-16**. As shown in **Table K-16**, the congested movement under the No-Action conditions would continue to operate at the same level of service with slight increases in v/c ratios and delays under the 2024 With-Action condition. As shown in **Table K-16**, the congested westbound through-right movement intersection of Atlantic Avenue and Classon Avenue that operated at LOS D with a v/c ratio of 0.92 during the weekday AM peak hour under No-Action conditions would continue to operate at an acceptable LOS D with a v/c ratio of 0.96 under With-Action conditions.

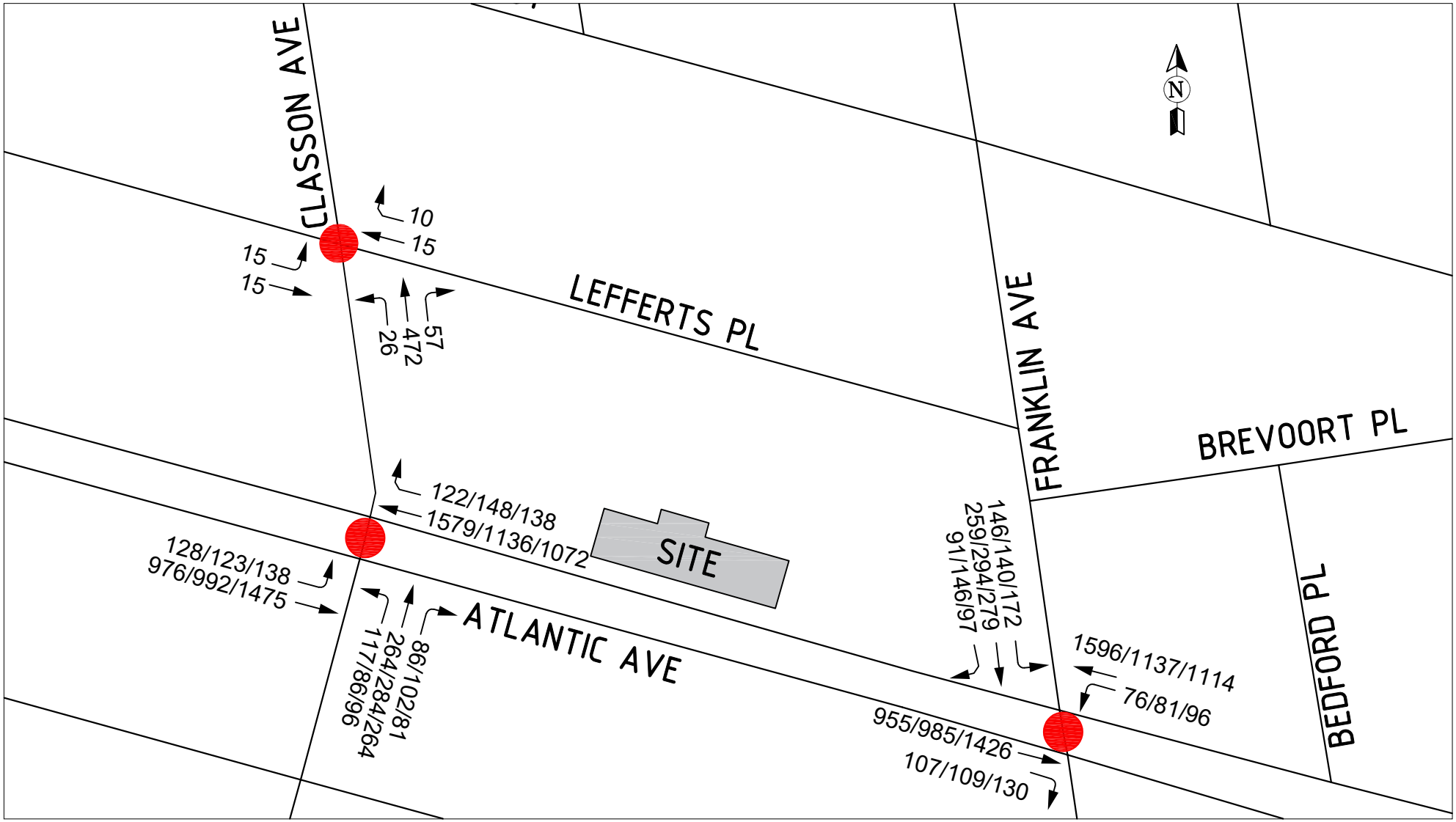
However, as previously stated in the LOS Impact Criteria, a lane group in the With-Action condition that operates at LOS A, B, or C, or marginally acceptable LOS D (i.e., delay less than or equal to 45.0 seconds/vehicle for signalized intersections), the impact is not considered significant. Therefore, these individual movements are not considered to be significantly congested and all peak hour traffic movements at each intersection would continue to operate at a marginally acceptable LOS D (45 second delay) or better under With-Action conditions. The Proposed Actions would therefore not result in significant adverse traffic impacts based on *CEQR Technical Manual* impact criteria.



Note: Traffic volumes at the Lefferts Place/Classon Avenue intersection are only shown for the weekday MD peak hour

LEGEND: xx/xx/xx - AM/MD/PM Traffic Volumes

Traffic Analysis Location



Note: Traffic volumes at the Lefferts Place/Classon Avenue intersection are only shown for the weekday MD peak hour

LEGEND: xx/xx/xx - AM/MD/PM Traffic Volumes

Traffic Analysis Location

Table K-15
No-Action Intersection Level of Service Analysis

Signalized Intersections	Existing AM Peak Hour					No-Action AM Peak Hour					Existing Midday Peak Hour					No-Action Midday Peak Hour					Existing PM Peak Hour					No-Action PM Peak Hour				
	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS
Atlantic Avenue (E-W) &	EB	TR	0.64	26.1	C	EB	TR	0.66	26.6	C	EB	TR	0.83	33.0	C	EB	TR	0.86	35.0	C	EB	TR	0.84	30.3	C	EB	TR	0.86	31.4	C
Franklin Ave (SB)	WB	L	0.28	24.1	C	WB	L	0.31	25.8	C	WB	L	0.29	25.7	C	WB	L	0.31	27.5	C	WB	L	0.42	41.9	D	WB	L	0.45	44.3	D
	WB	T	0.70	19.2	B	WB	T	0.71	19.6	B	WB	T	0.57	16.9	B	WB	T	0.58	17.0	B	WB	T	0.45	12.8	B	WB	T	0.46	12.9	B
	SB	LT	0.62	42.0	D	SB	LT	0.65	42.9	D	SB	LT	0.60	31.7	C	SB	LT	0.63	32.4	C	SB	LT	0.64	45.3	D	SB	LT	0.68	46.7	D
	SB	R	0.28	36.2	D	SB	R	0.32	37.2	D	SB	R	0.34	28.7	C	SB	R	0.37	29.4	C	SB	R	0.26	39.2	D	SB	R	0.30	40.1	D
Atlantic Avenue (E-W) &	EB	L	0.44	43.4	D	EB	L	0.52	47.0	D	EB	L	0.34	29.0	C	EB	L	0.42	31.7	C	EB	L	0.39	27.4	C	EB	L	0.44	31.6	C
Classon Ave (NB)	EB	T	0.40	11.3	B	EB	T	0.41	11.4	B	EB	T	0.48	13.9	B	EB	T	0.49	14.1	B	EB	T	0.59	13.9	B	EB	T	0.61	14.2	B
	WB	TR	0.91	36.0	D *	WB	TR	0.92	37.8	D *	WB	TR	0.85	32.1	C	WB	TR	0.87	33.3	C	WB	TR	0.61	24.2	C	WB	TR	0.64	24.8	C
	NB	L	0.46	45.4	D	NB	L	0.56	50.2	D	NB	L	0.26	27.0	C	NB	T	0.31	28.4	C	NB	L	0.34	42.3	D	NB	L	0.44	46.0	D
	NB	TR	0.60	46.1	D	NB	TR	0.62	46.5	D	NB	TR	0.57	31.0	C	NB	TR	0.59	31.4	C	NB	TR	0.64	47.2	D	NB	TR	0.66	47.7	D
Lefferts Place (E-W) &											EB	LT	0.12	22.9	C	EB	LT	0.12	22.9	C										
Classon Ave (NB)											WB	TR	0.08	22.3	C	WB	TR	0.08	22.3	C										
											NB	LTR	0.42	17.0	B	NB	LTR	0.45	17.5	B										

Notes: EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
L-Left, T-Through, R-Right, DefL-Defacto Left
* - Denotes a congested movement

Table K-16
With-Action Intersection Level of Service Analysis

Signalized Intersections	No-Action AM Peak Hour					With-Action AM Peak Hour					No-Action Midday Peak Hour					With-Action Midday Peak Hour					No-Action PM Peak Hour					With-Action PM Peak Hour				
	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS
Atlantic Avenue (E-W) &	EB	TR	0.66	26.6	C	EB	TR	0.66	26.6	C	EB	TR	0.86	35.0	C	EB	TR	0.87	35.5	D	EB	TR	0.86	31.4	C	EB	TR	0.86	31.6	C
Franklin Ave (SB)	WB	L	0.31	25.8	C	WB	L	0.31	25.8	C	WB	L	0.31	27.5	C	WB	L	0.31	27.7	C	WB	L	0.45	44.3	D	WB	L	0.45	44.3	D
	WB	T	0.71	19.6	B	WB	T	0.72	19.8	B	WB	T	0.58	17.0	B	WB	T	0.59	17.3	B	WB	T	0.46	12.9	B	WB	T	0.47	13.0	B
	SB	LT	0.65	42.9	D	SB	LT	0.68	44.2	D	SB	LT	0.63	32.4	C	SB	LT	0.67	33.6	C	SB	LT	0.68	46.7	D	SB	LT	0.71	47.9	D
	SB	R	0.32	37.2	D	SB	R	0.36	38.1	D	SB	R	0.37	29.4	C	SB	R	0.58	36.8	D	SB	R	0.30	40.1	D	SB	R	0.46	45.0	D
Atlantic Avenue (E-W) &	EB	L	0.52	47.0	D	EB	L	0.53	47.7	D	EB	L	0.42	31.7	C	EB	L	0.45	33.2	C	EB	L	0.44	31.6	C	EB	L	0.49	35.7	D
Classon Ave (NB)	EB	T	0.41	11.4	B	EB	T	0.41	11.4	B	EB	T	0.49	14.1	B	EB	T	0.49	14.1	B	EB	T	0.61	14.2	B	EB	T	0.61	14.2	B
	WB	TR	0.92	37.8	D	WB	TR	0.96	42.2	D	WB	TR	0.87	33.3	C	WB	TR	0.94	40.7	D	WB	TR	0.64	24.8	C	WB	TR	0.67	25.5	C
	NB	L	0.56	50.2	D	NB	L	0.57	50.7	D	NB	T	0.31	28.4	C	NB	T	0.34	29.2	C	NB	L	0.44	46.0	D	NB	L	0.46	47.0	D
	NB	TR	0.62	46.5	D	NB	TR	0.62	46.7	D	NB	TR	0.59	31.4	C	NB	TR	0.62	32.3	C	NB	TR	0.66	47.7	D	NB	TR	0.67	48.4	D
Lefferts Place (E-W) &											EB	LT	0.12	22.9	C	EB	LT	0.12	23.0	C										
Classon Ave (NB)											WB	TR	0.08	22.3	C	WB	TR	0.08	22.3	C										
											NB	LTR	0.45	17.5	B	NB	LTR	0.51	18.4	B										

Notes: EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
L-Left, T-Through, R-Right, DefL-Defacto Left
* - Denotes a significant adverse impact based on *CEQR Technical Manual* criteria

VII. TRANSIT

Existing Conditions

Subway Stations

As discussed above in Section V, "Level 2 Screening Assessment," the Proposed Actions are expected to exceed the 200-trip *CEQR Technical Manual* threshold for a subway station analysis in both the weekday AM and PM peak hours at the Franklin Avenue station served by C train operating on the 8th Avenue Local Line and the S train operating on the Franklin Avenue Shuttle Line. The Franklin Avenue station is located adjacent to the intersection of Franklin Avenue and Fulton Street. As shown in **Figure K-7a**, at street level at the southwest corner of the intersection of Franklin Avenue and Fulton Street, four fare arrays provide access to platform stairs P3A/P3B, P4A/P4B, and P5A/P5B and escalator E-352, which provide access to the elevated S train platform. In addition, stairs M1A/M1B, M2A/M2B, and P1A/P1B provide access to the Brooklyn-bound C train platform.

As shown in **Figure K-7b**, at the northeast corner of the intersection of Franklin Avenue and Fulton Street, street stairs S2 and P2A/P2B provide access to three turnstiles. These turnstiles provide access to the Manhattan-bound C train platform and a passageway that connects to the elevated S train platform. It should be noted that no project-generated trips were assigned to this passageway. As shown in **Tables K-17, K-18 and K-19**, all stairs, escalators and fare arrays currently operate at an uncongested LOS A in both the AM and PM peak hours.

TABLE K-17
Existing Conditions Subway Station Stair Analysis

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
					Up	Down	Up	Down			
AM	Franklin Ave (C/S)	P3/P4P/P5	7.58	6.33	1	177	1.00	0.75	1.00	0.08	A
		M1/M2/P1	8.00	6.75	48	109	0.75	0.80	0.90	0.07	A
		S2/P2	4.58	3.58	63	125	0.75	1.00	0.90	0.14	A
PM	Franklin Ave (C/S)	P3/P4P/P5	7.58	6.33	5	208	1.00	0.75	1.00	0.09	A
		M1/M2/P1	8.00	6.75	134	196	0.75	0.80	0.90	0.15	A
		S2/P2	4.58	3.58	33	92	0.75	1.00	0.90	0.09	A

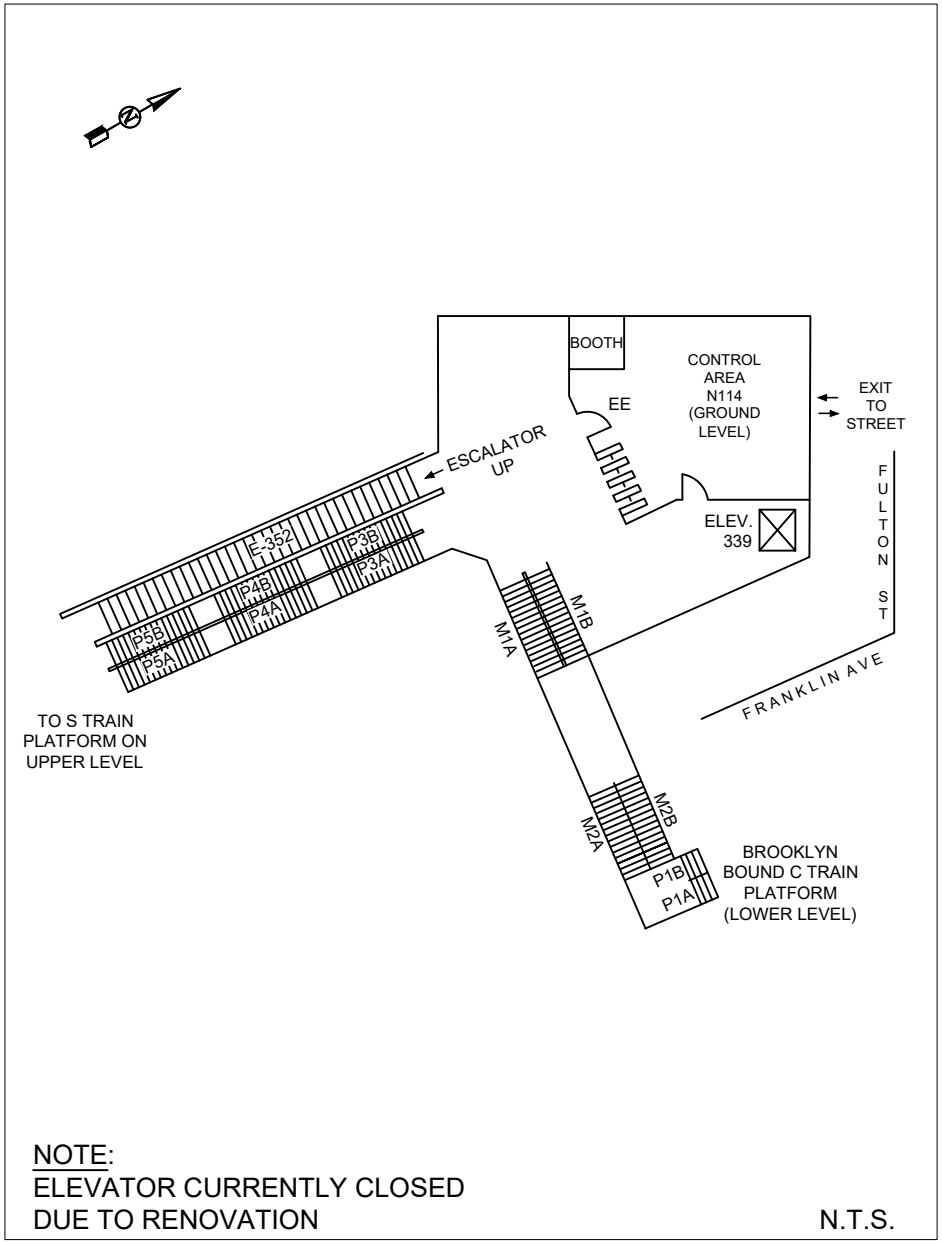
Notes:
Methodology based on *CEQR Technical Manual guidance.*

TABLE K-18
Existing Conditions Subway Station Escalator Analysis

Peak Period	Escalator	Tread Width	Feet per Minute	Guideline Capacity	Peak Hour Volumes	Peak 15-Minute Volumes	Surging Factor	V/C Ratio	LOS
AM	E-352 (Up)	32"	90	750	68	21	1.00	0.03	A
PM	E-352 (Up)	32"	90	750	110	34	1.00	0.05	A

Notes:
Methodology based on *CEQR Technical Manual guidance.*

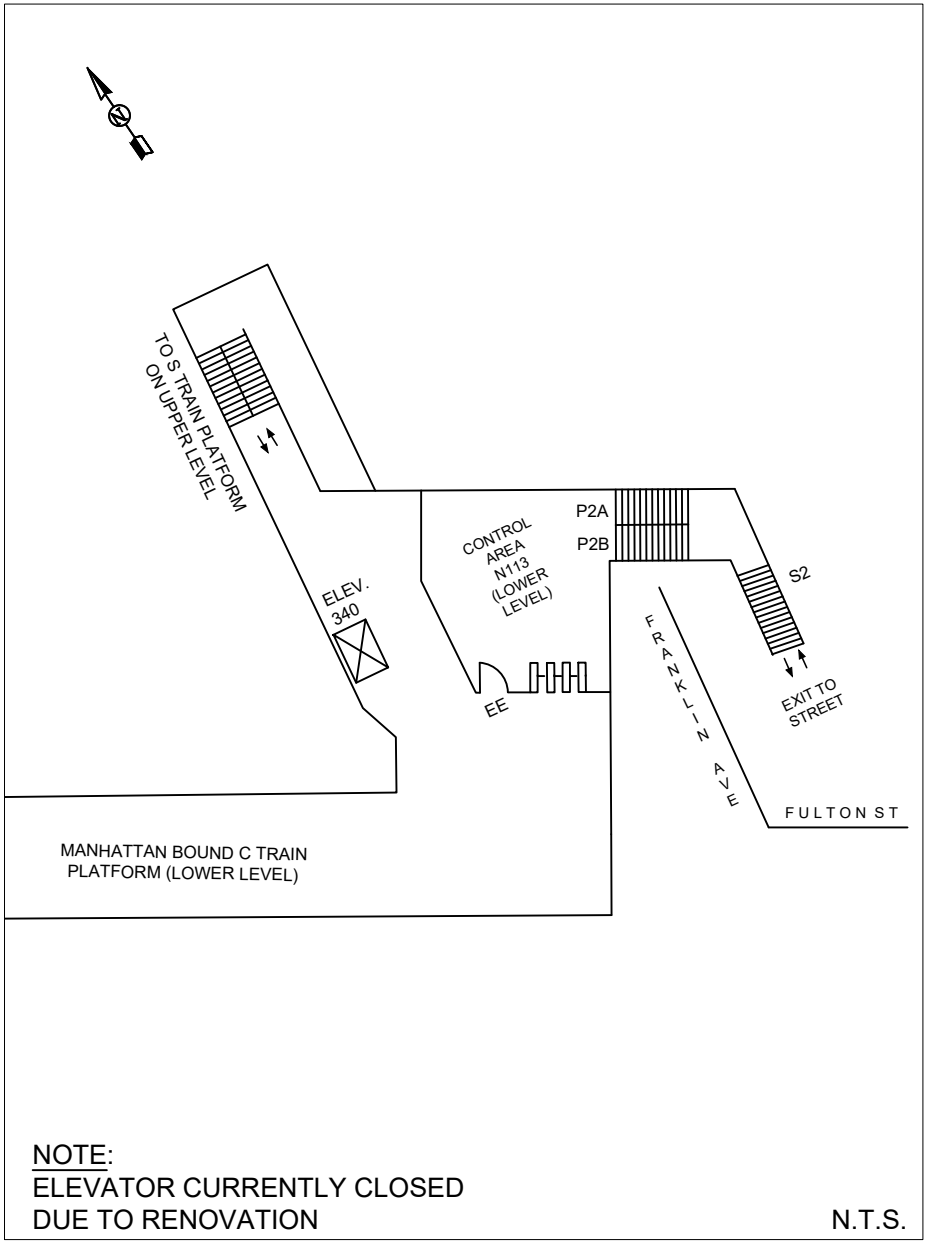
Figure K-7A: Entrance to Brooklyn Bound C Train and S Train at the Southwest Corner of Franklin Avenue and Fulton Street



NOTE:
ELEVATOR CURRENTLY CLOSED
DUE TO RENOVATION

N.T.S.

Figure K-7B: Entrance to Manhattan Bound C Train at the Northeast Corner of Franklin Avenue and Fulton Street



NOTE:
ELEVATOR CURRENTLY CLOSED
DUE TO RENOVATION

N.T.S.

TABLE K-19
Existing Conditions Subway Station Fare Array Analysis

Peak Hour	Station	Control Area	Control Elements			Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
			Turnstile	HEET	HXT	System Entries	System Exits	System Entries	System Exits			
AM	Franklin Ave (C/S)	N113	3	0	0	125	63	1.00	0.75	0.90	0.05	A
		N114	4	0	0	86	153	1.00	0.75	0.90	0.05	A
PM	Franklin Ave (C/S)	N113	3	0	0	92	33	1.00	0.75	0.90	0.03	A
		N114	4	0	0	157	164	1.00	0.75	0.90	0.06	A

Notes:
Methodology based on *CEQR Technical Manual guidance.*

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

Between 2020 and 2024, it is expected that subway demand in the vicinity of the Proposed Development Site will increase due to long-term background growth as well as planned development. In order to forecast future subway conditions without the Proposed Actions (the No-Action condition), the developments within ¼-mile of the Proposed Development Site listed in **Table C-3** in Attachment C, "Land Use, Zoning and Public Policy," were considered. The future No-Action traffic volumes also reflect annual background growth rates of 0.5 percent per year for the 2020 through 2024 period. These background growth rates, recommended in the 2020 *CEQR Technical Manual* for projects in Brooklyn, are applied to account for smaller projects and as-of-right developments not reflected in **Table C-3**, and general increases in travel demand not attributable to specific development projects.

Subway Stations

Under No-Action conditions, demand at the Franklin Avenue (C, S) subway station is expected to increase as a result of new development and background growth. As shown in **Tables K-20, K-21, and K-22**, it is expected that in the future No-Action condition, all analyzed stairs, escalators and fare arrays will continue to operate at an uncongested LOS A in both the AM and PM peak hours.

TABLE K-20
No-Action Subway Station Stair Analysis

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
					Up	Down	Up	Down			
AM	Franklin Ave (C/S)	P3/P4P/P5	7.58	6.33	1	183	1.00	0.75	1.00	0.08	A
		M1/M2/P1	8.00	6.75	54	145	0.75	0.80	0.90	0.09	A
		S2/P2	4.58	3.58	70	226	0.75	1.00	0.90	0.21	A
AM	Franklin Ave (C/S)	P3/P4P/P5	7.58	6.33	5	219	1.00	0.75	1.00	0.10	A
		M1/M2/P1	8.00	6.75	144	290	0.75	0.80	0.90	0.19	A
		S2/P2	4.58	3.58	40	150	0.75	1.00	0.90	0.13	A

Notes:
Methodology based on *CEQR Technical Manual guidance.*

TABLE K-21
No-Action Subway Station Escalator Analysis

Peak Period	Escalator	Tread Width	Feet per Minute	Guideline Capacity	Peak Hour Volumes	Peak 15-Minute Volumes	Surging Factor	V/C Ratio	LOS
AM	E-352 (Up)	32"	90	750	75	23	1.00	0.03	A
PM	E-352 (Up)	32"	90	750	116	36	1.00	0.05	A

Notes:
Methodology based on *CEQR Technical Manual guidance.*

TABLE K-22
No-Action Subway Station Fare Array Analysis

Peak Hour	Station	Fare Array	Control Elements			Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
			Turnstile	HEET	HXT	System Entries	System Exits	System Entries	System Exits			
AM	Franklin Ave (C/S)	N113	3	0	0	226	70	1.00	0.75	0.90	0.08	A
		N114	4	0	0	99	192	1.00	0.75	0.90	0.05	A
PM	Franklin Ave (C/S)	N113	3	0	0	150	40	1.00	0.75	0.90	0.05	A
		N114	4	0	0	171	264	1.00	0.75	0.90	0.08	A

Notes:
Methodology based on *CEQR Technical Manual guidance.*

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

Subway Stations

As shown in **Table K-4b**, the Proposed Actions are expected to generate a net increment of 329 and 382 new subway trips in the weekday AM and PM peak hours, respectively, at the Franklin Avenue (C, S) station. Based on the location of the Franklin Avenue station relative to the Project Area and nearby bus stops, it is anticipated that new project-generated subway trips would utilize the entrances on both southwest and northeast corners of the intersection of Franklin Avenue and Fulton Street. **Tables K-23, K-24 and K-25** show conditions at analyzed stairs, escalators and fare arrays at this subway station in the future with the Proposed Actions. As shown in **Tables K-23, K-24 and K-25**, under With-Action conditions all analyzed stairs, escalators and fare arrays at the Franklin Avenue (C, S) station would operate at an uncongested LOS A in both the AM and PM peak hours. The Proposed Actions would therefore not result in significant adverse subway station impacts based on *CEQR Technical Manual* impact criteria.

TABLE K-23
With-Action Subway Station Stair Analysis

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Project Increment		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
					Up	Down	Up	Down	Up	Down			
AM	Franklin Ave (C/S)	P3/P4P/P5	7.58	6.33	0	36	1	219	1.00	0.75	1.00	0.10	A
		M1/M2/P1	8.00	6.75	6	114	60	259	0.75	0.80	0.9	0.14	A
		S2/P2	4.58	3.58	24	141	94	367	0.75	1.00	0.9	0.32	A
AM	Franklin Ave (C/S)	P3/P4P/P5	7.58	6.33	0	9	5	228	1.00	0.75	1.00	0.10	A
		M1/M2/P1	8.00	6.75	30	132	174	422	0.75	0.80	0.9	0.26	A
		S2/P2	4.58	3.58	6	161	46	311	0.75	1.00	0.9	0.24	A

Notes:
Methodology based on *CEQR Technical Manual guidance.*

TABLE K-24
With-Action Subway Station Escalator Analysis

Peak Period	Escalator	Tread Width	Feet per Minute	Guideline Capacity	Project Increment	Peak Hour Volumes	Peak 15-Minute Volumes	Surging Factor	V/C Ratio	LOS
AM	E-352 (Up)	32"	90	750	8	83	26	1.00	0.03	A
PM	E-352 (Up)	32"	90	750	44	160	50	1.00	0.07	A

Notes:
Methodology based on *CEQR Technical Manual guidance.*

TABLE K-25
With-Action Subway Station Fare Array Analysis

Peak Hour	Station	Fare Array	Control Elements			Project Increment		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
			Turnstile	HEET	HXT	System Entries	System Exits	System Entries	System Exits	System Entries	System Exits			
AM	Franklin Ave (C/S)	N113	3	0	0	141	24	367	94	1.00	0.75	0.90	0.12	A
		N114	4	0	0	14	150	113	342	1.00	0.75	0.90	0.08	A
PM	Franklin Ave (C/S)	N113	3	0	0	161	6	311	46	1.00	0.75	0.90	0.10	A
		N114	4	0	0	74	141	245	405	1.00	0.75	0.90	0.12	A

Notes:
Methodology based on *CEQR Technical Manual guidance.*

IX. PEDESTRIANS

Existing Conditions

As discussed previously in Section V "Level 2 Screening Assessment", four sidewalks and three corners have been selected for detailed analysis as they are locations where project-generated pedestrian trips are expected to exceed the 200-trip *CEQR Technical Manual* analysis threshold. **Tables K-26 and K-27** show the existing average pedestrian space (in square feet per pedestrian) and levels of service at analyzed sidewalks and corners, respectively. As shown in **Tables K-26 and K-27**, all analyzed pedestrian elements currently operate at an uncongested LOS A or B in all analyzed peak hours.

The Future Without the Proposed Action (No-Action)

Increased pedestrian demand due to background growth was added to existing volumes to determine future volumes absent the Proposed Actions. An annual compounded background growth rate of 0.50 percent was applied to existing travel demand through 2024 pursuant to *CEQR Technical Manual* criteria. In addition, pedestrian volumes are expected to increase a result of the No-Action development projects in the surrounding area (see **Table C-3** in Attachment C, "Land Use, Zoning and Public Policy,").

Tables K-28 and K-29 show the forecasted No-Action average pedestrian space and LOS along the analyzed sidewalks, crosswalks and corners during the weekday AM, midday and PM peak hours. As shown in **Tables K-28 and K-29**, under No-Action conditions, all analyzed pedestrian elements would continue to operate at an uncongested LOS A or B in all peak hours.

The Future With the Proposed Action (With-Action)

As discussed previously, the Proposed Actions under the Alternate Commercial Scenario RWCDS are expected to generate a net total of 545, 1,191 and 902 pedestrian trips (including walk-only trips and pedestrians en route to and from subway and bus stops) during the weekday AM, midday and PM peak hours, respectively (refer to **Table K-4b**). The assignment of these trips to the analyzed pedestrian elements is shown in **Figure K-3**. These pedestrian volumes were added to the projected No-Action volumes to generate the With-Action pedestrian volumes for analysis. **Tables K-30 and K-31** show the average pedestrian space and levels of service at the analyzed sidewalk and corner areas during each analyzed peak hour under the 2024 With-Action conditions.

As shown in **Tables K-30 and K-31**, under the With-Action conditions, all analyzed pedestrian elements would operate at an acceptable LOS D or better in all peak periods and would therefore not exceed *CEQR Technical Manual* thresholds for a significant impact.

Table K-26
Sidewalk Analysis – Existing Conditions

Location	Sidewalk	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volume			Average Pedestrian Space (ft^2/ped)			Platoon-Adjusted LOS		
				AM	MD	PM	AM	MD	PM	AM	MD	PM
Franklin Ave btwn Fulton St and Lefferts Pl	West	14.5	7.3	162	148	193	599.5	625.0	515.1	A	A	B
Fulton St btwn Claver Pl and Franklin Ave	South	18.8	9.1	284	281	371	411.0	364.1	369.0	B	B	B
Franklin Ave btwn Lefferts Pl and Atlantic Ave	West	9.3	2.8	105	66	137	358.9	396.3	190.7	B	B	B
Atlantic Ave between Classon Ave and Franklin Ave	North	14.4	5.0	27	15	32	2,464.0	2,851.2	1,410.7	A	A	A

Notes: Methodology based on *CEQR Technical Manual* guidelines
SFP – Square feet per pedestrian.
LOS – Level of Service.

Table K-27
Corner Area Analysis – Existing Conditions

Location	Corner	Pedestrian Space (SFP)			LOS		
		AM	MD	PM	AM	MD	PM
Franklin Ave @ Fulton St	SW	385.4	352.5	338.3	A	A	A
Franklin Ave @ Atlantic Ave	NW	504.4	965.8	375.2	A	A	A
Classon Ave @ Atlantic Ave	NE	1,142.7	1,846.4	548.5	A	A	A

Notes: Methodology based on *CEQR Technical Manual* guidelines
SFP – Square feet per pedestrian.
LOS – Level of Service

Table K-28
Sidewalk Analysis – 2024 No-Action Conditions

Location	Sidewalk	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volume			Average Pedestrian Space (ft^2/ped)			Platoon-Adjusted LOS		
				AM	MD	PM	AM	MD	PM	AM	MD	PM
Franklin Ave btwn Fulton St and Lefferts Pl	West	14.5	7.3	241	209	284	402.9	442.5	350.0	B	B	B
Fulton St btwn Claver Pl and Franklin Ave	South	18.8	9.1	344	308	429	339.2	332.1	319.0	B	B	B
Franklin Ave btwn Lefferts Pl and Atlantic Ave	West	9.3	2.8	163	111	200	231.0	235.5	130.4	B	B	B
Atlantic Ave between Classon Ave and Franklin Ave	North	14.4	5.0	57	90	77	1,167.1	475.1	586.2	A	B	A

Notes: Methodology based on *CEQR Technical Manual* guidelines
SFP – Square feet per pedestrian.
LOS – Level of Service.

Table K-29
Corner Area Analysis – 2024 No-Action Conditions

Location	Corner	Pedestrian Space (SFP)			LOS		
		AM	MD	PM	AM	MD	PM
Franklin Ave @ Fulton St	SW	327.5	312.4	290.1	A	A	A
Franklin Ave @ Atlantic Ave	NW	277.4	311.2	175.0	A	A	A
Classon Ave @ Atlantic Ave	NE	638.0	614.6	366.0	A	A	A

Notes: Methodology based on *CEQR Technical Manual* guidelines
SFP – Square feet per pedestrian.
LOS – Level of Service.

Table K-30
Sidewalk Analysis – 2024 With-Action Conditions

Location	Sidewalk	Total Width (ft.)	Effective Width (ft.)	Project Increment			Peak Hour Volume			Average Pedestrian Space (ft^2/ped)			Platoon-Adjusted LOS		
				AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Franklin Ave btwn Fulton St and Lefferts Pl	West	14.5	7.3	381	322	488	622	531	772	155.8	173.9	128.4	B	B	B
Fulton St btwn Claver Pl and Franklin Ave	South	18.8	9.1	173	126	240	517	434	669	200.7	235.6	204.4	B	B	B
Franklin Ave btwn Lefferts Pl and Atlantic Ave	West	9.3	2.8	381	322	488	544	433	688	68.5	59.5	36.6	C	C	D
Atlantic Ave between Classon Ave and Franklin Ave	North	14.4	5.0	98	514	245	155	604	322	429.1	70.0	139.8	B	C	B

Notes: Methodology based on *CEQR Technical Manual* guidelines
SFP – Square feet per pedestrian.
LOS – Level of Service.

Table K-31
Corner Area Analysis – 2024 With-Action Conditions

Location	Corner	Pedestrian Space (SFP)			LOS		
		AM	MD	PM	AM	MD	PM
Franklin Ave @ Fulton St	SW	191.7	200.6	170.1	A	A	A
Franklin Ave @ Atlantic Ave	NW	93.5	63.5	43.3	A	A	B
Classon Ave @ Atlantic Ave	NE	305.9	105.6	150.5	A	A	A

Notes: Methodology based on *CEQR Technical Manual* guidelines
SFP – Square feet per pedestrian.
LOS – Level of Service.

III. VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

Recent NYCDOT Initiatives

Vision Zero Brooklyn Pedestrian Safety Action Plan

The City's Vision Zero initiative seeks to eliminate all deaths from traffic crashes regardless of whether on foot, bicycle, or inside a motor vehicle. In an effort to drive these fatalities down, NYCDOT and the New York City Police Department (NYPD) developed a set of five plans, each of which analyzes the unique conditions of one New York City borough and recommends actions to address the borough's specific challenges to pedestrian safety. These plans pinpoint the conditions and characteristics of pedestrian fatalities and severe injuries; they also identify priority corridors, intersections, and areas that disproportionately account for pedestrian fatalities and severe injuries, prioritizing them for safety interventions. The plans outline a series of recommended actions comprised of engineering, enforcement, and education measures that intend to alter the physical and behavioral conditions on City streets that lead to pedestrian fatality and injury.

The *Vision Zero Brooklyn Pedestrian Safety Action Plan* was released on February 19, 2015. The *Vision Zero Brooklyn Pedestrian Safety Action Plan Update*, released in 2019, identifies the study area as a "Priority Area", and Atlantic Avenue, Franklin Avenue, Bedford Avenue, Nostrand Avenue and Fulton Street in the vicinity of the project area, as "Priority Corridors." In addition, in the vicinity of the Project Area, the intersections of Franklin Avenue/Atlantic Avenue, Bedford Avenue/Atlantic Avenue, Nostrand Avenue/Atlantic Avenue and Nostrand Avenue/Fulton Street were identified as "Priority Intersections." Actions recommended in the *Vision Zero Brooklyn Pedestrian Safety Action Plan* to enhance pedestrian safety in Brooklyn are summarized below.

ENGINEERING AND PLANNING

- Implement at least 50 Vision Zero safety engineering improvements at Priority Corridors, Intersections, and Areas citywide, informed by community input
- Expand exclusive pedestrian crossing time, install expanded speed limit signage, and modify signal timing to reduce off-speak speeding on Priority Corridors and Intersections where feasible
- Expand community outreach and engagement with regard to Priority Corridors, Intersections, and Areas
- Install additional lighting under elevated trains and around other key transit stops
- Install 60 new speed bumps in Brooklyn annually
- Develop additional Neighborhood Slow Zones in Priority Areas
- Coordinate with MTA to ensure bus operations contribute to a safe pedestrian environment
- Expand a bicycle network in Brooklyn that improves safety for all road users
- Proactively design for pedestrian safety in high-growth areas in Brooklyn

ENFORCEMENT

- Deploy speed camera at Priority Corridors, Intersections, and Areas
- Focus enforcement and deploy dedicated resources to Brooklyn NYPD precincts that overlap substantially with Priority Areas

- Prioritize targeted enforcement at all Priority Corridors, Intersections, and Areas annually

EDUCATION AND AWARENESS CAMPAIGNS

- Target child and senior safety education at Priority Corridors and Priority Areas
- Launch multilingual public information campaigns in Priority Areas
- Target intensive street-level outreach at Priority Corridors, Intersections, and Areas

Study Area High Crash Locations

Under *CEQR Technical Manual* guidelines, an evaluation of pedestrian and vehicular safety is needed for locations within the traffic and pedestrian study areas that have been identified as high crash locations. These locations are defined as locations where 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicyclist injury crashes have occurred in any consecutive twelve months of the most recent three-year period for which data are available. Reportable crashes are defined as those involving injuries, fatalities, and/or $1,000 or more in property damage.

Table K-32 below shows summary crash data for the three-year reporting period between January 1, 2016 and December 31, 2018 that were obtained from DOT. This is the most recent three-year period for which data are available. The table shows the total number of crashes each year and the number of crashes each year involving pedestrians and cyclists at intersections in proximity to the Project Area where the majority of new vehicular and pedestrian trips would be concentrated.

Table K-32
Crash Data Summary 2016-2018

Intersection		Pedestrian Injury Crashes			Bicycle Injury Crashes			Total Pedestrian/ Bicyclist Injury Crashes			Total Crashes (Reportable + Non-Reportable)		
Roadway 1	**Roadway 2**	**2016**	**2017**	**2018**	**2016**	**2017**	**2018**	**2016**	**2017**	**2018**	**2016**	**2017**	**2018**
Franklin Ave	Atlantic Ave	3	3	1	0	0	1	3	3	2	10	13	14
	Lefferts Pl	0	0	0	0	0	1	0	0	1	0	1	2
	Fulton St	0	1	3	1	2	1	1	3	4	5	6	15
	Brevoort Pl	0	0	0	0	0	0	0	0	0	1	1	1
Atlantic Ave	Classon Ave	0	1	0	0	0	0	0	1	0	1	5	13
	Bedford Ave	1	4	3	1	2	4	2	**6**	**7**	12	17	19
	Nostrand Ave	5	8	4	0	2	1	**5**	**10**	**5**	15	21	24
Fulton Ave	Nostrand Ave	2	3	2	1	0	2	3	3	4	6	10	12

Source: NYSDMV/DOT

As shown in **Table K-32**, no intersections were found to have experienced a total of 48 or more crashes in any one year. However, as shown in **Table K-32**, the intersection of Atlantic Avenue/Bedford Avenue intersection experienced a total of six and seven pedestrian and bicycle injury crashes in 2017 and 2018, respectively. This includes four reported pedestrian and two reported bicycle injury crashes in 2017, and three reported pedestrian and four reported bicycle injury crashes in 2018. In addition, the intersection of Atlantic Avenue/Nostrand Avenue experienced five, 10, and five pedestrian and bicycle crashes in 2016, 2017, and 2018, respectively. This includes five reported pedestrian injury crashes in 2016, eight reported pedestrian injury and two reported bicycle injury crashes in 2017, and four reported pedestrian and one reported bicycle injury crashes in 2018.

In the vicinity of these intersections, bicycle lanes are striped along Franklin Avenue and Classon Avenue. Each of the aforementioned intersections that experienced five or more pedestrian/bicyclist injury crashes are signalized with pedestrian signals and striped crosswalks at each approach. While

these intersections are expected to experience little increase in vehicular traffic, it would experience increases in pedestrian volumes. Safety improvements that could be made to these intersections including augmenting each of the crosswalks with high visibility striping. The applicant will coordinate with DOT to assess whether or not additional safety measures should be implemented.

Attachment L
Air Quality

1045 Atlantic Avenue Rezoning EAS
ATTACHMENT L: AIR QUALITY

I. INTRODUCTION

As described in Attachment A, "Project Description," Atlantic Brooklyn LLC ("the Applicant") is seeking several discretionary actions (the "Proposed Actions") to facilitate the development of a 17-story mixed-use building comprised of residential, commercial, and retail uses in the Bedford-Stuyvesant/Crown Heights neighborhood of Brooklyn (on Block 2020, Lots 68, 70, 73, 74, and 77; the "Proposed Development Site"). The proposed development would contain approximately 357,436 gross square feet (gsf) (422 dwelling units [DUs]) of residential uses, approximately 34,470 gsf of commercial retail uses, approximately 28,334 gsf of commercial office uses, and 8,995 gsf of community facility uses, as well as approximately 152 accessory parking spaces in a single cellar level (the "Proposed Project"). In addition to the Proposed Project, as the Proposed Actions would increase the maximum permitted commercial floor area ratio (FAR) to 6.0, a second reasonable worst-case development scenario (RWCDS) will be assessed (the "Alternate Commercial Scenario"). Under the Alternate Commercial Scenario, the Applicant could reasonably construct a mixed-use building containing approximately 113,587 gsf of commercial office uses, 33,111 gsf of commercial retail uses, and 273,072 gsf (337 DUs) of residential uses, as well as 152 accessory parking spaces. It is expected that either the Proposed Project or Alternate Commercial Scenario would be completely constructed and fully occupied by 2024. The Applicant-owned Proposed Development Site is an irregular-shaped site containing approximately 370 feet of frontage along the north side of Atlantic Avenue (refer to **Figure L-1**).

According to the guidelines in the 2020 *CEQR Technical Manual*, air quality analyses are conducted to assess the effect of an action on ambient air quality (i.e., the quality of the surrounding air). Air quality can be affected by "mobile sources," pollutants produced by motor vehicles, by pollutants produced by fixed facilities, (i.e., "stationary sources), and by manufacturing or processing facilities (i.e., so called industrial sources). Therefore, an air quality assessment should be carried out for actions that can result in either significant adverse mobile source or stationary source air quality impacts.

Based on these guideline, two types of analyses are warranted for the Proposed Actions: a mobile source analysis associated with the proposed parking garage and on-site vehicular traffic emissions, and an industrial source analysis associated with several existing industrial facilities that were identified within 400 feet of the Project Area. As there are no existing buildings taller or the same height as the proposed building within 400 feet of the development site, based on the stationary source screening presented in **Attachment B, "Supplemental Screening,"** emissions from the heating, ventilation, and air conditioning (HVAC) system of the Proposed Project or Alternate Commercial Scenario would not significantly impact nearby buildings, and no project-on-existing analysis is warranted (refer to **Figure B-1**). Similarly, because the Proposed Project or Alternate Commercial Scenario consists of only one building in either scenario, a project-on-project analysis is also not warranted. In addition, an analysis of the potential impacts of emissions from large or major nearby sources on the Proposed Project or Alternate Commercial Scenario is not warranted because no large or major emission sources (Title V facilities or State facilities) are located within 1,000 feet of Project Area.

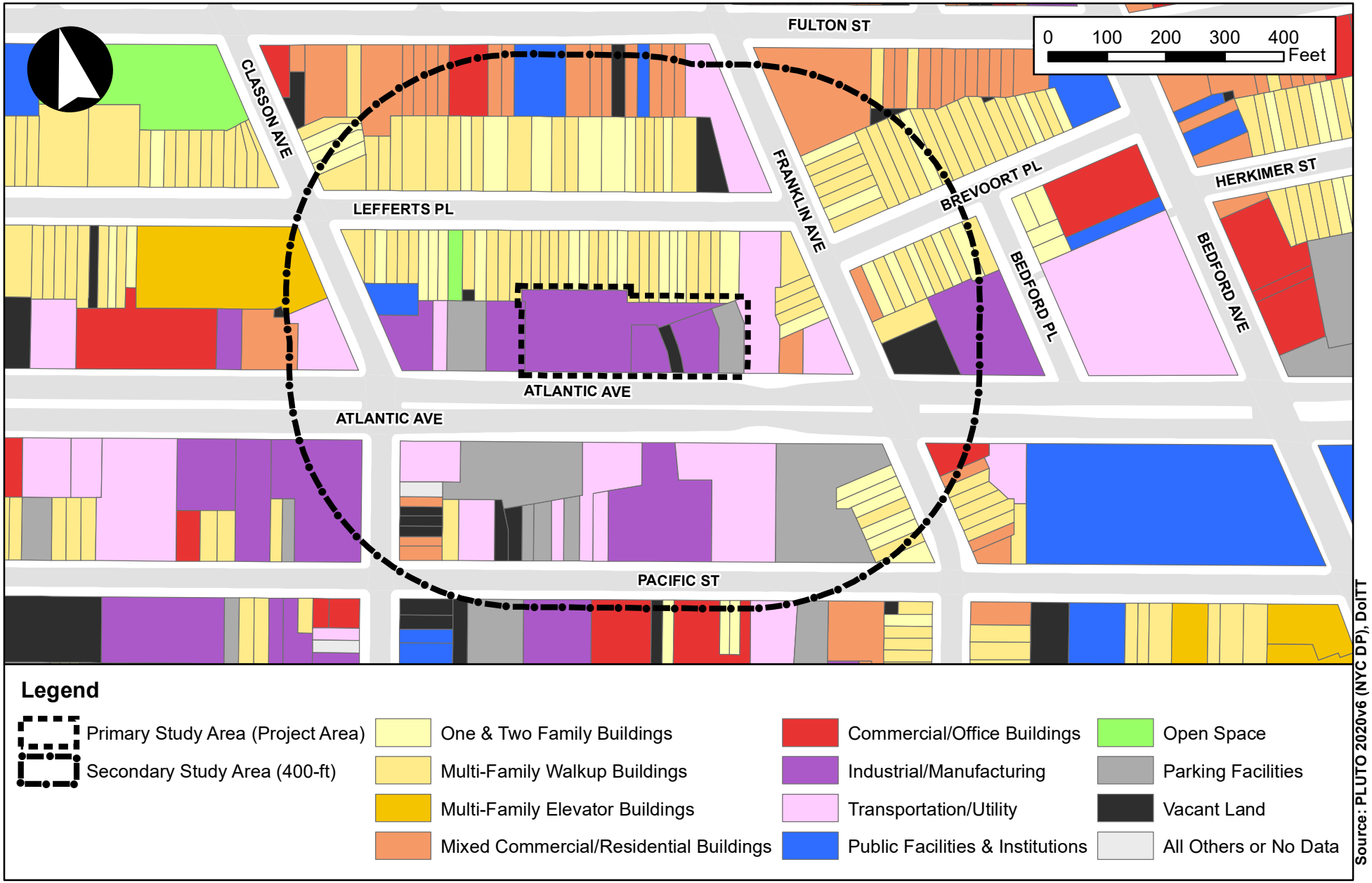


Figure L-1
Study Area and Land Uses

II. PRINCIPAL CONCLUSIONS

As presented in this attachment, detailed garage and industrial source analyses determined that there would be no exceedances of the applicable *CEQR* significant impact criteria, National Ambient Air Quality Standards, and/or applicable NYSDEC DAR-1 air toxic guideline concentrations. As such, garage-related emissions as well as emissions from the nearby existing industrial sources are not predicted to cause significant air quality impacts.

III. POLLUTANTS FOR ANALYSIS

Air quality is affected by air pollutants produced by both motor vehicles and stationary sources. Emissions from motor vehicles are referred to as mobile source emissions, while emissions from fixed facilities are referred to as stationary source emissions. Ambient concentrations of carbon monoxide (CO) are predominantly influenced by mobile source emissions. Particulate matter (PM), volatile organic compounds (VOCs), and nitrogen oxides (nitric oxide [NO] and nitrogen dioxide [NO_2], collectively referred to as NOx) are emitted from both mobile and stationary sources. Fine PM ($PM_{2.5}$) is also formed when emissions of NOx, sulfur oxides (SOx), ammonia, organic compounds, and other gases react or condense in the atmosphere. Emissions of sulfur dioxide (SO_2) are associated mainly with stationary sources, and some sources utilizing non-road diesel such as large international marine engines. On-road diesel vehicles currently contribute very little to SO_2 emissions since the sulfur content of on-road diesel fuel, which is federally regulated, is extremely low. Ozone is formed in the atmosphere by complex photochemical processes that include NOx and VOCs. Ambient concentrations of CO, PM, NO_2, SO_2, ozone, and lead are regulated by the U.S. Environmental Protection Agency (EPA) under the Clean Air Act (CAA), and are referred to as criteria pollutants; emissions of VOCs, NOx, and other precursors to criteria pollutants are also regulated by EPA.

Carbon Monoxide

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

As stated above, the Proposed Actions would not result in an increase in vehicle trips higher than the *CEQR Technical Manual* screening threshold of 170 trips at any intersection in the study area. Therefore, a mobile source analysis is not warranted. However, both the Proposed Project and Alternative Commercial Scenario would each include a parking garage. Therefore, an analysis was conducted to evaluate future CO and $PM_{2.5}$ concentrations with the operation of the parking facility assumed to be developed as a result of the Proposed Actions.

Respirable Particulate Matter ($PM_{2.5}$)

PM is a broad class of air pollutants that includes discrete particles of a wide range of sizes and chemical compositions, as either liquid droplets (aerosols) or solids suspended in the atmosphere. The constituents of PM are both numerous and varied, and they are emitted from a wide variety of sources (both natural

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

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

Gasoline-powered and diesel-powered vehicles, especially heavy-duty trucks and buses operating on diesel fuel, are a significant source of respirable PM, most of which is $PM_{2.5}$. PM concentrations may consequently be locally elevated near roadways. Since the traffic generated by the Proposed Actions would exceed the PM emission screening threshold provided in Chapter 17, Sections 210 and 311 of the *CEQR Technical Manual*, a quantified assessment of emissions from traffic generated by the Proposed Actions was performed in Attachment B "Supplemental Screening," and an analysis was conducted to evaluate future PM concentrations with the operation of the parking facility assumed to be developed as a result of the Proposed Actions.

Noncriteria Pollutants

In addition to the criteria pollutants discussed above, noncriteria pollutants may be of concern. Noncriteria pollutants are emitted by a wide range of man-made and naturally occurring sources. These pollutants are sometimes referred to as hazardous air pollutants (HAPs) and, when emitted from mobile sources, as Mobile Source Air Toxics (MSATs). Emissions of noncriteria pollutants from industries are regulated by EPA, as well as the New York State Department of Environmental Conservation (NYSDEC) and the New York City Department of Environmental Protection (NYCDEP).

Federal ambient air quality standards have not been established for noncriteria pollutants; however, NYSDEC has issued standards for certain noncriteria compounds, including beryllium, gaseous fluorides, and hydrogen sulfide, and developed guideline concentrations for other noncriteria pollutants. The NYSDEC guidance document DAR-1 contains a compilation of annual and short-term (1-hour) guideline concentrations for noncriteria compounds. The NYSDEC guidance thresholds represent ambient levels that are considered safe for public exposure. The EPA has also developed guidelines for assessing exposure to noncriteria pollutants. These exposure guidelines are used in health risk assessments to determine the potential effects to the public.

The area surrounding the Proposed Development Site contains existing manufacturing-zoned areas, which would remain in the future with the Proposed Actions. Therefore, an analysis to examine the potential for impacts to the Proposed Project or Alternate Commercial Scenario from industrial source emissions was performed.

IV. AIR QUALITY REGULATIONS, STANDARDS, AND BENCHMARKS

National and State Air Quality Standards

As required by the CAA, primary and secondary NAAQS have been established for six major air pollutants: CO, NO_2, ozone, respirable PM (both $PM_{2.5}$ and PM_{10}), SO_2, and lead. The primary standards represent levels that are requisite to protect the public health, allowing an adequate margin of safety. The secondary standards are intended to protect the nation's welfare and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the environment. The primary standards are generally either the same as the secondary standards or more restrictive. The NAAQS are presented in **Table L-1**. The NAAQS for CO, annual NO_2, and 3-hour SO_2 have also been adopted as the ambient air quality standards for New York State, but are defined on a running 12-month basis rather than for calendar years only. New York State also has standards for total suspended particles, settleable particles, non-methane hydrocarbons, 24-hour and annual SO_2, and ozone which correspond to federal standards that have since been revoked or replaced, and for the noncriteria pollutants beryllium, fluoride, and hydrogen sulfide.

Effective December 2015, EPA lowered the 2008 ozone NAAQS from 0.075 ppm to 0.070. EPA issued final area designations for the revised standard on April 30, 2018.

TABLE L-1: National Ambient Air Quality Standards (NAAQS)

Pollutant	Primary		Secondary	
	ppm	µg/m³	ppm	µg/m³
Carbon Monoxide (CO)				
8-Hour Average	9 (1)	10,000	None	
1-Hour Average	35 (1)	40,000		
Lead				
Rolling 3-Month Average	NA	0.15	NA	0.15
Nitrogen Dioxide (NO_2)				
1-Hour Average (2)	0.100	188	None	
Annual Average	0.053	100	0.053	100
Ozone (O_3)				
8-Hour Average (3)	0.070	140	0.070	140
Respirable Particulate Matter (PM_{10})				
24-Hour Average (1)	NA	150	NA	150
Fine Respirable Particulate Matter ($PM_{2.5}$)				
Annual Mean (4)	NA	12	NA	15
24-Hour Average (5)	NA	35	NA	35
Sulfur Dioxide (SO_2)				
1-Hour Average (6)	0.075	196	NA	NA
Maximum 3-Hour Average (1)	NA	NA	0.50	1,300

Notes:
ppm—parts per million (unit of measure for gases only)
µg/m³—micrograms per cubic meter (unit of measure for gases and particles, including lead)
NA—not applicable
All annual periods refer to calendar year.
Standards are defined in ppm. Approximately equivalent concentrations in µg/m³ are presented.
1 Not to be exceeded more than once a year.
2 3-year average of the annual 98th percentile daily maximum 1-hr average concentration.
3. 3-year average of the annual fourth-highest daily maximum 8-hr average concentration.
4. 3-year average of annual mean.
5. Not to be exceeded by the annual 98th percentile when averaged over 3 years.
6. 3-year average of the annual 99th percentile daily maximum 1-hr average concentration.
Source: 40 CFR Part 50: National Primary and Secondary Ambient Air Quality Standards.

NAAQS Attainment Status and State Implementation Plans

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

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

Manhattan had been designated as a moderate NAA for PM_{10}. EPA clarified on July 29, 2015 that the non-attainment designation only applied to the revoked annual standard.

The five New York City counties and Nassau, Suffolk, Rockland, Westchester, and Orange Counties had been designated as a $PM_{2.5}$ NAA (New York Portion of the New York–Northern New Jersey–Long Island, NY–NJ–CT NAA) since 2004 under the CAA due to exceedance of the 1997 annual average standard, and were also nonattainment with the 2006 24-hour $PM_{2.5}$ NAAQS since November 2009. The area was redesignated as in attainment for that standard, effective April 18, 2014, and is now under a maintenance plan. EPA lowered the annual average primary standard to 12 $\mu g/m^3$ effective March 2013 and designated the area as in attainment for the 12 $\mu g/m^3$ NAAQS effective April 15, 2015.

Effective June 15, 2004, EPA designated Nassau, Rockland, Suffolk, Westchester, and the five New York City counties (NY portion of the New York–Northern New Jersey–Long Island, NY-NJ-CT, NAA) as a moderate non-attainment area for the 1997 8-hour average ozone standard. In March 2008 EPA strengthened the 8–hour ozone standards, but certain requirements remain in areas that were either nonattainment or maintenance areas for the 1997 ozone standard ('anti-backsliding'). EPA designated the same NAA as a marginal NAA for the 2008 ozone NAAQS, effective July 20, 2012.

On April 11, 2016, as requested by New York State, EPA reclassified the area as a moderate NAA. On July 19, 2017 NYSDEC announced that the NYMA is not projected to meet the July 20, 2018 attainment deadline and NYSDEC therefore requested that EPA reclassify the NYMA to "serious" nonattainment. EPA reclassified the NYMA from "moderate" to "serious" NAA effective September 23, 2019, which imposes a new attainment deadline of July 20, 2021 (based on 2018-2020 monitored data). On April 30, 2018, EPA designated the same area as a moderate NAA for the revised 2015 ozone standard. SIP revisions are due by August 3, 2021.

Determining the Significance of Air Quality Impacts

The State Environmental Quality Review Act (SEQRA) regulations and the *CEQR Technical Manual* state that the significance of a predicted consequence of a project (i.e., whether it is material, substantial, large or important) should be assessed in connection with its setting (e.g., urban or rural), its probability of occurrence, its duration, its irreversibility, its geographic scope, its magnitude, and the number of people affected.[1] In terms of the magnitude of air quality impacts, any action predicted to increase the concentration of a criteria air pollutant to a level that would exceed the concentrations defined by the NAAQS (see **Table L-1**, above) would be deemed to have a potential significant adverse impact. Similarly, for non-criteria pollutants, predicted exceedance of the DAR-1 guideline concentrations would be considered a potential significant adverse impact.

In addition, to maintain concentrations lower than the NAAQS in attainment areas, or to ensure that concentrations would not be significantly increased in non-attainment areas, threshold levels have been defined for certain pollutants; any action predicted to increase the concentrations of these pollutants above the thresholds would be deemed to have a potential significant adverse impact, even in cases

[1] New York City. *CEQR Technical Manual*. Chapter 1, Section 222. December 2020; and SEQR Regulations. 6 NYCRR § 617.7

where violations of the NAAQS are not predicted.

CEQR De Minimis Criteria

Carbon Monoxide (CO)

For CO from mobile sources, the city's *de minimis* criteria were used to determine the significance of the incremental increase in CO concentrations that would result from the Proposed Actions. These criteria set the minimum change in 8-hour average CO concentration that constitutes a significant environmental impact. According to these criteria, significant impacts are defined as follows:

- An increase of 0.5 parts per million (ppm) or more in the maximum 8-hour average CO concentration at a location where the predicted No-Action 8-hour concentration is equal to 8 ppm or between 8 ppm and 9 ppm; or
- An increase of more than half the difference between baseline (i.e., No-Action) concentrations and the 8-hour standard, when No-Action concentrations are below 8 ppm.

Respirable Particulate Matter ($PM_{2.5}$)

The following *CEQR* criteria are used for the determination of significant adverse $PM_{2.5}$ incremental impacts for emissions associated with the parking garage, on-street mobile sources, and industrial sources:

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

The 24-hour $PM_{2.5}$ background concentration from the Brooklyn JHS-126 monitoring station, as the average of the 98th percentile for the latest three years of monitoring data for the 2017-2019 period, is 17.8 ug/m^3 (2017= 17.2 ug/m^3, 2018=17.9 ug/m^3, and 2019=18.4 ug/m^3). As the applicable background value is 17.8 µg/m^3, half of the difference between the 24-hour $PM_{2.5}$ NAAQS and this background value is 8.6 µg/m^3. As such, a significant 24-hour $PM_{2.5}$ impact criterion of 8.6 µg/m^3 was used for determining whether the potential 24-hour impacts from a combined garage and on-street vehicular emissions, and industrial sources are to be significant.

As per the *CEQR Technical Manual* (Section 321.2, Parking Facilities, Page 17-27), the averaging period for a $PM_{2.5}$ analysis is 24-hours. Annual incremental concentrations of $PM_{2.5}$ from mobile sources are assessed on a neighborhood, rather than local scale.

Non-Criteria Pollutant Thresholds

NYSDEC DAR-1 short-term (SGC) and annual (AGC) guideline concentrations were used to access the potential impact of noncriteria toxic pollutants from industrial sources.

V. METHODOLOGY FOR PREDICTING POLLUTANT CONCENTRATIONS

Garage Analysis

The Proposed Actions would result in the development of a 152-space, below-grade (cellar) parking garage (see **Figure L-2**). While both the Proposed Project and Alternate Commercial Scenario would each include 152 parking spaces, the garage in the Proposed Project would contain approximately 42,000 gsf of parking area, whereas the Alternate Commercial Scenario would contain approximately 46,000 gsf of parking area. For the conservative analysis purposes, the RWCDS with the higher parking area size (i.e., the Alternate Commercial Scenario) was used in this analysis.

As presented in **Figure L-2**, vehicles utilizing the parking garage would enter and exit the garage from a below-grade ramp along Atlantic Avenue. The proposed parking garage dimensions would generally be approximately 114 feet wide and 370 feet long. Arriving vehicles would travel down the ramp for approximately 100 feet. The average travel distance within the parking area is provided in the garage spreadsheet as one-half the width times 2/3 the length plus the ramp length. Departing vehicles would return the way they arrived.

A few possible locations were contemplated for the garage exhaust vent(s) but no final determination has been made. Therefore, for conservative analysis purposes, it was assumed that the garage will have only one exhaust vent, and it would be located on the side of the building facing Atlantic Avenue.

Methodology

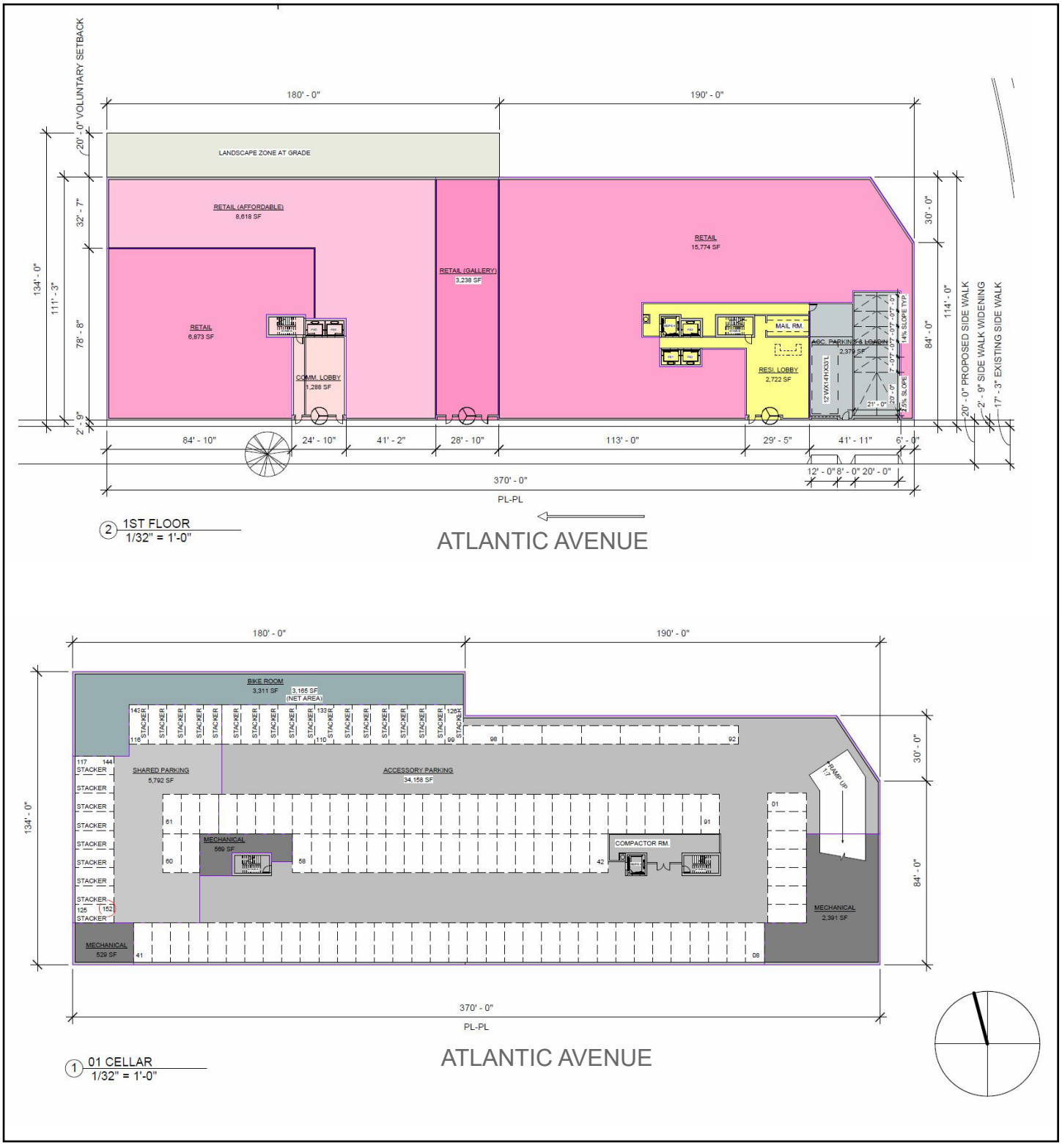
This analysis was conducted following guidelines provided in the *CEQR Technical Manual* Air Quality Appendix for parking facilities. The pollutants of concern for parking facilities are CO and $PM_{2.5}$.

The proposed garage was assumed to be enclosed with mechanical ventilation. To estimate pollutant concentrations, emissions from the garage's exhaust vent was analyzed as a "virtual point source" using the computational procedure provided in EPA's Workbook of Atmospheric Dispersion Estimates (AP-26), as referenced in the *CEQR Technical Manual* on page 17-30. This methodology estimates concentrations at various distances from the vent (using appropriate initial horizontal and vertical dispersion coefficients) assuming that the pollutant concentrations within the garage are equal to the concentrations in the vent exhaust.

Following *CEQR* guidance, pollutant concentrations were estimated at locations on the near and far pedestrian sidewalks to ensure that the maximum cumulative effects from on-street traffic and garage emissions are estimated. Concentrations were also estimated at a window (receptor) located directly above the vent.

Contributions from on-street CO and $PM_{2.5}$ vehicular emissions at a far pedestrian sidewalk receptor location were calculated through dispersion modeling analyses using EPA's AERMOD dispersion model, which is currently recommended by EPA for the mobile source (intersection or highway) modeling, and these values were added to garage-generated impacts and appropriate background levels to estimate the total cumulative pollutant concentrations. Pollutant concentrations within the garage were calculated assuming a minimum ventilation rate, as per New York City Building Code requirements, of one cubic foot per minute of fresh air per gross square foot of garage area.

Proposed 1st Floor and Sub-Cellar Plans



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To determine compliance with the 1-hour/8-hour CO NAAQS and the 24-hour $PM_{2.5}$ *CEQR* significant incremental impact criterion, maximum CO concentrations were predicted for 1-hour/8-hour averaging periods, and maximum $PM_{2.5}$ concentrations were predicted for the 24-hour period.

Dispersion Model

The potential impacts of emissions the vehicles using the proposed garage and on-road traffic on surrounding streets were estimated using the latest version of the EPA's AERMOD dispersion model (EPA version 19191) with regulatory dispersion options.

Meteorological Data

All analyses were conducted using the latest five consecutive years of meteorological data (2015 to 2019). Surface data was obtained from La Guardia Airport and upper air data was obtained from Brookhaven station, New York. Data were processed by Trinity Consultants, Inc. using the current EPA AERMET and the EPA procedure. These meteorological data provide hour-by-hour wind speeds and directions, stability states, and temperature inversion elevations over the 5 years. Meteorological data were combined in a 5-year set of meteorological conditions, which was used for all AERMOD modeling runs. Therefore, estimated 24-hour and annual $PM_{2.5}$ represent the maximum 24-hour concentration averaged over the 5-years period, as well as the multi-year average of annual values, averaged over 5-years.

Background Concentrations

The average 1-hour/8-hour CO second-highest background concentrations obtained from Queens College monitoring station for 2019 are 1.48 ppm and 1.1 ppm, respectively.

Traffic Data

A comparison of weekday parking accumulation data between With-Action and No-Action conditions are provided in **Table L-2**. The incremental increases in projected parking accumulation includes vehicular trips in and out of the garage associated with the projected commercial office and retail, and residential uses under the more conservative Alternate Commercial Scenario. As shown in **Table L-2**, on weekdays parking demand generated by the office and retail uses would typically peak during the midday hours whereas residential parking demand would typically peak during the overnight period. As shown in **Table L-2**, the majority of weekday parking demand is expected to be generated by residential and office uses. Overall, the Alternate Commercial Scenario would generate a total demand of approximately 110 parking spaces in the weekday midday period, and 103 spaces during the weekday overnight period. Weekday parking demand would peak at approximately 110 spaces during the 3-4 PM period.

Emission Factors

The EPA MOVES2014 emission factor algorithm was used to estimate CO and $PM_{2.5}$ emission factors for entering, exiting, and idling vehicles within the garage, and vehicles travelling on nearby streets. Vehicles exiting the garage were assumed to idle for one minute before departing, and the speed within the garage was assumed to be 5 miles per hour (mph). Speeds on the nearby streets were assumed to be 25 mph.

Table L-2 - Parking Accumulation: Project Increment for Alternate Commercial Scenario Weekday

Time Period	Local Retail			Office			Residential			Light Industrial			Total Demand		
	In	Out	Accum	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.
12-1	0	0	0	0	0	0	1	0	102	0	0	0	1	0	102
1-2	0	0	0	0	0	0	1	0	103	0	0	0	1	0	103
2-3	0	0	0	0	0	0	0	0	103	0	0	0	0	0	103
3-4	0	0	0	0	0	0	0	0	103	0	0	0	0	0	103
4-5	0	0	0	0	0	0	0	0	103	0	0	0	0	0	103
5-6	0	0	0	0	0	0	1	2	102	0	0	0	1	2	102
6-7	0	0	0	1	0	1	1	7	96	0	0	0	2	7	97
7-8	2	1	1	3	0	4	1	10	87	-1	0	-1	5	1	91
8-9	4	4	1	25	1	28	4	16	75	-15	-2	-14	18	1	90
9-10	9	6	4	19	4	43	3	5	73	-10	-2	-22	21	1	98
10-11	9	4	9	3	3	43	4	5	72	-2	-1	-23	14	1	101
11-12	9	7	11	2	4	41	4	4	72	-1	-2	-22	14	1	102
12-1	10	10	11	2	2	41	3	3	72	-1	-1	-22	14	1	102
1-2	26	26	11	2	3	40	3	3	72	-1	-1	-22	30	3	101
2-3	11	11	11	9	2	47	4	3	73	-4	-1	-25	20	1	106
3-4	11	11	11	3	3	47	7	2	78	-2	-1	-26	19	1	110
4-5	11	13	9	3	18	32	12	4	86	-1	-9	-18	25	2	109
5-6	14	14	9	2	29	5	14	8	92	-2	-16	-4	28	3	102
6-7	9	11	7	1	5	1	10	4	98	-1	-4	-1	19	1	105
7-8	5	8	4	0	1	0	7	4	101	0	-1	0	12	1	105
8-9	4	6	2	0	0	0	7	4	104	0	0	0	11	1	106
9-10	1	3	0	0	0	0	3	4	103	0	0	0	4	7	103
10-11	0	0	0	0	0	0	3	4	102	0	0	0	3	4	102
11-12	0	0	0	0	0	0	2	3	101	0	0	0	2	3	101
Total	13	135		75	75		95	95		-41	-41		26	264	
24-hr Average													**11**	**11**	
8-hr Average													**21**	**21**	

Emission factors estimated by the MOVES model for moving and idling vehicles were used to estimate on-street CO and $PM_{2.5}$ emission rates, and the combined garage-generated and on-street traffic emission impacts were estimated with the AERMOD dispersion model.

Modeling inputs for inspection/maintenance, fuel supply and formulation, age distribution, meteorology, etc., were provided by the DCP for the borough of Brooklyn. Running exhaust and crankcase running exhaust for $PM_{2.5}$, including brake and tire wear emissions, were all included in the emission factors estimates. Fugitive dust (i.e., from the re-entrainment of particles off the ground) emission factors for $PM_{2.5}$ were added to the emission factors calculated by MOVES.

Fugitive dust was estimated using equations from Section 13.2.1-3 of EPA's AP-42 for roadways with more than 5,000 vehicles a day, which is applicable for roadways in the vicinity of the garage, which can be classified as principal or minor arterials. The formulas are based on an average fleet weight, which varies according to the vehicular mix for a given roadway, and a silt loading factor. A silt loading factor of 0.1 gram per square meter, applicable for principal and minor urban arterials roads (as Atlantic, Franklin, and Classon Avenues are classified as arterial roads per NYS DOT functional classification*)*.

Because the garage is assumed to be fully operational by 2024, the 2024 analysis year was used to generate pollutant emission factors with the MOVES model. The MOVES model was run for the peak PM period of the 2024 analysis year.

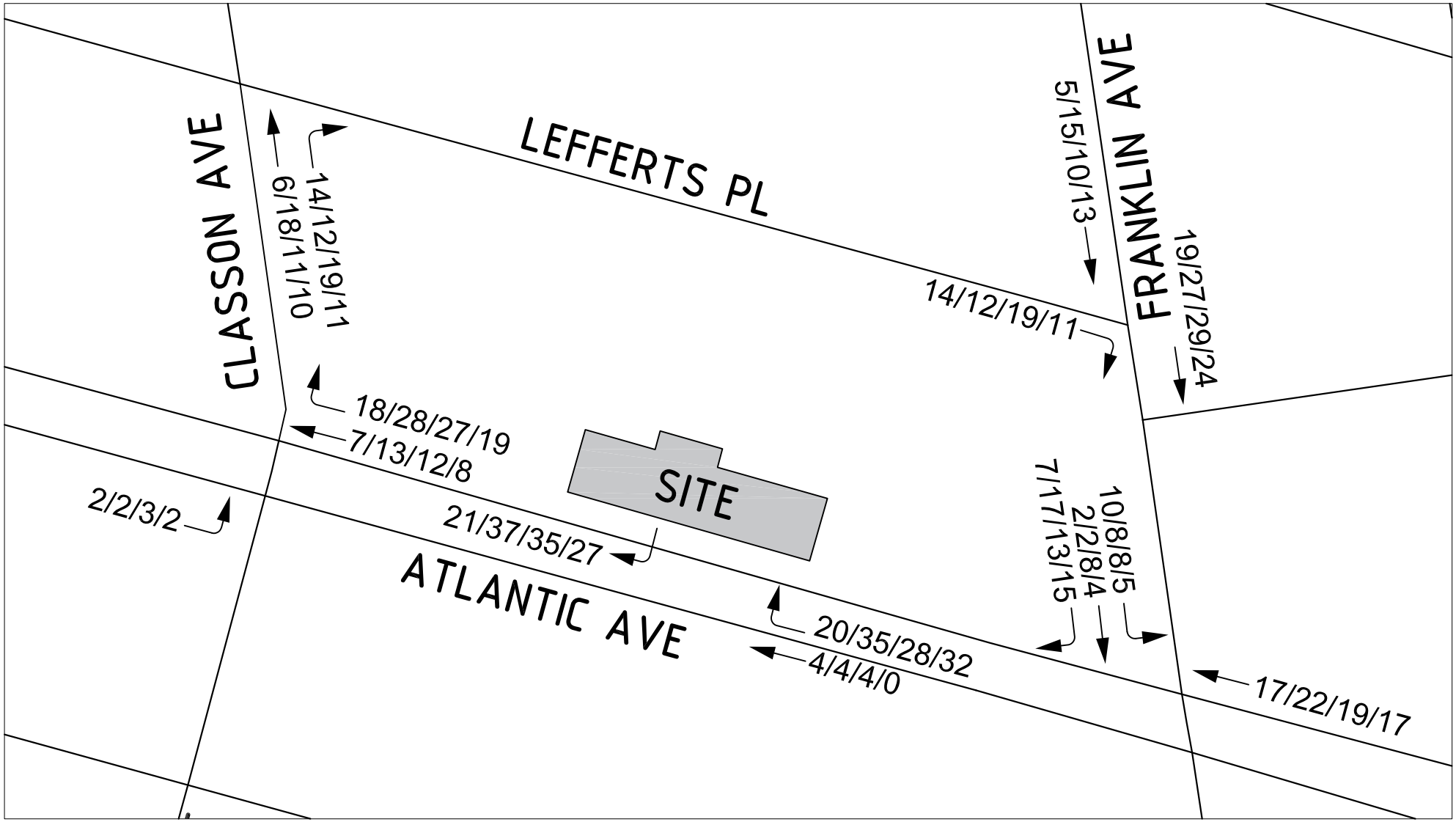
Post-processing was conducted using the MOVES MySQL Workbench data management software application to extract CO and $PM_{2.5}$ emission factors from MOVES output for each link included in the analysis. These emission factors, together with traffic hourly volumes on each link, were used to model nearby roadway links in the AERMOD dispersion analysis.

The 24-hour average number of vehicles entering and leaving garage was used for evaluating 24-hour $PM_{2.5}$ impacts, and the 8-hour highest average number of vehicles entering and leaving garage was used for evaluating 8-hour CO impacts. **Table L-2** provides the hourly and the average number of incoming and outgoing vehicles for the 24-hour and 8-hour periods. The average 24-hour number of 11 vehicles in and 11 vehicles out was used for the $PM_{2.5}$ analysis and the highest average 8-hour number of vehicles (21 in and 21 out) was used for CO analysis.

Background Traffic

In addition to the vehicular trips associated with the proposed garages, emissions from background traffic in the vicinity of the site were accounted for in the analysis. As described in **Attachment K, "Transportation,"** a screening-level transportation planning assessment determined that the Alternate Commercial scenario would generate a greater amount of overall traffic demand during all time periods, and would therefore represent a worst-case condition as compared to the traffic generated by the Proposed Project. Based on the screening assessment, trip assignments associated with the Alternate Commercial Scenario were determined for the street network in proximity to the Project Area and are presented in Attachment K and in **Figure L-3**.

The street network in proximity to the Project Area is comprised of an irregular grid pattern of streets and avenues (see **Figure L-3**). The Project Area is generally bounded by Lefferts Place to the north, Franklin Avenue to the east, Atlantic Avenue to the south, and Classon Avenue to the west. To the east of the Project Area, Franklin Avenue operates as a one-way southbound local street, while Classon Avenue



LEGEND: xx/xx/xx/xx - AM/MD/PM/SAT MD Traffic Volumes

Figure L-3
Project Increment Peak Hour Traffic Volumes - Alternate Commercial Scenario

operates as a one-way northbound local street to the west. Atlantic Avenue, to the south of the Project Area, operates as an east-west principal arterial.

As described in **Attachment K**, the Proposed Action under the Alternate Commercial Scenario RWCDS is expected to result in incremental increases of vehicle trips (including auto, taxi, and truck trips) in the weekday AM, midday, PM, and Saturday peak hours. According to vehicle classification counts on Atlantic Avenue, the vehicle mix during the PM period would predominantly consist of 90% autos and taxis, and 10% commercial vehicle and trucks. All truck numbers were converted to passenger car equivalent using the conservative passenger-car equivalent (PCE) of 3.5, which resulted in 37 additional cars on Atlantic Avenue. As the PM peak is the highest travel period, traffic during this period was used for the analysis of on-street traffic contribution in the cumulative impact of the garage and on-street traffic.

To estimate total project impacts, impacts from garage vehicles emission has to be added to impacts from the project-generated (incremental) street traffic. The highest total incremental number of on-street vehicles travelling on Atlantic Avenue during the PM period was estimated to be 143 vehicles per hour (veh/hr); 58 veh/hr on Franklin Ave, and 30 veh/hr on Classon Avenue. The number of vehicles existing garage was added to these on-site traffic numbers and the total hourly volumes were modeled using the EPA AERMOD dispersion model to estimate contributions from on-street traffic.

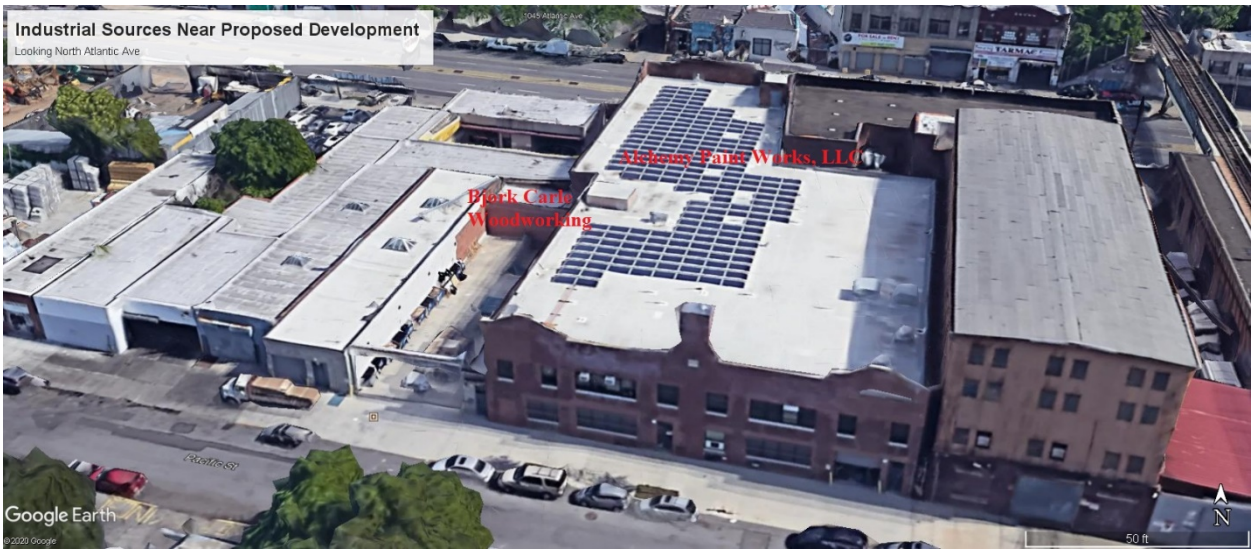
Industrial Source Analysis

In accordance with Section 220 (Stationary Sources) of the *CEQR Technical Manual*, "projects that would result in new uses (particularly schools, hospitals, and residences) located within 400 feet of manufacturing or processing facilities" may result in potentially significant impacts, and therefore require stationary source analyses. Based on a review of the NYC OASIS mapping application land use, three industrial sources are located within 400 feet of the Project Area were identified. As such, an analysis was conducted to determine whether the emissions from these industrial sources would significantly impact the Proposed Project or Alternate Commercial Scenario.

The first step in this analysis was to obtain the permits or permit applications for these industrial uses from the NYCDEP to determine the type(s) of facilities that are operating nearby as well as the types and amounts of emissions generated by these facilities. A formal request for this information, with nearby block and lot numbers, was submitted to the NYCDEP, and, based on the information received, the following facilities were identified as containing current or expired permits and are currently operating in the study area (see **Figures L-4** and **L-5**):

- Two facilities, under Permits PB014015 and PB021715, are for the Alchemy Paint Works -- for artistic painting on wooden and metal items, located at 1102 Atlantic Avenue (Block 1126 Lot 29); and
- One facility, under Permit PW000320, is for the Bjork Carle Woodworking -- for the manufacture of wooden products, located at 1093 Pacific Street (Block 1126 Lot 29 [formerly Lot 75]).

Figure L-4: Industrial Sources Near Proposed Development



The facilities, under permits PB014015 and PB021715, are owned by different individuals but are located in the same building at 1102 Atlantic Avenue and, according to these permits, both use the same spray booth. Both permits were issued 10/11/19 and have the same expiration date (10/30/22). The only difference between these two permits is that the exhaust emission points shown in the permits are different – Emission Point #1 is listed under PB014015 and Emission Point #2 under PB021715. It appears that these two facilities share the same spray booth but involve in different activities – one for wood and metal painting operations (PB021715) and the other (PB014015) for woodworking activities.

The third permit, for Bjork Carle Woodworking, is involved in the manufacturing of wooden products. Permit PW000320 lists two pollutants – sawdust (which is particulate matter) under CAS number (which is a unique numerical identifier of every chemical substance) NY079-00-0 and VOCs (with no CAS number). The permit lists one exhaust emission point from which dust particles are emitted into the atmosphere. Process dust is controlled by a dust collector manufactured by dust collection equipment from the AGET Manufacturing Company. Dust emission rates, which are collected from five wood-cutting machines, are 5 pound per hour -- with the facility operating 1 hour/day and 1,100 pounds/year (5 pound/hour x 1 hour/day x 220 days/year). All particulate emissions appeared to be exhausted through Exhaust Point #3.

The AGET system controls 50 percent of the dust emissions before entering the atmosphere. While hourly and annual emission rates for dust emissions are provided in the permit, no information on VOC emissions is presented. It could be that just organic particulates – not a group of VOCs – are being emitted. For woodworking operations, dust is the prevalent pollutant, and VOCs are usually not relevant pollutants for this type of operation unless more detailed information is provided. Therefore, VOC emissions from this facility are not considered in this analysis.

Analysis Approach

The analysis used for estimating the potential impacts of emissions from the two spray booth operations employed procedures and methodologies approved by NYCDEP for estimating the potential impacts of spray booths, together with the necessary supporting calculations. Based on general NYCDEP recommendations, the following assumptions were applied:

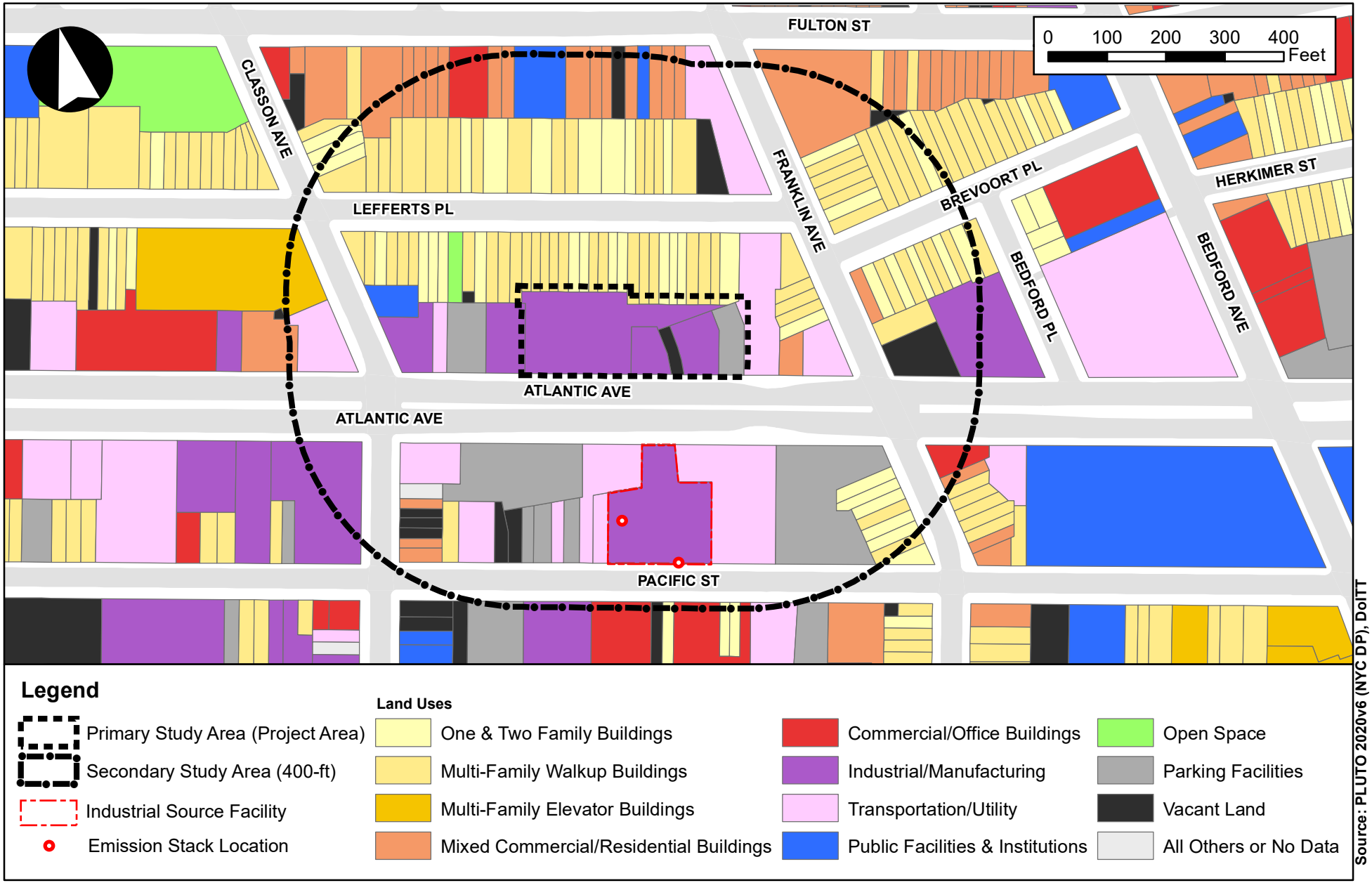


Figure L-5
Industrial Source Facilities

1. If information specifying the amounts of paint ingredients that remain on the painted items and how much goes into the atmosphere during spray painting operations is not available, it should be conservatively assumed that 100% of the paint ingredients, regardless of volatility, would be evaporated and released into the atmosphere.
2. It should also be assumed that all particulates specified in the permits (or calculated) would be emitted into the atmosphere.
3. Instead of using the total solids (or particulate matter) emission rates that are specified in permits (or calculated) for spray booth operations, solids should be considered as fractions of $PM_{2.5}$ and PM_{10} particles, and the percentages of $PM_{2.5}$ and PM_{10} in the total mass of particulate matter should be estimated using the cumulative particle size distribution for surface coating operations via spray booths.
4. Separate analyses for $PM_{2.5}$ and PM_{10} from spray booth operations should be conducted, and estimated impacts or total concentrations (with added background concentrations) should be compared with *CEQR* significant impact criteria (for $PM_{2.5}$) and applicable NAAQS (for $PM_{2.5}$ and PM_{10}).
5. For detailed dispersion analyses, exhaust stacks should be located according to roof plan drawings. If drawings are not available and a field survey could not determine stack locations, stacks should be placed at minimum distances from the impacted building.

Methodology for Estimating Emission Rates

Particulates from Spray Booths

Of the total solid (or particulate matter) content in paint listed in the permit (or estimated), the fractional particulate $PM_{2.5}/PM_{10}$ emission rates are estimated by multiplying this value by the percentage of each fraction in the total mass of particulate matter. USEPA data on cumulative particle size distribution for surface coating operations via spray booths shows that 28.6% of the total mass of particulate matter are $PM_{2.5}$ particles and 46.7 % of the total mass of particulate matter are PM_{10} particles (EPA-42, Appendix B1, Page B.1-12, Particle Size Distribution Data and Sized Emission Factors for selected Sources, Table 4.2.2.8, Automobile Spray Booths). As such, factors of 0.286 and 0.467 are applied to the solid content specified in the permit (or estimated) to calculate $PM_{2.5}$ and PM_{10} emission rates.

Permit PB021715 lists six VOC-based contaminants (or solvents) emitted from the spray booth operations but does not list solids -- as if solids are not emitted from the spray booth operations. However, particulate matter (solids) from spray booth operations is usually a critical contaminant contained in the gas stream that is emitted together with VOC-based solvents. As such, to reduce the potential impact of fine particulates, the spray booth, under both permits (as well as for regulated spray booths), are equipped with high-efficiency fiberglass filters capable of removing up to 80% of the particulates from the gas stream before entering the atmosphere.

The other permit (PB014015) for the same spray booth lists only solids -- as if there are no VOC-based compounds emitted from the spray booth, unlike the PB021715. In addition, solids, which are listed in the permit, have no associated emission rates (reported hourly emissions in lb/hr = 0, annual emission in lb/year =0, percent removal =0). Also, the CAS number assigned to solids is NY079-00-0, while the CAS number for particulates is NY075-00-0 in the current DAR-1 edition. Essentially, therefore, permit PB014015 provides no useful information on the types or quantities of either solids or VOC-based contaminants. However, it is reasonable to assume that because these facilities share or utilize the same spray booth, use the same types of paints with the same quantities, operate the same number of hours

on an hourly and daily basis, and have the same emission control equipment, emissions under both permits should be the same. As such, the emission rates and composition of VOC-based solvents and solids were assumed to be the same under each permit.

Particulate ($PM_{2.5}$/PM_{10}) emission rates were calculated based on data contained in PB014015 as follows:

- Maximum hourly paint usage of 1.5 gallons per hour;
- Duration of hourly operations of 1 hour a day; and
- Annual operation of 300 days a year.

Hourly and annual VOC-based solvent emission rates were obtained directly from the permit (i.e., not estimated based on annual paint usage).

A parameter required for calculating particulate emission rates is the ratio of the solids fraction to VOCs in the paint. It is equal to the total weight of the solids in one gallon of the paint divided by one gallon. Based on a review of similar permits for the spray booth facilities, it was found that this ratio is approximately 0.65. Using this ratio, the VOC content in the paint, and paint consumption rate on an hourly and annual basis, the total solid content rate was estimated to be 0.975 lb/hr (1.5 gal/hr x 0.65 lb/gal). Applying 80% control efficiency, total hourly and annual solids emission rates were 0.195 lb/hr (0.975 lb/hr x 0.2) and 58.5 lb/yr (1.5 gal/hr x 1 hour/day x 300 days/year x 0.65 lb/gal x 0.2). These rates were then multiplied by the percentage of each fraction in the total mass of particulate matter (e.g., 0.286 for $PM_{2.5}$ and 0.467 for PM_{10}) to arrive at emission rates of each fraction in lb/hr or lb/year in g/sec. Estimated $PM_{2.5}$/PM_{10} emission rates are provided in **Table L-3**.

$PM_{2.5}$/PM_{10} from Woodworking Operations under PB PW000320

USEPA data on cumulative particle size distributions for woodworking operations utilizing dust collections controlled by a cyclone or fabric filter are different than those for spray booth application: 14.3% of the total mass of particulate matter are determined to be $PM_{2.5}$ particles while 32.1 % are PM_{10} particles (EPA-42, Appendix B1, Page B.1-12, Particle Size Distribution Data and Sized Emission Factors for selected Sources, Woodworking, Section 10.5)). These factors were applied to the solid content listed in the permit to calculate $PM_{2.5}$/PM_{10} emission fractions under PW000320. The control efficiency of the dust collection system of 50%, as listed in the permit, was then applied to emission rates on an hourly and annual basis. Estimated emission rates are also provided in **Table L-3**.

Table L-3: $PM_{2.5}$/PM_{10} Estimated Emission Rates from PB021715, PB014015 (Painting Spray Booth Operations) and PW000320 (Woodworking Operations)

Facility	PM_{10}/ $PM_{2.5}$	Permitted Emission Rate		Fraction of PM_{10}/$PM_{2.5}$ in Total Solids	Estimated Emission Rates			
					Hourly		Annual	
		lb/hr	lb/year	%	lb/hr	g/sec	lb/year	g/sec
Alchemy Paint Works, LLC	$PM_{2.5}$	0.195	58.5	28.6 %	0.056	0.0070	16.73	0.0002
	PM_{10}	0.195	58.5	46.7%	0.091	0.0115	27.32	0.0004
Bjork Carle Woodworking	$PM_{2.5}$	2.50	550	14.3%	0.36	0.0450	79	0.0011
	PM_{10}	2.50	550	32.1%	0.80	0.1011	177	0.0025

VOC-based Compounds (Solvents)

Permit PB021715 lists six contaminants emitted from the spray booth – aliphatic polyisocyanate (CAS #28182-81-2), n-butyl acetate (CAS #123-86-4), ethyl 3-ethoxy propionate (CAS#763-69-9), butyl glycol acetate (CAS# 112-07-2), ethylbenzene (CAS# 100-41-4), and xylene (CAS#1330-20-7), together with their corresponding short-term (lb/hr) and annul emission rates (lb/year). Aliphatic polyisocyanate is a polymeric hardener added to the paint in small quantities to increase the durability of the coating. Basically, it is solid component dissolved in a variety of solvents and likely to remain on the surface of item. However, for conservative purposes, it was assumed that all paint components would be entirely evaporated and emitted into atmosphere. **Table L-4** provides hourly and annual emission rates of VOC-based solvents used in the modeling analysis.

Table L-4: Estimated Hourly and Annual Emission Rates for Solvents from Spray Booth Operations Under PB021715 and PB014015

Pollutant	CAS	Hourly Emission Rate		Annual Emission Rate	
	No.	lb/hr	g/sec	lb/year	g/sec
Aliphatic polyisocyanate	28182-81-2	0.0292	0.0037	210.42	0.00303
N-butyl acetate	123-86-4	0.0146	0.0018	105.21	0.00151
Ethyl 3-ethoxypropionate	763-69-9	0.0110	0.0014	78.9	0.00113
Butyl glycol acetate	112-07-2	0.0070	0.0009	52.6	0.00076
Ethylbenzene	100-41-4	0.0018	0.0002	13.15	0.00019
Xylene	1330-20-7	0.0037	0.0005	26.3	0.00038

Toxic Assessment Methodology

While no federal standards have been promulgated for toxic air pollutants, the NYSDEC has issued guidance, in DAR-1, that establish acceptable ambient levels for these pollutants. These DAR-1 guideline values are short-term ambient guideline concentrations (SGCs) and ambient annual-average-based guideline concentrations (AGCs) are the maximum allowable concentrations below which there should be no health-related adverse effects. Therefore, maximum estimated short-term and annual impacts of the toxic pollutants should be compared to the 1-hour and annual guideline values of the DAR-1 database. If no exceedances of the SGCs or AGCs are found, no adverse health effects would occur. If the concentration of any pollutant exceeds its applicable guideline value (either SGC or AGC), a more detailed analysis would be required.

The current (August 2016) edition of the DAR-1 no longer includes guideline values (SGCs and AGCs) for PM2.5 and PM10. As such, the NAAQS for these pollutants are used instead. The NAAQS for $PM_{2.5}$ is 35 ug/m^3 for 24-hours and 12 ug/m^3 for an annual period, and 150 ug/m^3 for 24-hour PM_{10}. As noted in DAR-1, federal standards for $PM_{2.5}$/PM_{10} are not SGCs or AGCs and are only included in the DAR-1 to facilitate screening or regulatory analysis. Because the NAAQS, as well as the *CEQR* significant incremental impact criteria established for $PM_{2.5}$, are based on 24-hour and annual averaging periods, analyses of $PM_{2.5}$ require the use of the AERMOD dispersion model that contains a special procedure for this analysis.

CEQR Screening Analysis for Solvents

For estimating potential impacts of toxic pollutants from industrial sources, the *CEQR Technical Manual* recommends using a screening procedure as the first step in the analysis. This procedure uses pre-tabulated pollutant concentration values based on a generic emission rate of 1 gram per second from Table 17-3, "Industrial Source Screen," of the *CEQR Technical Manual* for the applicable averaging periods.

This approach to estimating maximum short-term and annual average concentration values at various distances (from 30 to 400 feet) from an emission source was used to assess the potential impacts of the emissions three permitted facilities. The screening analysis was conducted only for solvents because they do not apply to particulates, and potential $PM_{2.5}/PM_{10}$ impacts were estimated using detailed analyses using the AERMOD model.

The minimum distance from the lot line of the Alchemy Paint Works, LLC to the lot line of the proposed development on Block 1126, Lot 29 is estimated to be 119 feet. Conservatively, a (shorter) distance of 100 feet was used for this analysis. At this distance, based on a 1 gram per second emission rate (using Table 17-3), the maximum 1-hour and annual concentrations were estimated to be 12,051 ug/m^3 and 598 ug/m^3, respectively.

All values obtained from Table 17-3 of the *CEQR Technical Manual* for an emission rate of 1 gram per second were then multiplied by the actual emission rates of each solvent to estimate actual solvent concentrations. These values were then compared to the DAR-1 short-term (SGC) and annual (AGC) guideline concentrations (**Tables L-5** and **L-6**).

Table L-5: Estimated 1-Hour Solvent Concentrations under PB021715 and PB014015

Chemical Name	CAS No.	Max Estimated 1-hour Concentration	SGC	Exceed Yes/No
		µg/m^3	µg/m^3	
Aliphatic polyisocyanate	28182-81-2	44.3	75	No
N-butyl acetate	123-86-4	22.2	95,000	No
Ethyl 3-ethoxypropionate	763-69-9	16.7	140	No
Butyl glycol acetate	112-07-2	10.6	-	-
Ethylbenzene	100-41-4	2.7	-	-
Xylene	1330-20-7	5.6	22,000	No

Table L-6: Estimated Annual Solvent Concentrations under PB021715 and PB014015

Chemical Name	CAS No.	Max Estimated Annual Concentration	AGC	Exceed Yes/No
		µg/m^3	µg/m^3	
Aliphatic polyisocyanate	28182-81-2	1.81	0.6	**Yes**
N-butyl acetate	123-86-4	0.90	17,000	No
Ethyl 3-ethoxypropionate	763-69-9	0.7	64	No
Butyl glycol acetate	112-07-2	0.45	310	No
Ethylbenzene	100-41-4	0.11	1,000	No
Xylene	1330-20-7	0.23	100	No

Notes:

- The maximum 1-hour and annual concentrations were estimated by multiplying actual emission rates (**Table L-2**) by the pre-tabulated hourly and annual concentrations for 1 gram per second obtained from CEQR Table 17-3 of 12,051 ug/m^3 and 598 ug/m^3 for Alchemy Paint Works, LLC, respectively.
- Butyl glycol acetate and ethylbenzene have no SGC values.

Cumulative Solvent Impacts

Because identical pollutants would be released from the spray booth operations under each permit, their cumulative effect could be more significant than the impacts of the individual pollutants. To estimate cumulative short-term and annual effect of VOC-based solvents from the two facilities, emissions of all solvents were combined and modeled in one modeling run (**Tables L-7** and **L-8**).

Table L-7: Estimated Cumulative 1-Hour Solvents Concentrations

Pollutant	CAS	Hourly Emission Rates	Hourly Emission Rates	Max Estimated 1-hour Conc.	DAR-1 SGC	Exceed Yes/No
		lb/hr	g/s	ug/m^3	ug/m^3	
Aliphatic polyisocyanate	28182-81-2	0.0292	0.007	88.7	75	Yes
N-butyl acetate	123-86-4	0.0146	0.004	44.3	95,000	No
Ethyl 3-ethoxypropionate	763-69-9	0.0110	0.003	33.4	140	No
Butyl glycol acetate	112-07-2	0.0070	0.002	21.3	-	-
Ethylbenzene	100-41-4	0.0018	0.0005	5.5	-	-
Xylene	1330-20-7	0.0037	0.0009	11.2	22,000	No

Table L-8: Estimated Cumulative Annual Solvents Concentrations

Pollutant	CAS	Annual Emission Rates	Annual Emission Rates	Max Estimated Annual Conc.	DAR-1 AGC	Exceed Yes/No
		lb/year	g/s	ug/m^3	ug/m^3	
Aliphatic polyisocyanate	28182-81-2	210.42	0.0061	3.62	0.6	Yes
N-butyl acetate	123-86-4	105.21	0.0030	1.81	17,000	No
Ethyl 3-ethoxypropionate	763-69-9	78.9	0.0023	1.4	64	No
Butyl glycol acetate	112-07-2	52.6	0.0015	0.90	310	No
Ethylbenzene	100-41-4	13.15	0.0004	0.23	1,000	No
Xylene	1330-20-7	26.3	0.0008	0.45	100	No

Meteorological Data

The same meteorological data and analysis procedures that were used in the garage analysis were applied to this industrial source analysis.

$PM_{2.5}$ *CEQR* Significant Impact Criteria

The same previously estimated significant *CEQR* 24-hour/annual impact criteria of 8.6 ug/m^3 and 0.3 ug/m^3, respectively were used for determining whether the potential 24-hour/annual $PM_{2.5}$ impacts from the nearby industrial sources are considered to be significant.

A cumulative analysis of the 24-hour $PM_{2.5}$/PM_{10} emissions was conducted assuming that all three facilities with particulate emissions would operate one hour a day, as shown in permits, and there would be no emissions the rest of the 24-hour period. To accomplish that, variable emission factors were used as the model provides the option of specifying variable emission rate factors for individual sources that may vary operations by season, hour-of-day, etc.

Stack parameters used in dispersion analysis under PB021715 and PB014015 were obtained from the corresponding permits. As for PW000320, only two stack parameters are available -- flow rate (ACFM) and temperature. The stack exhaust diameter was determined based on information obtained from the AGET manufacturing dust collection system website. Based on the permitted 5,000 actual cubic feet per minute (acfm), it was determined that this number is applicable for the AGET system (with flow rates ranging of 1800-5000 acfms), which has a 15-inch stack diameter. Stack parameters used in the modeling analysis are provided in **Table L-9**.

Table L-9: Stack Parameters Used in Modeling Analysis

Facility ID (1,2,3)	Emission Rate					Stack Height	Stack Diameter	Stack Temp	Flow Rate	
	24-hr $PM_{2.5}$	24-hr PM_{10}	Annual $PM_{2.5}$	1-hour AP (4)	Annual AP (4)					
	g/sec	g/sec	g/sec	g/sec	g/sec	feet	inches	deg F	acfm(5)	m^3/sec
Facility #1	0.0070	0.0115	0.0002	0.0037	0.00303	12	34	70	15,000	7.079
Facility #2	0.0450	0.1011	0.0011			13(6)	15(7)	70(8)	5,000(8)	2.359

Notes:

1. Facility #1 = Alchemy Paint Works, LLC, Permits PB021715 and PB014015
2. Facility # 2 = Bjork Carle Woodworking, Permit PW000320
3. Source parameters are the same under both PB021715 and PB014015 permits
4. AP = Aliphatic Polyisocyanate
5. acfm = cubic feet per minute
6. Stack height is assumed 3 feet above a 1-story building.
7. Stack diameter from AGET products website https://www.agetmfg.com/cyclone Dust Collection Systems AGET Manufacturing Co.
8. Temperature and flow rates are from permit.

Stack Locations

The exhaust stacks for each facility were assumed to be located on edge of the roof at the minimum 10 feet distance from the lot line facing the proposed development. Three stacks were considered – stack 1 (Exhaust Point #1) and stack 2 (Exhaust Point #2) for facility #1, and stack 3 for facility #2 (Exhaust Point #3). Stacks locations are shown in **Figures L-4** and **L-5**.

Receptor Locations

Receptors were located around all faces of the perimeter of the Proposed Development -- starting from the ground level (6 feet) and extending up to the upper window receptors level of 165 feet (i.e., 5 feet below roof level), in 10-foot increments. More than 2,000 receptors were considered to assure that the maximum impacts are estimated.

VI. DETAILED GARAGE ANALYSIS

As discussed in **Attachment K, "Transportation,"** as compared to the No-Action condition, the Proposed Actions would not result in an increment of new peak hour traffic volumes in exceedance of the 170-vehicle CEQR threshold. Further, the Proposed Actions would not generate peak hour vehicle volumes in exceedance of the CEQR thresholds for heavy-duty diesel vehicle (HDDV) traffic or the vehicular emissions equivalent on adjacent roadways.[2] Therefore, further analysis of air quality mobile sources from action-generated vehicle trips was screened out in accordance with *CEQR Technical Manual* guidance. As such, the only issue associated with mobile sources impacts that need to be considered is the potential impacts of the emissions from the vehicles operating within the parking garage and nearby on-road vehicular emissions. The air quality analysis of the parking garage was conducted following the procedures and methodologies prescribed above in Section V above and in accordance with *CEQR Technical Manual* guidance.

Analysis of On-Street Mobile Emissions

The AERMOD dispersion model described above in Section V was used to estimate CO and $PM_{2.5}$ contributions from the vehicular traffic on the nearby roadway links as components of the total predicted pollutant concentrations. AERMOD is currently recommended by EPA as preferred model to estimate concentration from vehicular traffic at intersections, highways, by simulating them as a line or of volume sources. The advantage of using AERMOD over the previously used model (CAL3QHCR) for mobile source modeling is associated with the ability to use five (5) consecutive years on meteorological data in one modeling run and obtain maximum concentrations over the 5 years.

Based on DCP recommendations, roadway links near the garage on Atlantic, Franklin, and Classon avenues were modeled using the EPA area source algorithm represented by the array of adjacent area sources. Based on the DCP recommendations, a release height of 0.152 meters for exhaust tailpipe and an initial dispersion coefficient of 1.2 meters (as typical for light-duty vehicles) were used. Inputs to the model included emission rates in grams per second per square meter of each adjacent area, link coordinates, and initial dispersion parameters. Adjacent area sources were simulated to represent roadway links along Atlantic Avenue with the highest contributions from background traffic, as well as along Franklin and Classon Avenues (see **Figures L-6** and **L-7**).

Emission rates for each pollutant were estimated using MOVES idling and moving emissions factors, length of the roadway link, and a total number of vehicles travelling on each link. Concentrations were estimated at the near garage vent along Atlantic Avenue and a receptor located across the avenue at the middle of the far sidewalk. Concentrations at the window receptors assumed to be above the exhaust vent were also estimated.

The garage vent was conservatively assumed to be 12 feet directly above ground level at the Atlantic Avenue garage entrance. The window above the vent was assumed to be 5 feet higher or 17 feet above ground level with zero (0) horizontal distance from the vent. Based on adjacent street and sidewalk widths, the pedestrian on the near sidewalk would be approximately 6 feet away from the garage vent while the pedestrian standing on the far sidewalk (across Atlantic Avenue) would be approximately 109 feet away, reflecting 16-foot sidewalk, 85-foot street and half the sidewalk width across the street.

[2] Refer to Chapter 17, "Air Quality," Section 210 of the CEQR Technical Manual for applicable HDDV thresholds.

The analysis for estimating pollutant concentrations was conducted based on the computational spreadsheet procedure provided in the *CEQR Technical Manual,* which includes garage dimensions and total parking area, vent and windows height(s), receptor distances from the vent, number of vehicles entering and exiting the garage, emission factors for moving and idling vehicles, and pre-tabulated dispersion parameters to estimate concentration at the near and far sidewalks and windows above the vent. Eight-hour CO and 24-hour $PM_{2.5}$ concentrations from the on-street sources were added to garage impacts on far sidewalk receptors, and the total CO and $PM_{2.5}$ concentrations were estimated by adding together the contributions from the garage exhaust vent, on-street sources, and background levels.

The maximum estimated total 1-hour/8-hour CO concentrations were compared to the 1-hour/8-hour CO NAAQS of 9 ppm and the *CEQR de minimis* criteria, and the maximum estimated 24-hour $PM_{2.5}$ impacts were compared to the CEQR $PM_{2.5}$ significant impact threshold of 8.6 ug/m^3 and, with added background concentration, to the $PM_{2.5}$ 24-hour NAAQS of 35 ug/m^3.

Figure L-6: Modeling Geometry of On-Street Mobile Sources

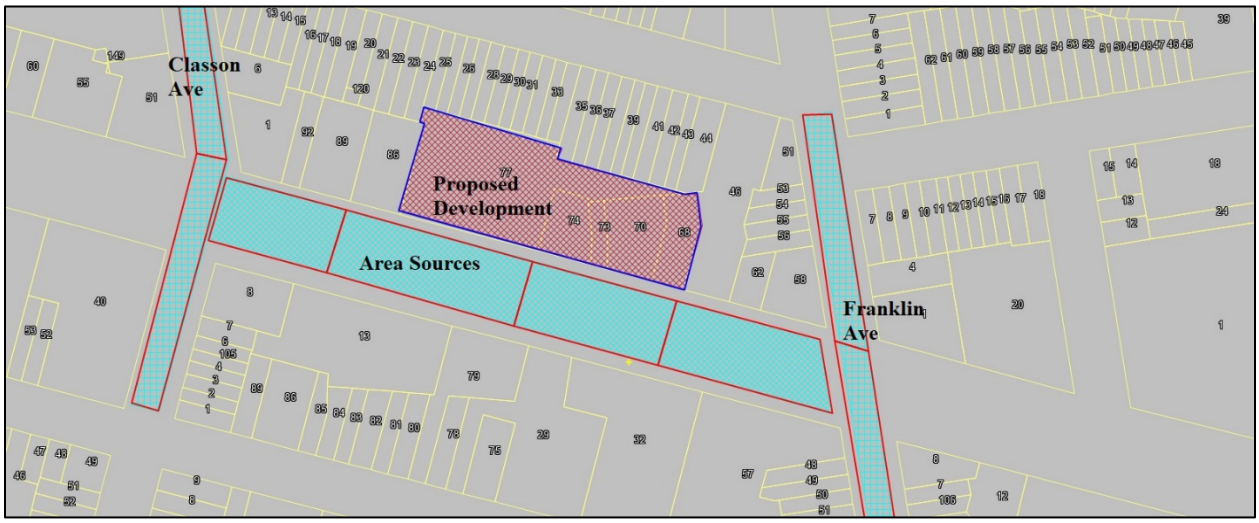
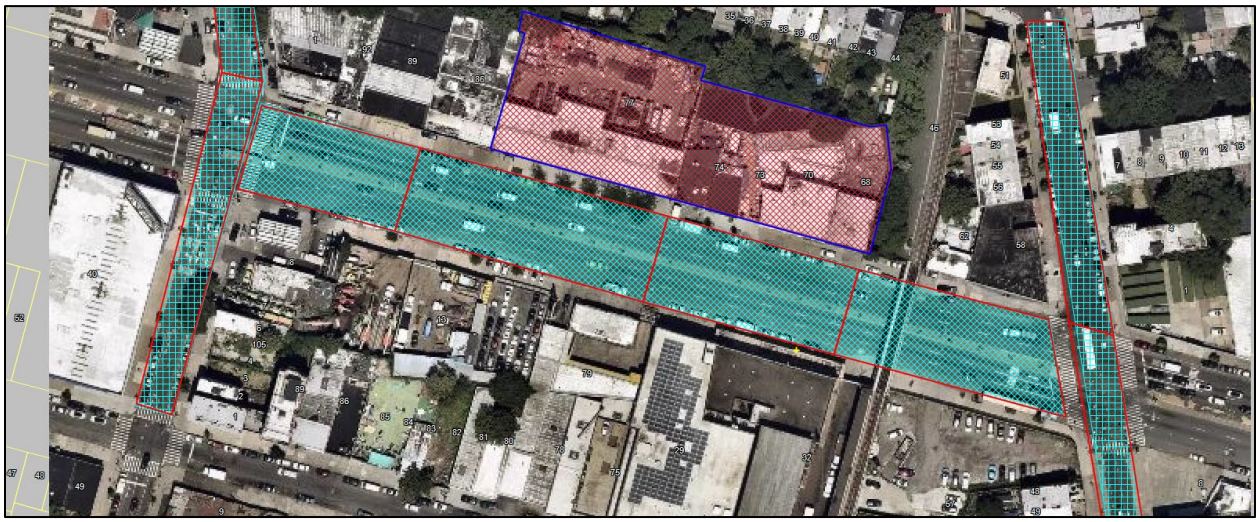


Figure L-7: Modeling Geometry in Google Map



All modeling inputs and emission factors determined by the MOVES model, AERMOD inputs and estimated $PM_{2.5}$ concentration as well as spreadsheets with estimated CO and $PM_{2.5}$ concentrations within the garage; at windows above the vent; near and far sidewalks, and on-street traffic as well as the cumulative pollutant concentrations at these locations and comparison to the NAAQS and *de minimis* criteria for CO and the CEQR threshold significant criteria for $PM_{2.5}$, are provided in the back-up documentation for this project.

Results of Parking Garage Analysis

The results of the garage analyses are summarized in **Tables L-10** and **L-11**. As shown, the maximum estimated total CO impacts for the near and far sidewalk and the window above the vent are all less than the *CEQR de minimis* criteria and (with added background concentrations) less than the 1-hour/8-hour CO NAAQS of 35 and 9 ppm, respectively. The maximum 24-hour $PM_{2.5}$ impact is less than the *CEQR* significant impact criteria and total concentrations (with added background concentration) is less than the NAAQS of 35 ug/m^3. As such, $PM_{2.5}$ impacts from garage emissions combined with on-street mobile source emissions would not cause exceedances of the applicable guidelines and respective NAAQS.

Therefore, the garage emissions analyses determined that no significant adverse impacts on the local air quality would occur as a result of the Proposed Actions.

Table L-10: Estimated CO Concentrations from Garage and On-Street Traffic

	Near Sidewalk	**Far Sidewalk**	**Window Above**	**Near Sidewalk**	**Far Sidewalk**	**Window Above**
Averaging Period	**1-hour**			**8-hour**		
Distance from Vent (feet)	6	109	5	6	109	5
Garage CO (ppm)	0.35	0.13	0.33	0.24	0.18	0.2
Line Source (ppm)	0.12			0.08		
Cumulative Garage impact	0.35	0.25	0.33	0.24	0.26	0.2
NYC *de minimis* (ug/m^3)	-	-	-	4.0		
Significant Garage Impact?	**No**	**No**	**No**	**No**	**No**	**No**
Background Value (ppm)	1.5			1.1		
Total CO Concentration (ppm)	1.9	1.8	1.8	1.3	1.4	1.3
NAAQS, CO (ppm)	35			9		
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**

Table L- 11: Estimated $PM_{2.5}$ Concentration from Garage and On-Street Traffic

	Near Sidewalk	Far Sidewalk	Window Above
Averaging Period	**24-hour**		
Distance from Vent (feet)	6	109	5
Garage $PM_{2.5}$ (ug/m^3)	4.97	4. 65	4.77
Line Source (ug/m^3)	-	2.78	-
Cumulative Garage impact (ug/m^3)	4.97	7.43	4.77
CEQR Significant Impact Criteria (ug/m^3)	8.6		
Significant Garage Impact?	**No**	**No**	**No**
Background Value (ug/m^3)	17.8		
Total $PM_{2.5}$ Concentration (ug/m^3)	22.8	25.2	22.6
24-hour NAAQS (ug/m^3)	35		
Exceeds NAAQS?	**No**	**No**	**No**

VII. DETAILED AIR TOXIC ANALYSIS

As described above in Section V, projects that would result in new uses (particularly schools, hospitals, and residences) located within 400 feet of manufacturing or processing facilities may result in potentially significant impacts, and therefore require stationary source analyses, in accordance with *CEQR Technical Manual* guidance. Based on a review of NYC OASIS mapping application land use, three industrial sources located within 400 feet of the Project Area were identified. As such, an analysis was conducted based on the methodologies and procedures described above in Section V and in accordance with *CEQR Technical Manual* guidance to determine whether the emissions from these industrial sources would significantly impact the Proposed Project or Alternate Commercial Scenario.

Results of the Solvents Screening Analysis

The estimated short-term and annual concentrations of individual solvent, as well as its cumulative concentrations, are less than SGC and AGC values for all solvents, except for aliphatic polyisocyanate, indicating that these pollutants passed the screening analysis. As such, no further analysis of solvents is required -- except for aliphatic polyisocyanate. Therefore, detailed analyses are required for aliphatic polyisocyanate emissions (as well as for particulate emissions).

Detailed Analyses of $PM_{2.5}$/PM_{10} and Aliphatic Polyisocyanate

Detailed dispersion analyses were conducted to estimate the cumulative $PM_{2.5}$/PM_{10} and aliphatic polyisocyanate impacts on the proposed development. The geometry of industrial sources used in modeling analysis are presented in **Figure L-8**. This detailed modeling analysis was conducted using the latest version of EPA's AERMOD dispersion model 9.1 (EPA version19191). All emissions were modeled in one modeling run -- to estimate the cumulative impacts of all pollutants combined.

Following CEQR guidance, this analysis was conducted assuming stack tip downwash, urban dispersion surface roughness length, and the elimination of calms. All analyses were conducted with and without the

effects of downwash (i.e., the effects of wind flow around the existing and proposed buildings). The building downwash algorithm was utilized to account for downwash effects on plume dispersion.

Figure L-8: Map Showing Industrial Source Locations



Results of the Detailed Analysis

Results of the cumulative $PM_{2.5}$/PM_{10} impact analysis of the three industrial sources are presented in **Tables L-1**2 and **L-13**, and the results of the aliphatic polyisocyanate analysis are presented in **Table L-14**. Results with downwash are substantially less than without downwash. Maximum estimated $PM_{2.5}$ concentrations are used for comparison with *CEQR* significant impact thresholds and NAAQS. The maximum estimated 1-hour/annual estimated concentrations of aliphatic polyisocyanate are less than the DAR-1 SGC with or without downwash.

Table L-12: Estimated 24-hour $PM_{2.5}$/PM_{10} Cumulative Concentrations from PB021715, PB014015, and PW000320

Pollutant	Max 24-hr Impact	Background Conc.	Max Total Conc.	*CEQR* Significant Impact Criteria	NAAQS
	ug/m³	ug/m³	ug/m³	ug/m³	ug/m³
$PM_{2.5}$	3.13	17.8	20.9	8.6	35
PM_{10}	6.3	28(1)	34.3	-	150

Note: PM_{10} background concentration for Region 2, Queens College Monitoring station is 28 ug/m³ for 2019

Table L-13: Estimated Annual $PM_{2.5}$ Cumulative Concentration from PB021715 and PB014015, and PW000320

Pollutant	Max Annual Impact	Background	Max Total Conc.	CEQR Significant Impact Criteria	NAAQS
	ug/m³	ug/m³	ug/m³	ug/m³	ug/m³
$PM_{2.5}$	0.098	7.6	7.7	0.3	12

Table L-14: Estimated Aliphatic Polyisocyanate Hourly and Annual Concentrations from PB021715 and PB014015

Pollutant	Max 1-hr Conc.	Max Annual Conc.	DAR-1		Exceed
			SGC	AGC	Yes/No
	ug/m³	ug/m³	ug/m³	ug/m³	No
Aliphatic Polyisocyanate	30.9	0.34	75	0.6	No

The result of the detailed analysis is that no exceedances of either the 24-hour/annual *CEQR* significant impact thresholds or NAAQS for $PM_{2.5}$, the 24-hour PM_{10} NAAQS, or the 1-hour/annual aliphatic polyisocyanate concentrations are predicted from the combined emissions of the industrial sources operating near the proposed development.

VIII. CONCLUSION

The result of the analysis of garage and toxic air analyses is that no exceedances of the applicable CEQR significant impact criteria, NAAQS, and/or SGC/AGC DAR-1 guideline concentrations are predicted. As such, garage-related emissions as well as emissions from the nearby existing industrial sources are not predicted to cause significant air quality impacts.

Attachment M
Noise

I. INTRODUCTION

The Applicant is seeking several discretionary actions (the "Proposed Actions") in order to facilitate the development of a 17-story mixed-use building comprising approximately 477,098 gross square foot (gsf) of residential and commercial office and retail uses (the "Proposed Project") on Brooklyn Block 2020, Lots 68, 70, 73, 74, and 77 (the "Proposed Development Site") in the Bedford-Stuyvesant/Crown Heights neighborhood of Brooklyn Community District (CD) 3.

As discussed in Attachment A, "Project Description," the Applicant proposes to demolish the existing structures at the Proposed Development Site and construct a new 17-story (175-feet in height) predominantly residential building with commercial office and retail uses on the first two floors, with a total of approximately 477,098 gsf, with a floor area ratio (FAR) of 8.5. It is anticipated that the Proposed Project would contain a total of 357,436 gsf of residential space with approximately 422 dwelling units (DUs), approximately 34,470 gsf of commercial retail space, approximately 28,334 gsf of commercial office space, and 8,995 gsf of community facility space, as well as approximately 152 accessory parking spaces (approximately 42,302 gsf) in a single cellar level and 5,561 gsf of mechanical space.[1] Of the proposed residential units, 30 percent or up to 126 units would be designated as permanently affordable pursuant to either Option 2 or Option 4 (the "Workforce" option) of the City's MIH program. Construction of the Proposed Project is expected to be completed and building occupancy is anticipated by 2024.

As discussed in Attachment K, "Transportation," the Proposed Actions are expected to change traffic volumes in the general vicinity of the Project Area. While the Proposed Actions would not result in more than 50 peak hour vehicle trips through any given intersection, for conservative analysis purposes a mobile source noise analysis was conducted to determine whether there are any noise-sensitive locations where project-generated traffic would have the potential to result in significant adverse noise impacts. Additionally, as the Proposed Actions would create new noise-sensitive uses within the Project Area, an analysis was conducted in order to determine the level of building attenuation required to ensure that future interior noise levels would satisfy applicable noise criteria.

II. PRINCIPAL CONCLUSIONS

In the future with the Proposed Actions, the predicted peak period L_{10} values at the receptor locations would range from a minimum of 62.7 A-weighted decibels (dBA) to a maximum of 77.1 dBA. The relative increases in noise levels are expected to range between 0.03 and 0.08 dBA. The highest increase in noise levels would occur at both Receptor Locations 1 and 2 – which are each located along the Proposed Development Site's southern frontage facing Atlantic Avenue (refer to **Figure M-1**) – with a change in L_{eq} of 0.08 dBA during the weekday midday peak hour. As the relative increases in noise levels would fall well

[1] For reasonable worst-case analysis purposes, the 5,561 gsf of mechanical uses will be conservatively assigned as commercial office uses.

below the applicable *CEQR Technical Manual* significant adverse impact threshold (3.0 dBA), the Proposed Actions would not result in any significant adverse noise impacts due to action-generated vehicular traffic.

To ensure acceptable interior noise levels, noise attenuation specifications would be mandated through the assignment of an (E) designation (E-631) assigned to the tax lots that make up the Proposed Development Site. The requirements of the (E) designation resulting from the noise analysis, outlined in Section IX, "Attenuation Requirements," of this chapter, state that the future building facades of residential and community facility uses on Block 2020, Lots 68, 70, 73, 74, and 77 with frontage facing Franklin Avenue (eastern façade) and the portions of Atlantic Avenue (southern façade) must provide 33 dBA of composite window/wall attenuation, and that future building facades with frontages facing Atlantic Avenue (southern façade) beyond 100 feet of the Franklin Avenue Shuttle (Lot 46) and Classon Avenue (western façade) within 100 feet of Atlantic Avenue must provide 31 dBA of composite window/wall attenuation. The minimum composite window/wall attenuation for commercial office uses would be 5 dBA less than that for residential and community facility uses. In order to maintain a closed-window condition, an alternate means of ventilation must also be provided.

With implementation of the attenuation levels required pursuant to the (E) designation, the Proposed Project or Alternate Commercial Scenario building would provide sufficient attenuation to achieve the 2014 *CEQR Technical Manual* interior noise level guidelines of 45 dBA or lower for residential and community facility uses and 50 dBA or lower for commercial office uses. Therefore, the Proposed Actions would not result in any significant adverse noise impacts related to building interior noise level requirements.

III. NOISE FUNDAMENTALS

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

"A"-Weighted Sound Level (dBA)

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

TABLE M-1
Common Noise Levels

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

Source: *2014 CEQR Technical Manual* / Cowan, James P. Handbook of Environmental Acoustics. Van Nostrand Reinhold, New York, 1994. Egan, M. David, Architectural Acoustics. McGraw-Hill Book Company, 1988.
Note: A 10 dBA increase appears to double the loudness, and a 10 dBA decrease appears to halve the apparent loudness.

Community Response to Changes in Noise Levels

Table M-2 shows the average ability of an individual to perceive changes in noise. Generally, changes in noise levels less than 3 dBA are barely perceptible to most listeners. However, as illustrated in **Table M-2**, 5 dBA changes are readily noticeable. 10 dBA changes are normally perceived as doublings (or halvings) of noise levels. These guidelines permit direct estimation of an individual's probable perception of changes in noise levels.

TABLE M-2
Average Ability to Perceive Changes in Noise Levels

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

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

Noise Descriptors Used In Impact Assessment

Because the sound pressure level unit, dBA, describes a noise level at just one moment, and very few noises are constant, other ways of describing noise over extended periods have been developed. One way of describing fluctuating sound is to describe the fluctuating noise heard over a specific time period as if it had been a steady, unchanging sound. For this condition, a descriptor called the "equivalent sound level", L_{eq}, can be computed. L_{eq} is the constant sound level that, in a given situation and time period (e.g., 1 hour, denoted by $L_{eq(1)}$, or 24 hours, denoted as $L_{eq(24)}$), conveys the same sound-energy as the actual time-varying sound. The Day-Night Sound Level (i.e., L_{dn}) refers to a 24-hour average noise level with a 10

dB penalty applied to the noise levels during the hours between 10:00 PM and 7:00 AM, due to increased sensitivity to noise levels during these hours. Statistical sound level descriptors such as L_1, L_{10}, L_{50}, L_{90}, and L_x, are sometimes used to indicate noise levels that are exceeded 1, 10, 50, 90 and x percent of the time, respectively. Discrete event peak levels are given as L_1 levels. L_{eq} is used in the prediction of future noise levels, by adding the contributions from new sources of noise (i.e., increases in traffic volumes) to the existing levels and in relating annoyance to increases in noise levels.

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

For purposed of this analysis, the maximum one-hour equivalent continuous sound level (i.e., L_{eq}) has been selected as the noise descriptor to be used in the noise impact evaluation. L_{eq} is the noise descriptor recommended for use in the *City Environmental Quality Review (CEQR) Technical Manual* for vehicular traffic and is used to provide an indication of highest expected sound levels. The one-hour L_{10} is the noise descriptor used in the *CEQR Technical Manual* noise exposure guidance for city environmental impact review classification. The L_{dn} is the noise descriptor used in the U.S. Department of Housing and Urban Development (HUD) Noise Guidebook, which sets exterior noise standards for housing construction projects receiving federal funds.

IV. NOISE STANDARDS AND CRITERIA

New York City Noise Code

The New York City Noise Control Code, amended in December 2005, contains prohibitions regarding unreasonable noise and specific noise standards, including plainly audible criteria for specific noise sources. In addition, the amended code specifies that no sound source operating in connection with any commercial or business enterprise may exceed the decibel levels in the designated octave bands at specified receiving properties. The New York City Department of Environmental Protection (DEP) has set external noise exposure standards. These standards are shown on the following page in **Table M-3**.

New York CEQR Technical Manual Noise Standards

Noise Exposure is classified into four categories: Acceptable, Marginally Acceptable, Marginally Unacceptable, and Clearly Unacceptable. The *CEQR Technical Manual* defines attenuation requirements for buildings based on exterior noise levels (see **Table M-4**). Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 45 dBA or lower for residential uses and 50 dBA or lower for commercial office uses, and are determined based on exterior L_{10} noise levels. Attenuation requirements are shown on the following page in **Table M-4**.

TABLE M-3

Noise Exposure Guidelines for Use in City Environmental Impact Review

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

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

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

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

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

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

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

TABLE M-4

Required Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Acceptable	Marginally Unacceptable				Clearly Unacceptable
Noise level with proposed project	65<L_{10}≤70	70<L_{10}≤73	73<L_{10}≤76	76<L_{10}≤78	78<L_{10}≤80	80<L_{10}
Attenuation[A]	25 dB(A)	(I) 28 dB(A)	(II) 31 dB(A)	(III) 33 dB(A)	(IV) 35 dB(A)	36 + (L_{10} - 80)[B] dB(A)

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

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

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

v. EXISTING CONDITIONS

As shown in **Figure M-1**, Atlantic Avenue is a two-way east- and westbound street with six travel lanes and parking on both sides of the street. Franklin and Classon avenues are each one-way southbound and northbound streets, respectively, with one travel lane and parking on both sides of the street. Lefferts Place is a two-way street with east- and westbound travel lanes and parking on both sides of the street.

The surrounding area is served by a number of transit options. The Franklin Avenue subway station is located directly northeast of the Project Area, which provides access to both Manhattan- and Ozone Park/Rockaway Beach-bound service along the A/C subway lines, as well as north- and southbound service along the Franklin Avenue Shuttle line. The MTA New York City Transit A/C subway lines travel on underground tracks beneath Fulton Street, whereas the Franklin Avenue Shuttle line, located directly east of the Project Area, travel on elevated tracks and generally run parallel to and just west of Franklin Avenue. In addition, several local bus services are provided within the vicinity of the Project Area, including the B25 which both run along Fulton Street two blocks north of the Project Area; the B48 which runs along Franklin and Classon avenues which are directly east and west of the Project Area, respectively; and the B49 which runs along Franklin Avenue directly east of the Project Area.

Selection of Noise Receptor Locations

The MTA Franklin Avenue Shuttle is the dominant source of noise east of the Project Area, while local traffic is the dominant noise source north, south, and west of the Project Area. The noise receptor locations were selected to be along the perimeter of the future building under the Proposed Actions. The assumption was made that all windows on all frontages of the buildings would be operable. The three selected receptor locations around the Project Area are presented in **Table M-6** and shown in **Figure M-1**.

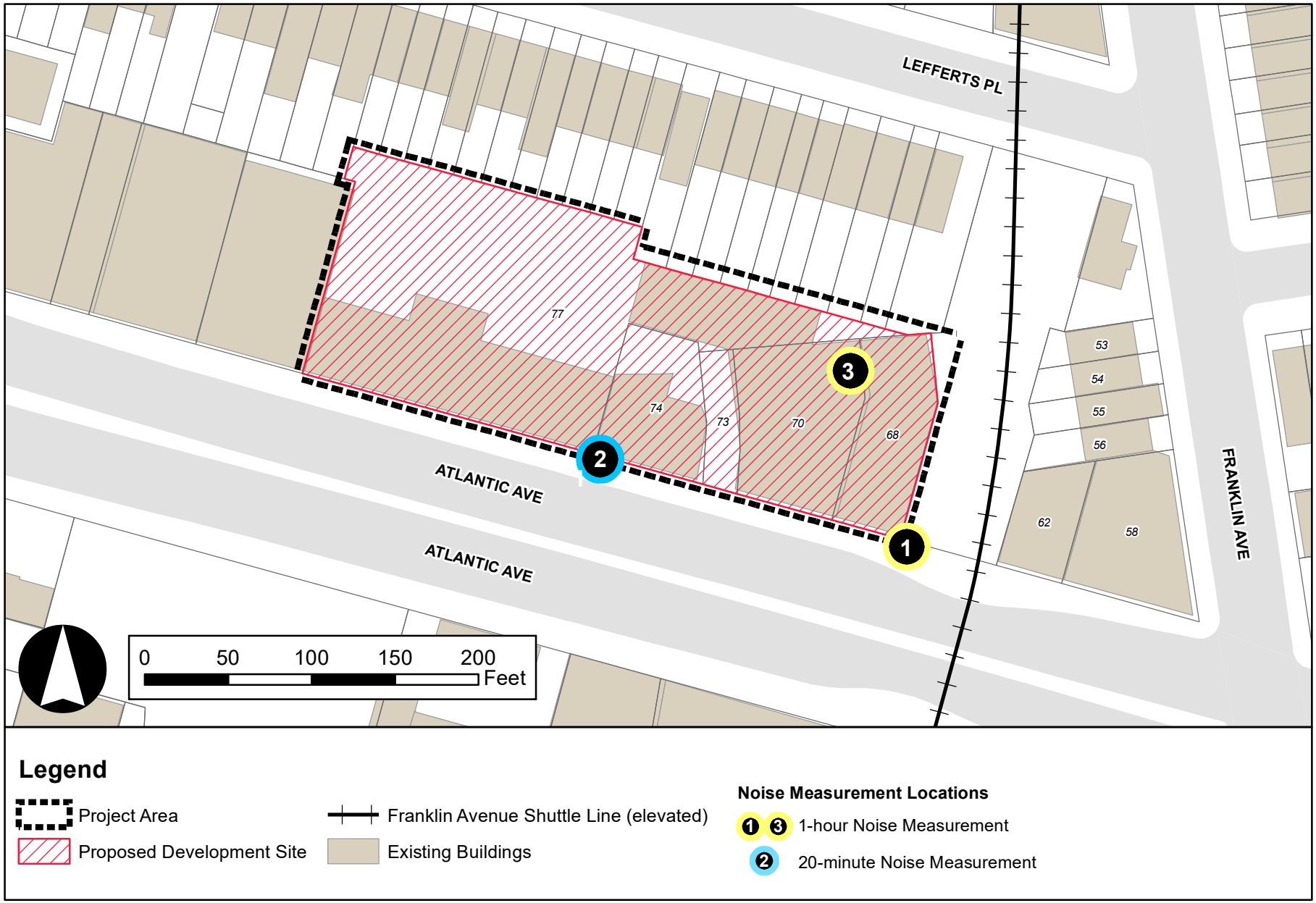
TABLE M-6
Noise Receptor Locations

Receptor Location / Map ID[1]	Duration	Monitoring Location
1	1 Hour	Southeastern-most corner of the Proposed Development Site (Atlantic Avenue, approximately 180 feet west of Franklin Avenue; facing and with a clear direct line-of-sight towards Franklin Avenue Shuttle)
2	20 Minutes	Atlantic Avenue frontage (midpoint of the Proposed Development Site's Atlantic Avenue frontage, approximately 370 feet west of Franklin Avenue)
3	1 Hour	The roof of 1063 Atlantic Avenue (Lot 70) approximately 90 feet west of the Franklin Avenue Shuttle; facing and with a clear direct line of site towards the elevated Franklin Avenue Shuttle)

Notes: [1] Refer to **Figure M-1** for noise receptor locations.

Noise Monitoring

Of the three receptor locations, 20-minute spot measurements of existing noise levels were performed at one receptor location (Receptor Location 2) for each of the three noise analysis time periods - weekday AM peak hour (8:00AM to 9:00AM), weekday midday peak hour (12:00PM to 1:00PM), and weekday PM peak hour (5:00PM to 6:00PM). As Receptor Locations 1 and 3 are located adjacent to the elevated subway



1045 Atlantic Avenue Rezoning EAS

Figure M-1
Noise Measurement Locations

tracks for the MTA Franklin Avenue Shuttle, 1-hour measurements of existing noise levels were performed during the same three analysis time periods as Receptor Location 2. Noise measurement equipment at Receptor Locations 1 and 3 were placed with a clear direct line-of-sight to the elevated subway tracks to capture noise from the MTA Franklin Avenue Shuttle.

Noise monitoring was performed on Thursday, November 14, and Tuesday, November 19, 2019 for Receptor Locations 1 and 2. On November 14, the weather was mostly cloudy and temperatures were in the high-30s ºF. On November 19, the weather was mostly cloudy and temperatures were in the mid-40s ºF. Noise monitoring was performed on Wednesday, June 3, 2021 for Receptor Location 3. On June 2, the weather was clouding and temperatures were in the high-60s ºF.

Equipment Used During Noise Monitoring

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

Existing Noise Levels at the Noise Receptor Locations

Measured Noise Levels

The noise monitoring results are presented in **Table M-7,** below. Train noise was the dominant source of noise at Receptor Location 1, whereas area traffic was the dominant source of noise at the Receptor Locations 2. The existing noise levels reflect the high level of vehicular activity on the roadways adjacent to the Project Area, with the highest existing noise levels observed at Receptor Location 1, which were along the heavily-trafficked Atlantic Avenue and adjacent to the elevated Franklin Avenue Shuttle tracks.

As shown in **Table M-7**, the highest L_{10} value was recorded in the PM peak hour at Receptor Location 1 (76.9 dBA), placing this receptor location in the "Marginally Unacceptable (III)" Noise Exposure category pursuant to 2014 *CEQR Technical Manual* Guidelines. Receptor location 2 had a maximum L_{10} value of 74.3 dBA, placing this receptor location in the "Marginally Unacceptable (II)" CEQR Noise Exposure category. Receptor Location 3 had a maximum L_{10} value of 62.7 dBA, placing this receptor location in the "Acceptable" CEQR Noise Exposure category.

TABLE M-7
Existing Noise Levels (in dBA) at the Monitoring Locations

Receptor Location[1]	Time[2]	L_{max}	L_{min}	L_{eq}	L_1	L_{10}[3]	L_{50}	L_{90}	CEQR Noise Exposure Category
1	AM	92.0	53.7	73.8	86.4	74.8	68.4	61.0	Marginally Unacceptable (III)
	MD	91.7	51.7	72.8	86.3	72.8	66.4	59.6	
	PM	99.7	53.7	75.2	85.4	**76.9**	71.7	62.8	
2	AM	85.3	62.0	70.0	79.6	72.5	67.4	63.8	Marginally Unacceptable (II)
	MD	81.3	58.1	70.1	78.2	73.3	67.9	63.4	
	PM	83.2	56.3	71.0	80.2	**74.3**	68.8	61.5	
3	AM	73.6	47.1	57.5	70.0	58.8	53.9	50.8	Acceptable
	MD	73.5	57.7	61.4	69.8	**62.7**	60.2	58.9	
	PM	76.9	48.3	61.4	71.4	62.4	59.8	58.7	

Notes: Field measurements were performed by Philip Habib & Associates on November 14, November 19, 2019, and June 3, 2021.
[1] Refer to **Figure M-1** for noise monitoring receptor location.
[2] AM = AM weekday peak period; MD = midday weekday peak period; PM = PM weekday peak period.
[3] The highest L_{10} noise levels at each monitoring location are shown in **bold**.

VI. NOISE PREDICTION METHODOLOGY

General Methodology

Future noise levels were calculated using a proportional modeling technique, which was used as a screening tool to estimate change in noise levels. The proportional modeling technique is an analysis methodology recommended for analysis purposes in the *CEQR Technical Manual*. The noise analysis examined the typical weekday AM, midday, and PM peak hours.

The selected time periods are when development facilitated by the Proposed Actions would be expected to produce the maximum traffic generation (based on the traffic studies presented in Attachment K, "Transportation") and, therefore, result in the maximum potential for significant noise level increases. The methodologies used for the noise analyses are described below.

Proportional Modeling

Proportional modeling was used to determine locations with the potential for having significant noise impacts. Proportional modeling is one of the techniques recommended in the 2014 *CEQR Technical Manual* for mobile source analysis.

Using this technique, the prediction of future noise levels (where traffic is the dominant noise source) is based on a calculation using measured existing noise levels and predicted changes in traffic volumes to determine No-Action and With-Action noise levels. The proportional modeling utilized the future (2024) No-Action and With-Action traffic volumes anticipated within the vicinity of the Project Area, consistent with the vehicle trip assignments presented in Attachment K, "Transportation."

Vehicular traffic volumes are then converted into Passenger Car Equivalent (PCE) values, for which one medium-duty truck (having a gross weight between 9,900 and 26,400 pounds) is assumed to generate the noise equivalent of 13 cars, one heavy-duty truck (having a gross weight of more than 26,400 pounds) is assumed to generate the noise equivalent of 47 cars, and one bus (vehicles designed to carry more than

nine passengers) is assumed to generate the noise equivalent of 18 cars. Future noise levels are calculated using the following equation:

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

where:

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

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

To calculate the No-Action noise levels, changes to the study area's traffic network as a result of general background growth was factored in. As per *CEQR Technical Manual* guidance, an annual background growth rate of 0.50 percent for the 2024 Build year was applied to the PCE noise values based on the existing vehicle volumes presented in Attachment K, "Transportation."[2] In order to obtain the necessary With-Action PCE values to calculate the With-Action noise levels, the 2024 With-Action traffic increment assignments presented in Attachment K, "Transportation", were converted into PCE values and added to the calculated No-Action PCE values.

VII. FUTURE WITHOUT THE PROPOSED ACTION (NO-ACTION)

As described in Attachment A, "Project Description," in the future without the Proposed Actions, it is anticipated that the Project Area would retain its M1-1/R6B zoning designation, and it is assumed that while no new construction is planned for the Proposed Development Site, it is conservatively assumed that the currently vacant, approximately 12,240 gsf former industrial building on Lot 70 would be reoccupied with light industrial/warehousing uses in the No-Action condition. As a result, the Applicant-owned Proposed Development Site would be occupied by approximately 30,101 gsf of light industrial uses, 6,807 gsf of office uses, and 1,438 gsf of retail uses. No other changes to the remaining Project Area lots are anticipated in the future without the Proposed Actions.

Using the methodology described in the previous section, future noise levels in the No-Action condition were calculated for the three analysis periods for the 2024 Build year. **Table M-8** shows the measured existing noise levels, as well as the No-Action PCE values and the No-Action noise levels at each of the receptor locations.[3]

[2] The background growth rate is based on information provided in Table 16-4 of the 2014 *CEQR Technical Manual.*
[3] It should be noted that for conservative analysis purposes, in addition to background growth, the No-Action calculated PCE values at Receptor Locations 1 and 2 account for the additional vehicle volumes generated by the future No-Build projected development sites associated with the 1034-1042 Atlantic Avenue Rezoning (refer to Table C-3).

Comparing future No-Action noise levels with existing noise levels, **Table M-8** shows that increases in L_{eq} noise level would be approximately 0.1 dBA at Receptor Locations 1 and 2. As there are no known significant planned changes in train frequency anticipated by the 2024 Build Year, noise resulting from train traffic on the elevated Franklin Avenue Shuttle in the No-Action condition is expected to remain similar to that in the Existing condition. Therefore, noise levels at Receptor Location 3 would remain the same as under existing conditions. Increases of this magnitude (i.e., approximately 0.1 dBA at Receptor Locations 1 and 2) would be barely perceptible, and based upon the 2014 *CEQR Technical Manual* impact criteria, would not be significant. The projected No-Action L_{10} noise levels at the receptor locations would range from 62.7 dBA to 77.0 dBA, and noise levels at Receptor Locations 1, 2, and 3 would remain in their same respective CEQR Noise Exposure categories as under existing conditions.

TABLE M-8
2024 No-Action Condition Noise Levels and Total PCE Values at Receptor Locations (in dBA)

Noise Receptor Location	Time	Existing PCEs	No-Action PCEs	Existing Leq	No-Action Leq	Change[1]	No-Action L10[2]	CEQR Noise Exposure Category
1	AM	6762.0	6940.7	73.8	73.9	0.11	74.9	Marginally Unacceptable (III)
	MD	5713.0	5891.3	72.8	73.0	0.13	73.0	
	PM	5068.0	5202.0	75.2	75.3	0.11	**77.0**	
2	AM	6762.0	6940.7	70.0	70.1	0.11	72.7	Marginally Unacceptable (II)
	MD	5713.0	5891.3	70.1	70.3	0.13	73.5	
	PM	5068.0	5202.0	71.0	71.1	0.11	**74.4**	
3	AM	N/A	N/A	57.5	57.5	0.00	58.8	Acceptable
	MD	N/A	N/A	61.4	61.4	0.00	**62.7**	
	PM	N/A	N/A	61.4	61.4	0.00	62.4	

Notes: All PCE and noise value are shown for a weekday.
[1] No-Action Leq - Existing Leq
[2] The highest L_{10} noise levels at each monitoring location are shown in **bold**.

VIII. FUTURE WITH THE PROPOSED ACTION (WITH-ACTION)

As described above, in the future with the Proposed Actions, the proposed zoning map and text amendments would be approved and the Proposed Development Site would be redeveloped with the Proposed Project. As such, the Proposed Project would comprise of a new 17-story, mixed-use building and would include approximately 357,436 gsf of residential uses (422 DUs), 28,334 gsf of commercial office uses, 34,470 gsf of commercial retail uses, 8,995 gsf of community facility uses), 42,302 gsf of below-grade accessory parking uses, and 5,561 gsf of mechanical uses. Additionally, under the Alternate Commercial Scenario, the Applicant could reasonably construct a 16-story, mixed-use building containing 113,587 gsf of commercial office uses, 33,111 gsf of commercial retail uses (totaling 3.0 FAR of commercial uses), 273,072 gsf of residential uses (5.0 FAR of residential uses, with 337 DUs, of which up to 84-101 units would be permanently affordable), 46,022 gsf of below-grade accessory parking uses, and 5,798 gsf of mechanical uses.

Using the methodology described in Section VI, future noise levels in the With-Action condition were calculated for the three analysis periods for the 2024 Build year. The With-Action noise levels for all receptor locations are shown in **Table M-9**. After accounting for additional traffic introduced by the

Proposed Actions,[4] the maximum projected L_{10} noise level in the With-Action condition would be 77.1 dBA during the PM peak hour at Receptor Location 1. In terms of CEQR noise exposure guidance, noise levels at Receptor Location 1 would remain in the "Marginally Unacceptable (III)" CEQR Noise Exposure category, and noise levels at Receptor Location 2 would remain in the "Marginally Unacceptable (II)" CEQR Noise Exposure category, as under No-Action conditions. As train operations of the Franklin Avenue Shuttle would not be affected as a result of the Proposed Actions, Receptor Location 3 would remain in the "Acceptable" CEQR Noise Exposure Category, as under No-Action conditions.

TABLE M-9
2024 With-Action Condition Noise Levels and Total PCE Values at Receptor Locations (in dBA)

Receptor Location	Time	With-Action PCEs	No-Action L_{eq}	With-Action L_{eq}	Change[1]	With-Action L_{10}[2]	CEQR Noise Exposure Category
1	AM	7016.7	73.9	74.0	0.05	75.0	**Marginally Unacceptable (III)**
	MD	6000.3	73.0	73.0	0.08	73.0	
	PM	5241.0	75.3	75.3	0.03	77.1	
2	AM	7016.7	70.1	70.2	0.05	72.7	**Marginally Unacceptable (II)**
	MD	6000.3	70.3	70.3	0.08	73.5	
	PM	5241.0	71.1	71.2	0.03	74.5	
3	AM	N/A	57.5	57.5	0.00	58.8	**Acceptable**
	MD	N/A	61.4	61.4	0.00	**62.7**	
	PM	N/A	61.4	61.4	0.00	62.4	

Notes: All PCE and noise value are shown for a weekday.
[1] With-Action Leq – No-Action Leq
[2] The highest L_{10} noise levels at each monitoring location are shown in **bold**.

As presented in **Table M-9**, the maximum increase in L_{eq} noise levels in the With-Action condition (compared to No-Action conditions) for all receptor sites would be 0.08 dBA (at Receptor Locations 1 and 2 during the weekday midday peak period). According to *CEQR Technical Manual* guidance, increases of this magnitude would not be perceptible as they are less than 3.0 dBA, and therefore, would not be significant. As the noise levels at all receptor locations would experience changes of less than 3.0 dBA in all peak hours, the overall changes to noise levels as a result of the Proposed Actions would not result in any significant adverse impacts.

IX. ATTENUATION REQUIREMENTS

As shown above in **Table M-4**, the *CEQR Technical Manual* has set noise attenuation requirements for buildings based on exterior noise levels. Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 45 dBA or lower for residential/community facility uses and 50 dBA or lower for commercial office uses, and are determined based on exterior L_{10} noise levels. As noted in **Table M-4**, additional attenuation measures would be required at the site wherever exterior noise levels exceed 70 dBA. The results of the building attenuation analysis for the RWCDS are summarized in **Table M-10** below and shown in **Figure M-2**.

[4] As described in Attachment K, "Transportation," the Alternate Commercial Scenario would generate a greater amount of overall travel demand during the weekday peak periods than the Proposed Project. As such, for conservative analysis purposes, the projected future With-Action noise levels are based on vehicle trips generated by the Alternate Commercial Scenario.

Table M-10 shows the minimum window/wall attenuation necessary to meet *CEQR Technical Manual* requirements for internal noise levels at each of the noise measurement locations based on the predicted With-Action L_{10} noise levels discussed above.

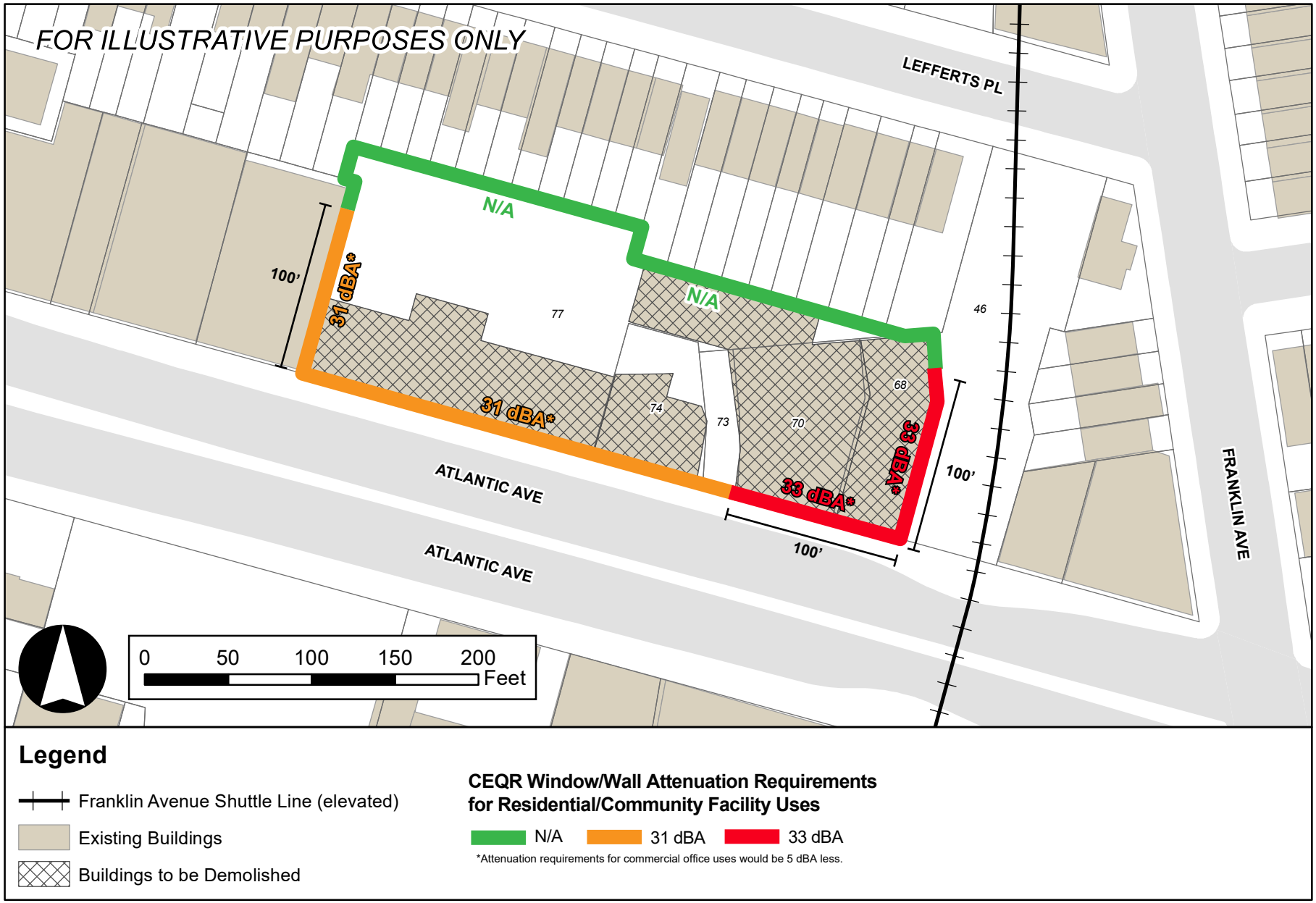
TABLE M-10
Proposed Development Window/Wall Attenuation Requirements

Frontage	Associated Receptor Location[1]	Maximum With-Action L_{10} (in dBA)	CEQR Minimum Required Attenuation (in dBA)[2]
Eastern Façade (Franklin Avenue Shuttle) <100 ft of Atlantic Avenue	1	77.1	33
Eastern Façade (Franklin Avenue Shuttle) >100 ft from Atlantic Avenue	3	62.7	N/A[3]
Southern Façade (Atlantic Avenue; ≤100 ft from Franklin Avenue Shuttle/Lot 46)	1	77.1	33
Southern Façade (Atlantic Avenue; >100 ft from Franklin Avenue Shuttle/Lot 46)	2	74.5	31
Northern Façade	3	62.7	N/A[3]
Western Façade (Classon Avenue; ≤100 ft from Atlantic Avenue)	2	74.5	31
Western Façade (Classon Avenue; >100 ft from Atlantic Avenue)	N/A	N/A	N/A[3]

Notes: [1] Receptor locations shown in **Figure M-1**; required attenuation levels are shown in **Figure M-2**.
[2] The above composite window/wall attenuation values are for residential/community facility uses. Commercial office uses would be 5.0 dBA less in each category. All the above categories require a closed window situation and an alternate means of ventilation.
[3] N/A = Not Applicable. Additional noise attenuation measures above standard construction practices are not required to achieve interior noise levels of 45 dBA or lower for residential/community facility uses.

The attenuation of a composite structure is a function of the attenuation provided by each of its component parts and how much of the area is made up of each part. Normally, a building façade is composed of the wall, glazing, and any vents or louvers for HVAC systems. The Proposed Project would be designed to provide a composite Outdoor-Indoor Transmission (OITC) rating greater than or equal to the attenuation requirements listed in **Table M-10** and shown in **Figure M-2**. The OITC classification is defined by ASTM International (ASTM E1332-10a) and provides a single-number rating that is used for designing a building façade, including walls, doors, glazing, and combinations thereof. The OITC rating is designed to evaluate building elements by their ability to reduce the overall loudness of ground and air transportation noise.

As presented in **Table M-10**, to satisfy CEQR noise level requirements at the Proposed Development Site, residential/community facility uses must provide 33 dBA window/wall attenuation along any eastern frontage facing Franklin Avenue within 100 feet of Atlantic Avenue and any southern frontages facing


FOR ILLUSTRATIVE PURPOSES ONLY
LEFFERTS PL
FRANKLIN AVE
ATLANTIC AVE
ATLANTIC AVE
N/A
N/A
31 dBA*
31 dBA*
33 dBA*
33 dBA*
100'
100'
100'
77
74
73
70
68
46
0
50
100
150
200
Feet
Legend
Franklin Avenue Shuttle Line (elevated)
Existing Buildings
Buildings to be Demolished
CEQR Window/Wall Attenuation Requirements for Residential/Community Facility Uses
N/A
31 dBA
33 dBA
*Attenuation requirements for commercial office uses would be 5 dBA less.

Atlantic Avenue within 100 feet from the lot line between Lot 68 and Lot 46, and 31 dBA window/wall attenuation along any southern frontage facing Atlantic Avenue beyond 100 feet from the lot line between Lot 68 and Lot 46 and any western frontage facing Classon Avenue within 100 feet of Atlantic Avenue, as well as an alternate means of ventilation. The minimum composite building façade attenuation for commercial office uses would be 5 dBA less than that for residential/community facility uses. All other future building facades will not require any special attenuation measures beyond standard construction practices.

(E) Designation

An (E) designation for noise provides a notice of the presence of an environmental requirement pertaining to high ambient noise levels on a particular tax lot. If an area is proposed to be rezoned, and the accompanying environmental analysis indicates that development on a property may be adversely affected by noise, then an (E) designation for window/wall attenuation and alternate means of ventilation may be placed on the property by the lead agency in order to address such issues in conjunction with any new development or new use of the property. For new developments, enlargements of existing buildings, or changes in use, the NYC Department of Buildings will not issue a building permit until the environmental requirements of the (E) designation are satisfied. The Office of Environmental Remediation (OER) administers the (E) Designation Environmental Review Program

To avoid any potential impacts associated with noise on the Proposed Development Site, as part of the Proposed Actions, an (E) designation (E-631) for noise would be recorded against the property that would introduce new noise sensitive receptors as a result of the Proposed Actions (i.e., Block 2020, Lots 68, 70, 73, 74, and 77). The text for the (E) designation E-631 would be as follows:

> **Block: 2020, Lots: 68, 70, 73, 74, and 77**
>
> **To ensure an acceptable interior noise environment, future residential/community facility uses must provide a closed-window condition with a minimum of 33 dBA window/wall attenuation on all facades facing Franklin Avenue within 100 feet of Atlantic Avenue and all facades facing Atlantic Avenue within 100 feet from the lot line between Lot 68 and Lot 46, and 31 dBA window/wall attenuation on all facades facing Atlantic Avenue beyond 100 feed from the lot line between Lot 68 and Lot 46 and all facades facing Classon Avenue within 100 feet of Atlantic Avenue to maintain an interior noise level not greater than 45 dBA for residential and community facility uses as illustrated in the EIS. 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.**

Per the (E) designation requirements, in order to receive a Certificate of Occupancy from the NYC Department of Buildings (DOB) the Proposed Actions must comply with these required composite window/wall attenuation values in order to maintain proper interior noise levels. With this institutional control in place, the Proposed Project and/or Alternate Commercial Scenario would not result in any significant adverse noise impacts related to building attenuation and no further analysis is necessary.

X. OTHER NOISE CONCERNS

Mechanical Equipment

No detailed designs of the building's mechanical systems (i.e., heating, ventilation, and air conditioning systems) are available at this time. However, those systems will be designed to meet all applicable noise regulations and requirements and would be designed to produce noise levels that would not result in any significant increase in ambient noise levels. In addition, the building mechanical systems would be designed with enclosures where necessary to meet all applicable noise regulations (i.e., Subchapter 5 §24-227 of the New York City Noise Control Code and the NYC DOB Building Code) and to avoid producing levels that would result in any significant increase in ambient noise levels.

Aircraft Noise

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

Appendix A
Phase 1 Environmental Site Assessment (ESA): Brooklyn Block 2020, Lot 77 (Executive Summary)

1045 ATLANTIC AVENUE
BROOKLYN, NEW YORK
TAX MAP ID 02020-0077

PHASE I
ENVIRONMENTAL SITE ASSESSMENT
(ASTM 1527-13/40 CFR PART 312)

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PWGC Project Number: TOT1901

MARCH 2019

PHASE I ENVIRONMENTAL SITE ASSESSMENT
1045 ATLANTIC AVENUE, BROOKLYN, NEW YORK

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1.0 EXECUTIVE SUMMARY

BEB Capital (Client) retained P.W. Grosser Consulting, Inc. (PWGC) to prepare a Phase I Environmental Site Assessment (ESA) for the property located at 1045 Atlantic Avenue, Brooklyn, New York. The purpose of the Phase I ESA was to identify and evaluate the presence of Recognized Environmental Conditions (RECs) at the subject site. RECs are the presence or likely presence of any hazardous substance or petroleum product under conditions that indicate an existing release, a past release or material threat of a release of any hazardous substance or petroleum product into structures on the property or into the ground, groundwater or surface water of the property.

The subject property consists of one parcel located at 1045 Atlantic Avenue in the Bedford-Stuyvesant neighborhood of Brooklyn, New York. The site is located in the Borough of Brooklyn and Kings County. The property is identified in the New York City Tax Map as 02020-0077.

The subject property measures approximately 27,400 square feet and is occupied by a one-story industrial building, warehouse building and a concrete paved rear yard.

Work was conducted in accordance with the American Society for Testing and Materials (ASTM) Standard E 1527-13 (Standard Practices for Environmental Site Assessment: Phase I Environmental Site Assessment Process), 40 Code of Federal Regulations (CFR) Part 312 (Standards and Practices for All Appropriate Inquiry; Final Rule) and PWGC's proposal for services.

PWGC evaluated the findings associated with the subject property and identified three RECs, zero HRECs, and zero CRECs with respect to the subject property. Conditions determined to be RECs are detailed below:

- The site appears to have been historically used for industrial purposes. Historic usage of the property for manufacturing, auto repair, and petroleum delivery services. Current operations include the storage and use of hazardous substances and petroleum products at the site. An oil water separator has historically been utilized at the property which has the potential to leak. No information has been provided regarding sampling of soils below or adjacent to the oil water separator. The oil water separator is reportedly out of service but has not been properly abandoned. Identified historical usages

are likely to have used/stored hazardous substances and/or petroleum products at the site as well. Based on the historical usage of the site for industrial purposes, this represents a REC.

- The subject property is currently listed as a PBS site for one 3,000-gallon No. 2 Fuel oil AST located on the subject property. The tank is located in a subterranean vault with limited access for inspections. No violations or spills are associated with this tank. There are four additional ASTs that were identified during the site inspection, which are not included in the PWB listing, including one 275-gallon active diesel AST, one 275-gallon active waste oil AST, and two 275-gallon empty inactive ASTs. PWGC believes the PBS listing for the subject property should be updated to include these additional tanks.
- A significant amount of oil staining was observed at the exterior diesel oil AST believed to be the result of poor dispensing practices. A recommendation was made, in the previous Phase I ESA, to steam clean this area; however, since concrete is porous and significant staining was observed, sampling of the soil beneath the slab to determine if the subsurface has been impacted is warranted. Additionally, the conditions surrounding the waste oil tank, including staining and cracked concrete, indicates there may be a conduit to the subsurface, which warrants evaluation of the subsurface in this area. Based on the presence of staining and poor housekeeping issues related to these ASTs, PWGC believes this represents a REC.
- The subject property is listed as a PBS, ERNS, and RCRA NonGen site. No violations or other issues were identified in the database report with respect to these listings; however, the site inspection did identify issues related to on-site petroleum storage and poor housekeeping practices which is a concern related to historic storage of chemicals. Based on this information, PWGC believes this represents a REC.

Based on the identified RECs, PWGC recommends a Phase II ESA be performed at the site. The Phase II ESA should include:

- Update the PBS listing for the subject property to include the additional four tanks.
- Subsurface investigation of soils and soil vapor to determine if historical usage has impacted the subsurface;
- Subsurface investigation of shallow soils to determine if diesel tank and waste oil housekeeping issues and the oil water separator have impacted the subsurface.

Although not a part of the ASTM E1527-13 scope, the following additional site concerns must be considered:

- Based on the apparent age of the buildings at the site, it is possible that ACM and lead-based paint are present within the structures. PWGC recommends that, prior to demolition or renovation of the building, a proper asbestos and lead survey be performed, and identified ACM and/or lead based paint be properly abated.
- Given the location of the site within the five boroughs of New York City, there is a potential for historic fill material to be present beneath the site. Such material, if excavated (for the purpose of constructing a building, installing new footings, and/or utilities in the construction of new buildings), will require special handling and disposal.

2.0 INTRODUCTION

2.1 Purpose

BEB Capital (Client) retained P.W. Grosser Consulting, Inc. (PWGC) to prepare a Phase I Environmental Site Assessment (ESA) for the property located at 1045 Atlantic Avenue, Brooklyn, New York. The purpose of the Phase I ESA was to identify and evaluate the presence of Recognized Environmental Conditions (RECs) at the subject site. RECs are the presence or likely presence of any hazardous substance or petroleum product under conditions that indicate an existing release, a past release or material threat of a release of any hazardous substance or petroleum product into structures on the property or into the ground, groundwater or surface water of the property.

2.2 Scope of Services

The assessment consisted of a visual inspection of the site and surrounding areas, interviews, a review of historical information and aerial photographs, and a review of pertinent local, state, federal and facility records. Environmental Data Resources (EDR) of Shelton, Connecticut provided the following: a database search of environmental compliance records of sites within an ASTM standard radius of the property, a Sanborn fire insurance map search, historical aerial photograph search and a historical telephone directory search.

PWGC reviewed the environmental database report compiled by EDR as a part of the assessment. The purpose of the review was to identify reported listings for the subject property or other properties in the site vicinity. Databases reviewed included federal and state lists of known or suspected contaminated sites, lists of known handlers or generators of hazardous waste, lists of known waste disposal facilities, and lists of aboveground and underground storage tanks (ASTs and USTs). PWGC's review of the database has been incorporated into this report along with a copy of the EDR report.

The work was conducted in accordance with the American Society for Testing and Materials (ASTM) Standard E 1527-13 (Standard Practices for Environmental Site Assessment: Phase I Environmental Site Assessment Process), 40 CFR Part 312 (Standards and Practices for All Appropriate Inquiry; Final Rule) and PWGC's proposal for services.

2.3 Definitions

1. RECs are the presence or likely presence of any hazardous substance or petroleum product in, on, or at a property: (1) due to any release to the environment; (2) under the conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.
2. Historic RECs (HREC) are identified as a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (e.g., property use restrictions, activity or use limitations (AULs), institutional controls, or engineering controls).
3. Controlled RECs (CREC) are identified as a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (e.g., as evidenced by the issuance of a No Further Action (NFA) letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (e.g., property use restrictions, AULs, institutional controls, or engineering controls).
4. A *de minimus* condition generally does not present a threat to human health or of the environment, and generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimus* conditions are not RECs nor CRECs.

2.4 Significant Assumptions

PWGC has made the following significant assumptions in the preparation of this report:

1. Groundwater Flow Direction – Based upon regional groundwater elevation maps, and local topography, regional groundwater flow direction appears to be toward the northeast.
2. Regulatory Records Information - PWGC assumes that all information provided by EDR regarding the regulatory status of facilities within the ASTM Standard approximate minimum search distance is complete, accurate and current.
3. Other - PWGC assumes that all information provided through interviews is complete and unbiased.

2.5 Limitations and Exceptions

The conclusions presented in this report are professional opinions based on the data described in this report. These opinions have been arrived at in accordance with currently accepted engineering and hydrogeologic standards and practices applicable to this location, and are subject to the following inherent limitations:

1. The data presented in this report are from visual inspections, examination of records in the public domain, and interviews with individuals having information about the site. The passage of time, manifestation of latent conditions, or occurrence of future events may require further exploration of the site, analysis of data, and re-evaluation of the findings, observations, and conclusions presented in this report.
2. The data reported, and the findings, observations, and conclusions expressed are limited by the scope of work. The scope of work was defined by the request of the client.
3. No warranty or guarantee, whether expressed or implied, is made with respect to the data reported, findings, observations, or conclusions. These are based solely upon site conditions in existence at the time of the investigation, and other information obtained and reviewed by PWGC.
4. PWGC's Phase I ESA report presents professional opinions and findings of a scientific and technical nature. While attempts were made to relate the data and findings to applicable environmental laws and regulations, the report shall not be construed to offer legal opinion or representations as to the requirements of, nor compliance with, environmental laws, rules, or regulations, or policies of federal, state, or local government agencies. PWGC does not assume liability for financial or other losses or subsequent damage caused by or related to any use of this document.
5. The conclusions presented in this report are professional opinions based on data described in this report. They are intended only for the purpose, site location, and project indicated. This report is not a definitive study of contamination at the site and should not be interpreted as such.
6. This report is based, in part, on information supplied to PWGC by third-party sources. While efforts have been made to substantiate this third-party information, PWGC cannot attest to the completeness or accuracy of information provided by others.

2.6 Special Terms and Conditions

Authorization to perform this assessment was given by a proposal for services between BEB Capital and PWGC.

2.7 User Reliance

This report was prepared for the exclusive use of BEB Capital. PWGC assumes no liability for use of this report by any person or entity other than those for which it was prepared.

2.8 Data Gaps

Any data gaps identified herein, as defined by ASTM Practice E 1527-13 § 3.2.20, are not considered to have significantly affected the ability to identify RECs in connection with the subject property and do not alter the conclusions of this report.

3.0 PROPERTY DESCRIPTION AND PHYSICAL SETTING

3.1 Location and Legal Description

The subject property consists of one parcel located at 1045 Atlantic Avenue in the Bedford-Stuyvesant neighborhood of Brooklyn, New York. The site is located in the Borough of Brooklyn and Kings County. The property is identified in the New York City Tax Map as 02020-0077.

A Site Location Map is included as **Figure 1** and a Site Plan is included as **Figure 2**; photos of the site are included in **Appendix A**.

3.2 Site Description and Improvements

The subject property measures approximately 27,400 square feet and is occupied by a one-story industrial building with basement, warehouse building and a concrete paved rear yard.

3.2.1 Municipal Services and Utilities

Utility services are provided to the property as follows:

- Heating/Cooling System – The property has a #2 fuel oil boiler and an electric water heater.
- Water Supply – The property is connected to the municipal water supply system.
- Sanitary System – The property is connected to the municipal sewer system.
- Electric – The property receives electricity from Consolidated Edison.

3.3 Physical Setting

The topography of the site and surrounding area was reviewed from the USGS 7.5-minute series topographic map for the Brooklyn, New York quadrangle. The property elevation is approximately 79 feet above the National Geodetic Vertical Datum (NGVD). Regional physiographic conditions are summarized below.

3.3.1 Regional Geology / Hydrogeology

The geologic setting of Long Island is well documented and consists of crystalline bedrock composed of schist and gneiss overlain by layers of unconsolidated deposits. Immediately overlying the bedrock is the Raritan Formation, consisting of the Lloyd sand confined by the Raritan Clay Member. The Lloyd sand is an aquifer and consists of discontinuous layers of gravel, sand, sandy and silty clay, and solid clay. The Raritan Clay is a solid and silty clay with: few lenses of sand and gravel; abundant lignite and pyrite; and gray, red or white in color.

Above the Raritan Clay lies the Magothy Formation. The Magothy Aquifer consists of layers of fine to coarse sand of moderate to high permeability, with inter-bedded lenses of silt and clay of low permeability resulting in areas of preferential horizontal flow. Therefore, this aquifer generally becomes more confined with depth. The Magothy Aquifer is overlain by the Upper Glacial Aquifer. The Upper Glacial Aquifer is the water table aquifer at this location and is comprised of medium to coarse sand and gravel with occasional thin lenses of fine sand and brown clay. This aquifer extends from the land surface to the top of the Magothy and, therefore, is hydraulically connected to the Magothy Aquifer.

3.3.2 Local Hydrogeology

Based upon the site elevation and regional groundwater contour maps, the depth to groundwater beneath the site is approximately 66 feet below existing grade. Regional groundwater flow is estimated to be toward the northeast.

Based upon information contained within the EDR report, there are no public water supply wells within a one-mile radius of the subject property.

3.3.3 Flood Potential

PWGC reviewed the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) to determine if the subject property is located within the 100-year or 500-year flood zones. Based upon FIRM data, it appears that the subject property is not located within the 100 or 500-year flood zone (FEMA Map Panel ID: 3604970063B)

3.3.4 Direction and Distance to Nearest Surface Water

Based on topographic maps, it appears that the nearest permanent surface water body is Prospect Park Dog Beach, located approximately 1.21 miles south of the subject property.

4.0 PROPERTY USAGE

4.1 Current Property Usage

The subject property is currently used as Gaffney Plumbing and Heating Supply.

4.2 Current Usage of Adjoining/Surrounding Properties

A summary of the surrounding properties is as follows:

Table 4-1 - Surrounding Property Usage

Direction	Property Description
North	Residential, Commercial
South	Atlantic Avenue, Zap Auto Lube, Atlantic Brushless Car Wash, Parking garage, Commercial
East	Tarmac Auto Body Center, Commercial
West	Meineke Car Care Center, Commercial

4.3 Historical Usage of Subject Property and Surrounding Properties

Historical sources researched to determine past usage of the subject property and surrounding properties are as follows:

Sanborn Fire Insurance Maps - EDR was retained to provide historical Sanborn fire insurance maps of the subject and adjacent properties. Historical Sanborn maps for the subject property and surrounding area were reviewed for the years available which include 1888 to 2007. Review of the maps is summarized in Table 4-2. A copy of the historical Sanborn report is included in **Appendix B**.

Historical Topographic Maps - Historical topographic maps for the subject property and surrounding area were reviewed for the years available which include 1897 to 2013. Review of the maps is summarized in Table 4-2. Copies of historical topographic maps are included as **Appendix C**.

Historical Aerial Photographs - PWGC performed a review of readily available aerial photographs showing the subject property and surrounding area. Photographs were reviewed for the years available which include 1924

to 2017. Review of the photos is summarized in Table 4-2. A copy of the aerial photograph search is included in **Appendix D**.

City Directory Listings - EDR was retained to provide a directory of historical telephone listings at the subject property and surrounding properties. City directories were reviewed for the years available which 1928 to 2014. A copy of the city directory report is included as **Appendix E**.

Table 4-2 - Subject Property Historical Usage

Date(s)	Source	Issues Noted	Description
1888 to 1900	SB, TM	No	The property appears to be undeveloped, except for residential dwellings along the northern and western property boundaries.
1908	SB	No	The subject property is occupied by residential dwellings as previously noted along the northern and western property boundaries, with the addition of a furniture repair shop on the western portion of the property and a small, unknown structure on the eastern portion of the property.
1924 to 1940	SB, TM, AP, CD	Yes	The previously noted residential and furniture repair structures have been removed. The subject property is improved with parking garage with parking capacity for 100 cars and a building used for auto sales, service and repairs that occupy the entirety of the lot. Two gasoline tanks are located at the northeast and northwest corners of the building.
1951 to 1980	SB, TM, AP, CD	Yes	The subject property appears to be used as a manufacturing, assembly and painting facility for U. S. Metal Products Co. Inc. from approximately 1951 to approximately 1965 and for Blue Fox Industries Inc from approximately 1973 to approximately 1980. Two gasoline tanks are identified on the subject property.
1982 to 2017	SB, TM, AP, CD	Yes	The prior building and previous gasoline tanks appear to have been demolished (except the eastern portion) and construction of a new building along Atlantic Ave resulting in the present-day buildings. The subject property appears to have been used as an open-air parking lot in the rear with a variety of different companies using the manufacturing and office spaces including: Vanguard Oil & Service Co; Nu Way Oil Burners, COD Fuel, and, Onsite Petroleum Unlimited.
Sources: SB – Sanborn Map; TM – Historical Topographic Map; AP – Aerial Photograph; CD – City Directory			

Historical usage of the subject property indicates that it was first developed prior to 1888, used for residential purposes from at least 1888 to 1908, and commercial and industrial purposes from approximately 1908 to the present. Historical usage of the subject property indicative of potential RECs include the following:

- Historic usage of the property for metals manufacturing which likely used chlorinated solvents; and,
- Historic usage of the property for auto repair, and petroleum delivery services, which likely used and stored petroleum products.

Table 4-2 – Surrounding Area Historical Usage

Date(s)	Source	Issues Noted	Description
1888 to 1900	SB, TM	No	North: Residential South: Atlantic Avenue, Commercial, Residential East: Commercial, Industrial West: Commercial, Industrial
1908	SB	No	North: Residential South: Atlantic Avenue, Piano Factory, Lumber yard East: Candy Factory, Wagon House, Stables West: Gliddon Scaffolding & Rigging
1924 to 1995	SB, TM, AP, CD	Yes	North: Residential South: Atlantic Avenue, Piano Factory, Lumber yard, Transit System, gasoline service stations East: Used Cars, Auto Repair Radio Sales, Battery Service West: Auto sales and Service, Garage, Manufacturing
2001 to present	SB, TM, AP, CD	Yes	North: Residential South: Atlantic Avenue, car wash, parking, auto service East: Auto body shop, paint shop West: Auto repair
Sources: SB – Sanborn Map; TM – Historical Topographic Map; AP – Aerial Photograph; CD – City Directory			

Review of historical information reviewed for the properties surrounding the subject property indicate that the area has been developed prior to 1888. The area adjacent to the subject property has a history of manufacturing, industrial and automotive usage. Historical usage of properties in the surrounding area indicative of potential RECs include the following:

- Adjacent auto repair to the east and west of the subject property.
- Manufacturing of toys, radios, etc. to the west of the subject property.
- Gasoline service stations up-gradient of the subject property.

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5.0 USER PROVIDED INFORMATION

5.1 User Requirements

The user of a Phase I ESA report, in accordance with the USEPA All Appropriate Inquiries (AAI) Rule and ASTM E1527-13 has certain responsibilities which include providing the following information, if available, to PWGC to be included within the Phase I Report. Additionally, PWGC provided the user of the report a User Questionnaire form. The information requested in the User Questionnaire is intended to assist in gathering information that may be material to identify if RECs are present at the subject property. A copy of the User Questionnaire and any provided documents are included in **Appendix F**; relevant information has been incorporated into this report.

5.2 Title Records

Title records for the site may contain information about past owners and uses of the subject property. The title report may also contain site information such as restrictive declarations which are limitations on site uses based upon know environmental conditions. As of the date of this report the user has not provided PWGC with a title search or requested that PWGC perform a title search.

5.3 Environmental Liens

An environmental lien is a charge, security or encumbrance upon title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup or other remediation of hazardous substances or petroleum products upon a property, including, but not limited to, liens imposed pursuant to CERCLA 42 USC § 9607 (1) & 9607(r) and similar state and local laws. As of the date of this report the user has not provided PWGC with a lien search or requested that PWGC perform a lien search.

5.4 Specialized Knowledge

The user provided no specialized knowledge about the property to PWGC.

5.5 Commonly Known or Reasonably Ascertainable Information

The user provided no commonly known information about the property to PWGC.

5.6 Valuation Reduction for Environmental Issues

The user provided no information regarding price adjustments to the subject parcels value due to environmental issues.

5.7 Owner, Property Manager and Occupant Information

The property is currently owned by Slaw Realty Co., Inc and operated by Gaffney Plumbing and Heating Supply.

5.8 Reason for Performing Phase I ESA

The Phase I ESA was performed to evaluate potential RECs prior to a potential property transaction.

6.0 RECORDS REVIEW

6.1 Standard Environmental Record Sources

EDR of Shelton, Connecticut was retained to provide a database search of the project area within an ASTM-standard radius of the subject property. A list of the databases searched, and the search radius is shown on the summary table below. PWGC reviewed the database output to determine if the property appears on any of the regulatory agency lists. Detailed information concerning each database list is provided in the EDR report (**Appendix G**).

In order to evaluate the potential for a site to have an adverse impact to the subject site, the migration pattern of contaminants in media such as groundwater or soil vapor is considered. Based upon the presumed regional flow towards the northeast, the following is assumed:

- Sites located southwest of the subject site are considered to have the highest potential to impact the subject site and are referred to as "up-gradient."
- Sites located northeast of the subject site, which are not neighboring or adjacent to the subject site are considered to have the least potential to impact the subject site and are referred to as "downgradient."
- All other sites not adjacent to or neighboring the subject property are referred to as "cross-gradient" and are considered to have minimal potential to impact the subject site.

A summary of standard environmental record sources researched is as follows:

6.1.1 Federal Databases

The table below summarizes the Federal databases that were searched.

Table 6-1 - Federal Databases Searched

Agency	Listing Name or database Searched	Abbreviation	Search Distance	Target Property Identified	Nearby Properties Identified
USEPA	National Priority List	NPL	1.0 mile	No	0
USEPA	National Priority List Deletions	Delisted NPL	0.5 mile	No	0
USEPA	Superfund Enterprise Management System	SEMS	0.5 mile	No	0

Agency	Listing Name or database Searched	Abbreviation	Search Distance	Target Property Identified	Nearby Properties Identified
USEPA	Superfund Enterprise Management System Archive	SEMS-ARCHIVE	0.5 mile	No	0
USEPA	Resource Conservation and Recovery Act Corrective Action Activity	CORRACTS	1.0 mile	No	0
USEPA	Resource Conservation and Recovery Act Treatment/Storage/Disposal Facilities	RCRA TSD	0.5 mile	No	0
USEPA	Resource Conservation and Recovery Act Small/Large Quantity Hazardous Waste Generators	RCRA SQG/LQG/ CESQG/ Non-Gen	Subject Property and Adjoining	Yes	5
USEPA	Federal Institutional/Engineering Control registries	US INST/ENG Controls	Subject Property	No	0
USEPA	Emergency Response Notification System	ERNS	Subject Property	Yes	N/A
USEPA	Superfund (CERCLA) Consent Decrees	CONSENT	1.0 mile	No	0
USEPA	Records of Decision	ROD	1.0 mile	No	0
USEPA	Mines Master Index	MINES	0.25 mile	No	0

Review of the EDR Radius Map Report indicates that the subject property is listed in Federal environmental databases searched. The subject property and nearby properties identified within the ASTM standard federal database search radii are detailed below.

RCRA Generators - The RCRA Generators database is a compilation of reporting facilities that generate hazardous waste. A Small Quantity Generator (SQG) is a site which generate more than 100 and less than 1000 kg of hazardous waste during any one calendar month and accumulates less than 6000 kg of hazardous waste at any time; or a site which generates less than 100 kg of hazardous waste during any one calendar month and accumulates less than 1000 kg of hazardous waste at any time. Large Quantity Generators (LQG) generate more than 1000 kg of hazardous waste per month. A Conditionally Exempt SQG (CESQG) generates less than 100 kg of waste a month. A RCRA non-generator (RCRA Non-Gen) no longer produces hazardous waste.

The subject property is identified as a RCRA Generator site. Vanco Environmental Inc., is identified as a non-generator from 1999 through 2006, it was previously identified as a LQG in 1983. No wastes were identified in the database report. No violations were found. Based on the information available in the database report, this does not appear to represent an environmental concern to the subject property.

Five adjacent sites are identified as RCRA Non-Gen properties. Four of these sites are Con Edison Service Boxes identified as:

- Con Edison Service Box: 14842 at 1027 Atlantic Avenue. No violations found;
- Con Edison Service Box: 14843 at 1037 Atlantic Avenue. No violations found;
- Con Edison Service Box: 14849 at 1061 Atlantic Avenue. No violations found;
- Con Edison Service Box: 29190 at 198 Lefferts Place. No violations found;

The fifth site is Tarmac Auto Body Center, located at 1053 Atlantic Avenue. No violations found. Based on the information available in the database report, these sites do not appear to represent an environmental concern to the subject property.

Emergency Response Notification System - The Emergency Response Notification System (ERNS) is a national database used to collect information on reported releases of oil or hazardous substances.

The subject property is identified as an ERNS site. In 2013, a tractor trailer was illegally parked in the street in front of the subject property that was full of garbage and odorous. The police were notified, and a ticket was issued. Based on the information available in the database report, this does not appear to represent an environmental concern to the subject property.

6.1.2 State and Local Databases

The table below summarizes the State databases that were searched.

Table 6-2 - New York State and Local Databases Searched

Agency	Listing Name or database Searched	Abbreviation	Search Distance	Target Property Identified	Nearby Properties Identified
NYSDEC	Inactive Hazardous Waste Disposal Sites in New York State	SHWS	1.0 mile	No	1
NYSDEC	Hazardous Substance Waste Disposal Site Study	HSWDS	0.5 mile	No	0
NYSDEC	Solid Waste Facility Register	SWF/LF	0.5 mile	No	4
NYSDEC	Registered Recycling Facilities	SWRCY	0.5 mile	No	0
NYSDEC	Registered Waste Tire Storage Facilities	SWTIRE	0.5 mile	No	0
NYSDEC	Leaking Underground Storage Tank Sites	LTANKS	0.5 mile	No	44
NYSDEC	Petroleum Bulk Storage (PBS)	UST/AST	Subject Property and Adjoining	Yes	0
NYSDEC	Chemical Bulk Storage (CBS)	CBS AST/UST	Subject Property and Adjoining	No	0
NYSDEC	Institutional/Engineering Control registries	INST/ENG Controls	Subject Property	No	N/A
NYSDEC	Voluntary Cleanup Agreements	VCP	0.5 mile	No	20
NYSDEC	Brownfield sites	Brownfields	0.5 mile	No	1
NYSDEC	Major Oil Storage Facilities	MOSF	0.5 mile	No	0
NYSDEC	New York State Spills	NYSPILLS	0.125 mile	No	24
NYSDEC	Dry Cleaner Site	Drycleaners	0.25 mile	No	3
NYC	E-Designation	E-DES	Subject Property	No	N/A

Review of the EDR Radius Map Report indicates that the subject property is listed in State environmental databases searched. The subject property and nearby properties identified within the ASTM standard State database search radii are detailed below.

New York State Inactive Hazardous Waste Disposal Sites - The New York State Department of Environmental Conservation (NYSDEC) maintains a state priority list of Inactive Hazardous Waste Disposal Sites (SHWS)

considered to be actually or potentially contaminated and presenting a possible threat to human health and the environment. Referred to as the State Superfund Program, the Inactive Hazardous Waste Disposal Site Remedial Program is the cleanup program for inactive hazardous waste sites and now includes hazardous substance sites. The subject property is not identified as a SHWS site. One property within the search radius is identified as a SHWS site. The one identified SHWS site appears to be located down gradient of the subject property and as such, appears unlikely to represent an environmental concern to the subject property.

Solid Waste Facility Register - The NYSDEC Solid Waste Facility Register (SWF) records contain an inventory of solid waste disposal facilities or landfills in New York State.

The subject property is not identified as a SWF site. Four properties within the search radius are identified as SWF sites. Of the four identified SWF sites, one appears to be located cross gradient of the subject property and as such, appears unlikely to represent an environmental concern to the subject property. Two identified SWF sites that appear to be located upgradient of the subject property are listed as inactive, with no violations listed and do not have active concerns in the other environmental databases. The fourth identified SWF site appears to be located adjacent to the subject property. Atlantic Auto Sales Trading Corp. is located at 1120 Atlantic Avenue and is listed as inactive. No violations or active concerns in the other environmental databases were noted. Based on the information available in the database report, these sites do not appear to represent an environmental concern to the subject property.

Leaking Underground Storage Tank Sites - The Leaking Underground Storage Tank Sites (LTANKS) database contains a NYSDEC inventory of reported leaking storage tank incidents. They can be either leaking underground storage tanks or leaking aboveground storage tanks. The causes of the incidents are tank test failures, tank failures or tank overfills.

The subject property is not identified as a LTANKS site. Forty-four properties within the search radius are identified as LTANKS sites. Of the 44 identified LTANKS sites, 44 have been closed by NYSDEC and as such appear unlikely to represent an environmental concern to the subject property.

Petroleum Bulk Storage - The NYSDEC Petroleum Bulk Storage (PBS) - UST database lists facilities with a petroleum storage capacity of more than 1,100 gallons and less than 400,000 gallons. The NYSDEC Petroleum Bulk Storage - AST database lists facilities with registered ASTs.

The subject property is identified as a PBS site. Slaw Realty is an active PBS site with one 3,000-gallon No. 2 Fuel oil AST located on the subject property. The tank is located in a subterranean vault with access for inspections. No violations or spills are associated with this tank. The presence of tanks alone does not necessarily represent an environmental concern. Sites with spills or releases will be addressed in the appropriate section.

Voluntary Cleanup Agreements - The NYSDEC Voluntary Cleanup Program (VCP) database identifies brownfield sites undergoing private sector cleanup as part of redevelopment.

The subject property is not identified as a VCP site. A total of 20 properties within the search radius are identified as VCP sites; however, each of these sites are listed as NYC VCP sites, not NYS VCP sites. Sites that have been investigated under the NYC VCP program, if determined to be a significant threat to human health or the environment because of contamination migrating off-site, are typically transferred to one of the NYS programs. Of the 20 identified VCP sites, 17 appear to be located down or cross gradient of the subject property and as such, appear unlikely to represent an environmental concern to the subject property. Of the 3 identified VCP sites that appear to be located up gradient of the subject property, the closest one is located several blocks up-gradient and the sites do not appear to be listed in other environmental databases indicating actual releases at the properties. Based on the information available in the database report, these sites do not appear to represent an environmental concern to the subject property.

Brownfields - A Brownfield is any real property where redevelopment or re-use may be complicated by the presence or potential presence of a hazardous waste, petroleum, pollutant, or contaminant.

The subject property is not identified as a NYSDEC Brownfield site. One property within the search radius is identified as a NYSDEC Brownfield sites. The one identified NYSDEC Brownfield site appears to be located cross gradient of the subject property and as such, appears unlikely to represent an environmental concern to the subject property.

New York State Spills - The New York State Spills Information Database (NYSPILLS) contains data collected on chemical and petroleum spill incidents reported to NYSDEC since April 1, 1986.

The subject property is not identified as a NYSPILLS site. Twenty-four properties within the search radius are identified as NYSPILLS sites. Of the 24 identified NYSPILLS sites, 23 have been closed by NYSDEC, and as such appear unlikely to represent an environmental concern to the subject property. The one identified NYSPILLS site listed as active appears to be located cross gradient of the subject property and as such, appear unlikely to represent an environmental concern to the subject property.

Drycleaners – The NYSDEC maintains registry of Registered Drycleaner (RDC) sites.

The subject property is not identified as a RDC site. Three properties within the search radius are identified as RDC sites. Of the three identified RDC sites, all appear to be located down gradient of the subject property and as such, appear unlikely to represent an environmental concern to the subject property.

6.1.3 EDR Databases

The table below summarizes the EDR databases that were searched.

Table 6-3 - Additional Databases Searched

Agency	Listing Name or database Searched	Abbreviation	Search Distance	Target Property Identified	Nearby Properties Identified
EDR	Manufactured Gas Plants	MGP	1.0 mile	No	0
EDR	Historical Drycleaners	HDC	0.25 mile	No	4
EDR	Historical Auto Station	HAS	0.125 mile	No	11

Review of the EDR Radius Map Report indicates that the subject property is not listed in EDR proprietary databases searched. The nearby properties identified within the EDR proprietary database search radii are detailed below.

EDR Historical Cleaners: EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc.

The subject property is not identified as a HDC site. Four properties within the search radius are identified as HDC sites. Of the four identified HDC sites, all appear to be located down or cross gradient of the subject property and as such, appear unlikely to represent an environmental concern to the subject property.

EDR US Historical Auto Stations – EDR has searched national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers.

The subject property is not identified as a HAS site. Eleven properties within the search radius are identified as HAS sites. Of the 11 identified HAS sites, 4 appear to be located down or cross gradient of the subject property and as such, appear unlikely to represent an environmental concern to the subject property. Seven identified HAS sites appear to be located up gradient of the subject property. The presence of a historical auto station alone does not necessarily represent an environmental concern. Sites with spills or releases will be addressed in the appropriate section.

6.1.4 Orphan Sites

Orphan sites are properties, that due to an inadequate or incomplete address in government databases or in base map files, are not able to be geographically located (i.e. mapped or geocoded). This can occur for several reasons; no street number or street name in address given; the street address is given only as a P.O. Box; or when inconsistencies exist in the address (street number does not exist in the city / zip code given).

Seven orphan sites were identified in the EDR report. PWGC performed a cursory review of the address listed. It does not appear that the subject property or neighboring properties are identified in the orphan summary.

6.2 Vapor Encroachment

PWGC performed a Tier 1 Vapor Encroachment Screening for the subject property in accordance with ASTM E2600-15, Vapor Encroachment Screening on Property Involved in Real Estate Transactions. In accordance with

ASTM E2600-15, the default Area of Concern (AOC), adjusted to account for the groundwater flow direction in the vicinity of the subject property, is defined as follows:

Direction Relative to Subject Property	Petroleum Impacted Sites AOC Radius	Contaminants of Concern Impacted Sites AOC Radius
Up Gradient	528 feet	1760 feet
Cross Gradient	165 feet (LNAPL) 95 feet (dissolved)	365 feet
Down Gradient	100 feet (LNAPL) 30 feet (dissolved)	100 feet

PWGC evaluated sites identified in Federal and State databases (see Section 6.1) located within the adjusted AOC radii for the potential for petroleum impact and or contaminants of concern (such as perc) to be present. The following sites were identified within the adjusted AOC:

- Subject property listed as AST, ERNS, FINDS, ECHO
- One RCRA Non-Gen site;
- Six EDR HAS sites; and,
- One SWF/LF site;

Each of these sites was evaluated for the potential for a vapor encroachment condition (VEC) to be present. Based on these sites' lack of apparent impact present and/or closed status, PWGC has determined that none are likely to represent a VEC at the subject property.

A copy of the Tier 1 Vapor Encroachment Screening is included as **Appendix H**.

6.3 Additional Environmental Record Sources

6.3.1 Freedom of Information Act Requests

Freedom of Information Act (FOIA) requests were sent to the United States Environmental Protection Agency, Region 2 (USEPA) and the New York State Department of Environmental Conservation, Region 2 (NYSDEC). Copies of FOIA requests are included in **Appendix H**.

As of the date of this report, responses to FOIA requests have not been received, except as noted below. As responses were not provided within the allotted due diligence period, the records were deemed not to be "reasonably ascertainable" at this time. Should records become available at a later date, pertinent information will be forwarded as an addendum upon receipt.

6.3.2 Publicly Available Information

Information regarding the subject property available on the commercial real estate website www.propertyshark.com (an aggregator of publicly available real estate information) was reviewed to identify pertinent information. No indication of environmental issues was identified.

Information regarding the subject property available on the New York City Department of Buildings (NYCDOB) website was reviewed to identify pertinent information. Indication of potential environmental issues were identified. Information of note from the NYCDOB site included:

- A 1998 permit for the replacement of the boiler/burner and fuel oil tank.
- A 2000 permit for accessory open storage of combustible gas cylinders, including propane, oxygen, and acetylene.

Copies of publicly available information are included in **Appendix H**.

7.0 SITE RECONNAISSANCE

7.1 Methodology and Limiting Conditions

Mr. Michael Gaul of PWGC performed the site inspection on March 12, 2019. Weather conditions during the inspection were partly cloudy with a temperature of approximately 40° Fahrenheit.

The site inspection consisted of an inspection of the interior portions of the existing building, followed by inspection of the exterior portions of the property. Limitations were as follows:

- No access to the building roofs
- No access to the triangular open area east of the storage building due to an inaccessible door
- Limited access within the storage building, main building storage areas and parking lot area due storage of plumbing supplies, shelving, machinery and tools
- Partial access to the 3000-gallon #2 heating oil AST due to the tank containment

7.2 Aboveground Storage Tanks (AST)

PWGC identified five ASTs at the site. The size, variety and condition of the tanks were as follows:

- One 3000-gallon active #2 heating oil tank. The tank is located in a containment vault in the basement with fill and vent lines running to the rear of the property. No visible staining, damage, or olfactory evidence of a spill were noted. This tank is identified on the PBS listing for the subject property.
- One 275-gallon active diesel tank. The tank is located in the rear parking area. The tank had light corrosion, but no visible punctures. Large quantity of petroleum staining visible around the tank with absorbent material placed under the tank. This tank is not identified in the PBS listing for the subject property.
- One 275-gallon active waste oil tank. The tank is located on concrete blocks above damaged pavement in the rear parking area. The tank had light corrosion, but no visible punctures. Small quantity of petroleum staining visible under the tank. This tank is not identified in the PBS listing for the subject property.
- Two 275-gallon empty inactive tanks. Both tanks were located on top of a storage container and were not able to be inspected. These tanks are not identified in the PBS listing for the subject property.

7.3 Underground Storage Tanks (UST)

PWGC did not identify evidence of USTs, such as fill ports or vent lines at the site.

7.4 Hazardous and Non-Hazardous Chemical Storage

PWGC observed chemical storage consisting of the following:

- Storage of bags of calcium chloride (ice melt) in the storage building
- Storage of paint (closed 5-gallon containers or less) in both the storage building and the utility room in the main building

Chemical storage was stored in tact with no housekeeping issues noted.

7.5 Waste Generation, Storage, and Disposal

PWGC observed evidence of waste generation, storage or disposal consisting of the following:

- One large dumpster in the rear parking area containing primarily wood and cardboard waste.

7.6 Polychlorinated Biphenyls (PCBs)

PWGC did not identify potentially PCB containing equipment such as electrical transformers or hydraulic lifts at the site.

7.7 Additional Site Conditions

The following is a summary of visual and/or physical observations made by PWGC at the time of the site inspection. Photographs of pertinent observations are included in **Appendix A**.

Table 7-1 - Additional Site Conditions

Condition	Identified
Interior drains, trenches or sumps.	Yes[1]
Interior stains or corrosion	No
Unusual odors	No
Interior pools of liquid	No
Stained Soils or Pavement	Yes[2]
Stressed Vegetation	No
Indications of solid waste disposal	No
Exterior ponds, pits, or lagoons	No
Wastewater or storm water discharge/disposal	Yes[3]
Oil water separators/clarifiers	Yes[4]
Septic Systems/Cesspools	No

Condition	Identified
Wells (Drinking water, monitoring wells, agricultural/ irrigation wells, or process water wells)	No
Petroleum or natural gas pipelines or easements	No
Other	No

1 – Two floor drains were observed at the subject property, with one located in the warehouse building and one in the basement of the main building. In addition, one sump pit was identified in the basement of the main building and one car inspection trench/pit was identified in the storage building. No chemical storage or staining was identified in the vicinity of the floor drains and pits. According to the site manager, both the drains and the sump pit discharge to the municipal sewer. In addition, the site manager indicated that the car inspection pit had been filled with concrete and abandoned, which is evident from observing he outline of the former pit, currently filled with concrete.

2 – Stained pavement was identified in the vicinity of both 275- gallon ASTs within the parking area. Staining was identified under the waste oil AST and in a large radius around the diesel AST. According to the site manager, staining in the vicinity of the tanks was primarily due to poor housekeeping practices and not releases from the tanks.

3 – A set of five outdoor drains were identified in the parking area at the subject property. No chemical storage or staining was identified in the immediate vicinity of the drains. According to the site manager, the drains discharge to the municipal sewer system.

4 – One oil water separator was identified in the western portion of the outdoor parking area. According to the site manager, the separator is inactive and to his knowledge, had not been abandoned.

7.8 Neighboring Properties

PWGC performed a cursory inspection of the neighboring properties from the subject site and public right of ways. The neighboring properties are used for residential, commercial and industrial purposes. Potential environmental concerns observed at neighboring properties included:

- The property located to the southwest (across Atlantic Avenue) is currently used by a demolition contractor. This property usage can include the utilization and storage of hazardous substances and petroleum products for fueling, cleaning, and repairs.
- Properties located to the east (adjacent), southwest, and west are currently used for auto repair shops. This property usage can include the utilization and storage of hazardous substances and petroleum products for fueling, cleaning, and repairs.
- A property located to the southwest (across Atlantic Avenue) is currently used for a gasoline filling station. This property usage includes the storage of petroleum products for vehicle fueling.

8.0 INTERVIEWS

8.1 Current Owner/Occupant

PWGC interviewed David of Gaffney Plumbing and Heating, the site manager and current occupant of the subject property. David did not have knowledge of environmental issues at the site. Information provided by David has been incorporated into this report where appropriate.

PWGC interviewed Daniel Lebor of Terra CRG, the representative of the client. Daniel did have knowledge of environmental issues at the site. Information provided by Daniel is summarized below and has been incorporated into this report where appropriate.

- A Phase I ESA, Phase II ESA and Tank Abandonment have taken place previously at the site. These documents have been provided to PWGC and are summarized in section 8.2.

8.2 Previous Environmental Reports

PWGC was provided copies of two Phase Is, one Phase II, and one Tank Abandonment report for the subject property. Information included in the reports is summarized below:

8.2.1 Phase I ESA, August 2014

General Consolidated Industries, Inc. (GCI) issued a Phase I ESA for the subject property on August 20, 2014. This Phase I Report references an earlier Phase I from May 2004. A copy of this report was not supplied to PWGC. According to information included in the 2014 Phase I, the RECs from May 2004 included:

- Dye testing on the interior and exterior discharge points.
- The oil water separator (OWS) specifications should be reviewed and the OWS and associated drains should be properly sealed and abandoned.
- The former repair pit should be inspected, and soil boring should be installed.
- Waste manifests for the waste oil produced by the site should be inspected.
- Exterior storage drums should be moved indoors or properly disposed of.
- Stained areas at the exterior diesel storage tank should be cleaned.
- A geophysical investigation should be conducted.
- A subsurface investigation should be conducted within the vicinity of the gasoline tanks as depicted on the Sanborn maps.

- Proper permitting of the onsite ASTs.
- Asbestos-containing materials should be abated, and/or an Operations and Maintenance Program should be implemented.
- The open violations should be rectified.

8.2.2 Phase II ESA, August 2004

GCI issued a Phase II ESA in August 2004. The report references the May 2004 Phase I, discussed above. The RECs were more succinctly summarized as:

- There was a concern that the sinks and/or drains may discharge to an onsite underground injection control (UIC) structure.
- Based on historical usage, there was a concern that undocumented USTs may be present.
- There was a concern that historical usage may have impacted subsurface soils and/or groundwater.

The Phase II included:

- Dye tests which confirmed that the interior and exterior drains, sinks, and sump pit are connected to the New York City Sewer System.
- A geophysical investigation was conducted which identified a 1,000-gallon UST along the northwest side of the building and no magnetic anomaly was identified along the northeast side of the building.
- Soil borings were installed in the former repair pit, near the 1,000-gallon UST in the northwest, and in the northeast area where a gasoline tank was identified on the Sanborn maps. The soil results indicated that volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals met their respective NYSDEC Recommended Soil Cleanup Objectives (SCOs). One SVOC was slightly elevated which was stated to be 'due to site background conditions and is not considered a significant threat to human health.'

8.2.3 Tank Abandonment Report, January 2005

GCI issued a Tank Abandonment Report on January 24, 2005, for a tank abandonment project that occurred at the subject property on December 22, 2004. A 1,000-gallon gasoline/diesel fuel UST was abandoned in place with foam, northwest of the subject building, with piping and vent lines cut and removed. No further action was recommended by GCI.

8.2.4 Phase I ESA, August 2014

The Phase I conducted in August 2014 identified one REC: there was a significant amount of staining around the exterior diesel tank and it was recommended that the area be power washed.

8.3 Local Government Officials

Freedom of Information Act (FOIA) requests were sent to the United States Environmental Protection Agency, Region 2 (USEPA), New York City Fire Department (FDNY), Mayor's Office of Environmental Remediation (OER), Department of Environmental Protection (DEP) and the New York State Department of Environmental Conservation, Region 2 (NYSDEC). Copies of FOIA requests are included in **Appendix H**.

Based upon the site history, interviews with government officials to obtain additional information are not warranted at this time.

9.0 CONDITIONS OUTSIDE THE SCOPE OF ASTM 1527-13

9.1 Wetland Delineation

Based on review of the EDR Radius Map Report, which includes State and Federal wetlands, it appears that State or Federal wetlands are not present on the subject property.

Based on review of the EDR Radius Map Report, no State or Federal wetlands are located within a one-mile radius of the subject property.

9.2 Radon Risk Evaluation

Radon is a colorless, radioactive; inert gas formed by the decay of radium and may be present in soils and rocks containing granite, shale, phosphate and pitchblende. The USEPA's "Map of Radon Zones for New York State", September 1993 indicates that Kings County is not a radon risk area. The EDR report provides information from the New York State Department of Health radon survey which indicates that the average result for sites tested in Kings County is 0.750 Pico curies per liter (pCi/L) in the living area, which is below the USEPA radon action level of 4 pCi/L, and 100% of sites tested in Kings County were below the action level of 4 pCi/L in the living area.

9.3 Asbestos

PWGC did identify evidence of potential asbestos containing material (ACM) at the site. The identified evidence of ACM was approximately ten feet of deteriorating pipe insulation that was noted in the storage building. Based on the apparent age of the buildings, it is possible that additional ACM is present. An inspection of suspected ACM should be conducted at the subject property prior to renovation or demolition, per federal, state and local regulations.

9.4 Lead-Based Paint (LBP)

PWGC did not identify evidence of potential lead-based paint at the site. Based on the apparent age of the buildings, it is possible that lead based paint is present.

9.5 Mold

PWGC did not visually observe significant sources of mold at the site during site reconnaissance.

9.6 Historic Fill

Given the location of the site within the five boroughs of New York City, there is a potential for historic fill material to be present beneath the site. Such material, if excavated (for the purpose of constructing a building, installing new footings, and/or utilities in the construction of new buildings), will require special handling and disposal.

10.0 FINDINGS AND OPINIONS

Based upon reconnaissance of the subject and surrounding properties, interviews and review of historical records and regulatory agency databases, the following potential RECs have been identified:

Onsite

- Historical site usage, including the presence of an out-of-service oil water separator.
- PBS listing for the subject property which includes only the 3,000-gallon AST.
- Housekeeping issues relating to the waste oil and diesel ASTs.

Offsite

- Current and historical usage of surrounding properties.

Potential RECs identified at the subject property were evaluated to determine whether items initially suspected to be RECs are in fact RECs. Evaluation of potential RECs are as follows:

- The site appears to have been historically used for industrial purposes. Historic usage of the property for manufacturing, auto repair, and petroleum delivery services. Current operations include the storage and use of hazardous substances and petroleum products at the site. An oil water separator has historically been utilized at the property which has the potential to leak. No information has been provided regarding sampling of soils below or adjacent to the oil water separator. The oil water separator is reportedly out of service but has not been properly abandoned. Identified historical usages are likely to have used/stored hazardous substances and/or petroleum products at the site as well. Based on the historical usage of the site for industrial purposes, this represents a REC.
- The subject property is currently listed as a PBS site for one 3,000-gallon No. 2 Fuel oil AST located on the subject property. The tank is located in a subterranean vault with limited access for inspections. No violations or spills are associated with this tank. There are four additional ASTs that were identified during the site inspection, which are not included in the PWB listing, including one 275-gallon active diesel AST, one 275-gallon active waste oil AST, and two 275-gallon empty inactive ASTs. PWGC believes the PBS listing for the subject property should be updated to include these additional tanks.
- A significant amount of oil staining was observed at the exterior diesel oil AST believed to be the result of poor dispensing practices. A recommendation was made, in the previous Phase I ESA, to steam clean this area; however, since concrete is porous and significant staining was observed, sampling of the soil beneath the slab to determine if the subsurface has been impacted is warranted. Additionally, the

conditions surrounding the waste oil tank, including staining and cracked concrete, indicates there may be a conduit to the subsurface, which warrants evaluation of the subsurface in this area. Based on the presence of staining and poor house keeping issues related to these ASTs, PWGC believes this represents a REC.

- The subject property is listed as a PBS, ERNS, and RCRA NonGen site. No violations or other issues were identified in the database report with respect to these listings; however, the site inspection did identify issues related to on-site petroleum storage and poor housekeeping practices which is a concern related to historic storage of chemicals. Based on this information, PWGC believes this represents a REC.
- Review of current and historical information for the properties surrounding the subject property indicate that the area has been developed prior to 1888. The area adjacent to the subject property has a history of manufacturing, industrial, and automotive usage. Historical usage of properties in the surrounding area indicative of potential RECs include an adjacent auto repair shops to the east and west of the subject property, manufacturing of toys, radios, etc. to the west of the subject property, and gasoline filling stations to the south. Current usage of surrounding properties includes a demolition contractor to the southwest, auto repair shops to the east, southwest, and west, and a gasoline filling station to the southwest. There does not appear to be any open spills or violations associated with these properties. If contamination is migrating from these sites onto the subject property, it is the responsibility of the responsible party to remediate the spill; however, the contamination may still have an impact on the subject property in the form of contaminated groundwater that may be encountered during redevelopment of the property or contaminated soil vapor that may intrude into existing or proposed buildings. Based upon the estimated depth to groundwater (66 feet) and the presence of several underground utilities that typically create a preferential pathway for soil vapor, the likelihood of impacts migrating onto and impacting the subject property is low; therefore, these sites do not represent a REC.

11.0 CONCLUSIONS AND RECOMMENDATIONS

PWGC has performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-13 for the subject property. There were no exceptions to, or deletions from, this practice except as noted in Section 12.0 of this report. PWGC evaluated the findings associated with the subject property and identified three RECs, zero HRECs, and zero CRECs with respect to the subject property.

Based on the identified RECs, PWGC recommends a Phase II ESA be performed at the site. The Phase II ESA should include:

- Update the PBS listing for the subject property to include the additional four tanks.
- Subsurface investigation of soils and soil vapor to determine if historical usage has impacted the subsurface;
- Subsurface investigation of shallow soils to determine if diesel tank and waste oil housekeeping issues and the oil water separator have impacted the subsurface.

Although not a part of the ASTM E1527-13 scope, the following additional site concerns must be considered:

- Based on the apparent age of the buildings at the site, it is possible that ACM and lead-based paint are present within the structures. PWGC recommends that, prior to demolition or renovation of the building, a proper asbestos and lead survey be performed, and identified ACM and/or lead based paint be properly abated.
- Given the location of the site within the five boroughs of New York City, there is a potential for historic fill material to be present beneath the site. Such material, if excavated (for the purpose of constructing a building, installing new footings, and/or utilities in the construction of new buildings), will require special handling and disposal.

12.0 DEVIATIONS

This Phase I ESA was conducted in accordance with the scope and limitations of the ASTM Standard E 1527-13 (Standard Practices for Environmental Site Assessment: Phase I Environmental Site Assessment Process) and 40 CFR Part 312 (Standards and Practices for All Appropriate Inquiry; Final Rule). Excluding data gaps identified in Section 2.8 and additional services outlined in Section 9.0, there were no deviations or deletions from this practice.

13.0 REFERENCES

All Appropriate Inquiry, Final Rule, 40 CFR Part 312.

Standard practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, ASTM Standard E 1527-13.

General Consolidated Industries, Inc. (GCI), Phase I ESA, August 20, 2014

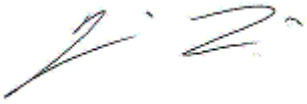
General Consolidated Industries, Inc. (GCI), Phase II ESA, August 2004

14.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312. I have the specific qualifications based on education, training and experience to assess a property of the nature, history and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR 312.



Heather Moran-Botta, SMS
Project Manager



Jennifer Lewis, PG
Sr. Project Manager

Report Completion Date: March 14, 2019

Appendix B
Phase 1 Environmental Site Assessment (ESA): Brooklyn Block 2020, Lots 68, 73, 74 (Executive Summary)

ATLANTIC AVENUE PROPERTIES
1053, 1057, 1059, AND 1065 ATLANTIC AVE
BROOKLYN, NEW YORK
TAX MAP ID: BLOCK 2020; LOTS 73, 74, AND 68

PHASE I
ENVIRONMENTAL SITE ASSESSMENT
(ASTM 1527-13/40 CFR PART 312)

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PWGC Project Number: TOT1901

APRIL 2019

PWGC
CLIENT DRIVEN SOLUTIONS

PHASE I ENVIRONMENTAL SITE ASSESSMENT
1053, 1057, 1059, AND 1065 ATLANTIC AVENUE, BROOKLYN, NEW YORK

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PHASE I ENVIRONMENTAL SITE ASSESSMENT
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1.0 EXECUTIVE SUMMARY

HSBC Bank USA, NA (Client) retained P.W. Grosser Consulting, Inc. (PWGC) to prepare a Phase I Environmental Site Assessment (ESA) for the property located at 1053, 1057, 1059, and 1065 Atlantic Avenue, Brooklyn, New York. The purpose of the Phase I ESA was to identify and evaluate the presence of Recognized Environmental Conditions (RECs) at the subject site. RECs are the presence or likely presence of any hazardous substance or petroleum product under conditions that indicate an existing release, a past release or material threat of a release of any hazardous substance or petroleum product into structures on the property or into the ground, groundwater or surface water of the property.

The subject property consists of three parcels located at 1053, 1057, 1059, and 1063 Atlantic Avenue, Brooklyn, New York in the Bedford-Stuyvesant neighborhood of Brooklyn, New York. The site is located in the Borough of Brooklyn and Kings County. The property is identified in the New York City Tax Map as 02020-0074,0073, and 0068.

The subject property includes:

- 1053 and 1057 Atlantic Avenue (Lot 74) measures approximately 5,120 square feet and is occupied by a one-story building with 2 commercial units. There is a small paved rear yard behind 1053 Atlantic Avenue that contains a walk-in freezer and storage;
- 1059 Atlantic Avenue (Lot 73) measures approximately 1,679 square feet and is improved with a concrete paved lot; and,
- 1065 Atlantic Avenue (Lot 68) measures approximately 5,720 square feet and is occupied by a two-story building with a garage on the first floor and office space, storage and an artist's loft on the second floor. The building occupies the entirety of the lot.

Work was conducted in accordance with the American Society for Testing and Materials (ASTM) Standard E 1527-13 (Standard Practices for Environmental Site Assessment: Phase I Environmental Site Assessment Process), 40 Code of Federal Regulations (CFR) Part 312 (Standards and Practices for All Appropriate Inquiry; Final Rule) and PWGC's proposal for services.

PWGC evaluated the findings associated with the subject property and identified three RECs, zero HRECs and zero CRECs with respect to the subject property. Conditions determined to be RECs are detailed below:

- The 1053, 1057, 1059 and 1065 Atlantic sites all appear to have been historically used for auto repair/painting facilities, with 1065 Atlantic being utilized as an auto repair facility until the present day. Current operations include the storage and use of hazardous substances and petroleum products at the 1065 Atlantic site. Identified historical usages are likely to have used/stored hazardous substances and/or petroleum products at the sites as well. Based on the historical usage of the sites for industrial purposes, this represents a REC.
- Five single piston underground hydraulic lifts were identified within the auto repair facility at the 1065 Atlantic Avenue site. Three of these lifts are still in use and two of the lifts are out of service. The subsurface structures affiliated with hydraulic lifts have the potential to leak. The condition of the subsurface structures of the lifts could not be verified. The two out of service lifts do not appear to have undergone properly abandonment. The presence of underground hydraulic lifts of unknown condition represents a REC.
- Two 275-gallon heating oil ASTs were identified in the basement of the 1065 Atlantic Avenue site. The ASTs appeared to have no evidence of leaking or a release, other than minor corrosion to the tank bodies. Both tanks reside on an in-tact concrete slab with minimal evidence of staining. However, the two ASTs are connected via approximately six feet of underground fill line which fills the one AST from the other. The fill line runs through the subsurface soils under the building and has the potential to leak. The condition of the fill line could not be verified during the site inspection. The presence of the underground fill line of unknown condition represents a REC.

Based on the identified RECs, PWGC recommends a Phase II ESA be performed at the site. The Phase II ESA should include:

- Subsurface investigation of the subject properties including soil and soil vapor investigation.
- Advancement of soil borings to investigate historic site usage, hydraulic lifts and the underground fill line.
- Performance of a geophysical survey across all sites to investigate the discharge point of drains and pits and to identify underground anomalies.

Although not a part of the ASTM E1527-13 scope, the following additional site concerns must be considered:

- Based on the apparent age of the buildings at the site, it is possible that ACM and lead-based paint are present within the structures. PWGC recommends that, prior to demolition or renovation of the buildings, a proper asbestos and lead survey be performed, and identified ACM and/or lead based paint be properly abated.

2.0 INTRODUCTION

2.1 Purpose

HSBC Bank USA, NA (Client) retained P.W. Grosser Consulting, Inc. (PWGC) to prepare a Phase I Environmental Site Assessment (ESA) for the property located at 1053, 1057, 1059, and 1065 Atlantic Avenue, Brooklyn, New York. The purpose of the Phase I ESA was to identify and evaluate the presence of Recognized Environmental Conditions (RECs) at the subject site. RECs are the presence or likely presence of any hazardous substance or petroleum product under conditions that indicate an existing release, a past release or material threat of a release of any hazardous substance or petroleum product into structures on the property or into the ground, groundwater or surface water of the property.

2.2 Scope of Services

The assessment consisted of a visual inspection of the site and surrounding areas, interviews, a review of historical information and aerial photographs, and a review of pertinent local, state, federal and facility records. Environmental Data Resources (EDR) of Shelton, Connecticut provided the following: a database search of environmental compliance records of sites within an ASTM standard radius of the property, a Sanborn fire insurance map search, historical aerial photograph search and a historical telephone directory search.

PWGC reviewed the environmental database report compiled by EDR as a part of the assessment. The purpose of the review was to identify reported listings for the subject property or other properties in the site vicinity. Databases reviewed included federal and state lists of known or suspected contaminated sites, lists of known handlers or generators of hazardous waste, lists of known waste disposal facilities, and lists of aboveground and underground storage tanks (ASTs and USTs). PWGC's review of the database has been incorporated into this report along with a copy of the EDR report.

The work was conducted in accordance with the American Society for Testing and Materials (ASTM) Standard E 1527-13 (Standard Practices for Environmental Site Assessment: Phase I Environmental Site Assessment Process), 40 CFR Part 312 (Standards and Practices for All Appropriate Inquiry; Final Rule) and PWGC's proposal for services.

2.3 Definitions

1. RECs are the presence or likely presence of any hazardous substance or petroleum product in, on, or at a property: (1) due to any release to the environment; (2) under the conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.
2. Historic RECs (HREC) are identified as a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (e.g., property use restrictions, activity or use limitations (AULs), institutional controls, or engineering controls).
3. Controlled RECs (CREC) are identified as a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (e.g., as evidenced by the issuance of a No Further Action (NFA) letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (e.g., property use restrictions, AULs, institutional controls, or engineering controls).
4. A *de minimus* condition generally does not present a threat to human health or of the environment, and generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimus* conditions are not RECs nor CRECs.

2.4 Significant Assumptions

PWGC has made the following significant assumptions in the preparation of this report:

1. Groundwater Flow Direction – Based upon regional groundwater elevation maps, and local topography, regional groundwater flow direction appears to be toward the northeast.
2. Regulatory Records Information - PWGC assumes that all information provided by EDR regarding the regulatory status of facilities within the ASTM Standard approximate minimum search distance is complete, accurate and current.
3. Other - PWGC assumes that all information provided through interviews is complete and unbiased.

2.5 Limitations and Exceptions

The conclusions presented in this report are professional opinions based on the data described in this report. These opinions have been arrived at in accordance with currently accepted engineering and hydrogeologic standards and practices applicable to this location, and are subject to the following inherent limitations:

1. The data presented in this report are from visual inspections, examination of records in the public domain, and interviews with individuals having information about the site. The passage of time, manifestation of latent conditions, or occurrence of future events may require further exploration of the site, analysis of data, and re-evaluation of the findings, observations, and conclusions presented in this report.
2. The data reported and the findings, observations, and conclusions expressed are limited by the scope of work. The scope of work was defined by the request of the client.
3. No warranty or guarantee, whether expressed or implied, is made with respect to the data reported, findings, observations, or conclusions. These are based solely upon site conditions in existence at the time of the investigation, and other information obtained and reviewed by PWGC.
4. PWGC's Phase I ESA report presents professional opinions and findings of a scientific and technical nature. While attempts were made to relate the data and findings to applicable environmental laws and regulations, the report shall not be construed to offer legal opinion or representations as to the requirements of, nor compliance with, environmental laws, rules, or regulations, or policies of federal, state, or local government agencies. PWGC does not assume liability for financial or other losses or subsequent damage caused by or related to any use of this document.
5. The conclusions presented in this report are professional opinions based on data described in this report. They are intended only for the purpose, site location, and project indicated. This report is not a definitive study of contamination at the site and should not be interpreted as such.
6. This report is based, in part, on information supplied to PWGC by third-party sources. While efforts have been made to substantiate this third-party information, PWGC cannot attest to the completeness or accuracy of information provided by others.

2.6 Special Terms and Conditions

Authorization to perform this assessment was given by a proposal for services between HSBC Bank USA, NA and PWGC.

2.7 User Reliance

This report was prepared for the exclusive use of HSBC Bank USA, NA and BEB Capital. PWGC assumes no liability for use of this report by any person or entity other than those for which it was prepared.

2.8 Data Gaps

Any data gaps identified herein, as defined by ASTM Practice E 1527-13 § 3.2.20, are not considered to have significantly affected the ability to identify RECs in connection with the subject property and do not alter the conclusions of this report.

3.0 PROPERTY DESCRIPTION AND PHYSICAL SETTING

3.1 Location and Legal Description

The subject property consists of three parcels located at 1053, 1057, 1059, and 1063 Atlantic Avenue, Brooklyn, New York in the Bedford-Stuyvesant neighborhood of Brooklyn, New York. The site is located in the Borough of Brooklyn and Kings County. The property is identified in the New York City Tax Map as 02020-0074,0073, and 0068.

A Site Location Map is included as **Figure 1** and a Site Plan is included as **Figure 2**; photos of the site are included in **Appendix A**.

3.2 Site Description and Improvements

The subject property includes:

- 1053 and 1057 Atlantic Avenue (Lot 74) measures approximately 5,120 square feet and is occupied by a one-story building with 2 commercial units. There is a small paved rear yard behind 1053 Atlantic Avenue that contains a walk-in freezer and storage;
- 1059 Atlantic Avenue (Lot 73) measures approximately 1,679 square feet and is improved with a concrete paved lot; and,
- 1065 Atlantic Avenue (Lot 68) measures approximately 5,720 square feet and is occupied by a two-story building with a garage on the first floor and office space, storage and an artist's loft on the second floor. The building occupies the entirety of the lot.

3.2.1 Municipal Services and Utilities

Utility services are provided to the property as follows:

- Heating/Cooling System – The building at Lot 74 is heated via natural gas provided by National Grid. The building at Lot 68 is heated via #2 heating oil stored in two above ground storage tanks located in the basement.
- Water Supply – The buildings at Lot 74 and Lot 68 are connected to the municipal water supply system.
- Sanitary System – The buildings at Lot 74 and Lot 68 are connected to the municipal sewer system.
- Electric – The buildings at Lot 74 and Lot 68 are served by Consolidated Edison.

3.3 Physical Setting

The topography of the site and surrounding area was reviewed from the USGS 7.5-minute series topographic map for the Brooklyn, New York quadrangle. The property elevation is approximately 79 feet above the National Geodetic Vertical Datum (NGVD). Regional physiographic conditions are summarized below.

3.3.1 Regional Geology / Hydrogeology

The geologic setting of Long Island is well documented and consists of crystalline bedrock composed of schist and gneiss overlain by layers of unconsolidated deposits. Immediately overlying the bedrock is the Raritan Formation, consisting of the Lloyd sand confined by the Raritan Clay Member. The Lloyd sand is an aquifer and consists of discontinuous layers of gravel, sand, sandy and silty clay, and solid clay. The Raritan Clay is a solid and silty clay with: few lenses of sand and gravel; abundant lignite and pyrite; and gray, red or white in color.

Above the Raritan Clay lies the Magothy Formation. The Magothy Aquifer consists of layers of fine to coarse sand of moderate to high permeability, with inter-bedded lenses of silt and clay of low permeability resulting in areas of preferential horizontal flow. Therefore, this aquifer generally becomes more confined with depth. The Magothy Aquifer is overlain by the Upper Glacial Aquifer. The Upper Glacial Aquifer is the water table aquifer at this location and is comprised of medium to coarse sand and gravel with occasional thin lenses of fine sand and brown clay. This aquifer extends from the land surface to the top of the Magothy and, therefore, is hydraulically connected to the Magothy Aquifer.

3.3.2 Local Hydrogeology

Based upon the borings advanced at an adjacent property by PWGC, the depth to groundwater beneath the site is approximately 75 feet below existing grade. Regional groundwater flow is estimated to be toward the northwest.

Based upon information contained within the EDR report, there are no public water supply wells within a one-mile radius of the subject property.

3.3.3 Flood Potential

PWGC reviewed the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) to determine if the subject property is located within the 100-year or 500-year flood zones. Based upon FIRM data,

it appears that the subject property is not located within the 100 or 500-year flood zone (FEMA Map Panel ID: 3604970063B).

3.3.4 Direction and Distance to Nearest Surface Water

Based on topographic maps, it appears that the nearest permanent surface water body is Prospect Park Dog Beach, located approximately 1.21 miles south of the subject property.

4.0 PROPERTY USAGE

4.1 Current Property Usage

The subject property is currently used as the following:

- 1053 and 1057 Atlantic Avenue (Lot 74) are used as a commissary and a bar;
- 1059 Atlantic Avenue (Lot 73) is used as outdoor space for the bar at 1057 Atlantic Avenue; and,
- 1065 Atlantic Avenue (Lot 68) is used as an auto repair shop on the first floor and office space and an artist's loft on the second floor.

4.2 Current Usage of Adjoining/Surrounding Properties

A summary of the surrounding properties is as follows:

Table 4-1 - Surrounding Property Usage

Direction	Property Description
North	Residential, Commercial
South	Atlantic Avenue, Zap Auto Lube, Atlantic Brushless Car Wash, Parking garage, Commercial
East	Commercial
West	Meineke Car Care Center, Commercial

4.3 Historical Usage of Subject Property and Surrounding Properties

Historical sources researched to determine past usage of the subject property and surrounding properties are as follows:

Sanborn Fire Insurance Maps - EDR was retained to provide historical Sanborn fire insurance maps of the subject and adjacent properties. Historical Sanborn maps for the subject property and surrounding area were reviewed for the years available which include 1888 to 2007. Review of the maps is summarized in Table 4-2. A copy of the historical Sanborn report is included in **Appendix B**.

Historical Topographic Maps - Historical topographic maps for the subject property and surrounding area were reviewed for the years available which include 1897 to 2013. Review of the maps is summarized in Table 4-2. Copies of historical topographic maps are included as **Appendix C**.

Historical Aerial Photographs - PWGC performed a review of readily available aerial photographs showing the subject property and surrounding area. Photographs were reviewed for the years available which include 1924 to 2017. Review of the photos is summarized in Table 4-2. A copy of the aerial photograph search is included in **Appendix D**.

City Directory Listings - EDR was retained to provide a directory of historical telephone listings at the subject property and surrounding properties. City directories were reviewed for the years available which 1928 to 2014. A copy of the city directory report is included as **Appendix E**.

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Table 4-2A - Subject Property Historical Usage of 1053/1057 Atlantic Avenue (Lot 74)

Date(s)	Source	Issues Noted	Description
1888 to 1908	SB, TM	No	1053 Atlantic Avenue (Lot 74) is used as Candy Factory and appears in its current approximate configuration.
1932	SB, TM, AP, CD	No	1053 Atlantic Avenue (Lot 74) is used as Used Car Department, a shed has been added to the northern portion of the lot.
1951 to 1962	SB, TM, AP, CD	No	1053 Atlantic Avenue (Lot 74) is used as a store, the previously identified shed has been removed by 1951.
1965	SB, TM, AP, CD	Yes	1053 Atlantic Avenue (Lot 74) is used as Auto Painting.
1976 to 2007	SB, TM, AP, CD	Yes	1053 Atlantic Avenue (Lot 74) is used as Auto Repair.
Sources: SB – Sanborn Map; TM – Historical Topographic Map; AP – Aerial Photograph; CD – City Directory			

Table 4-2B - Subject Property Historical Usage of 1059 Atlantic Avenue (Lot 73)

Date(s)	Source	Issues Noted	Description
1888	SB, TM	No	1059 Atlantic Avenue (Lot 73) is occupied by a structure on the southern portion of the lot and used as a Beer Bottling facility.
1908	SB, TM	No	1059 Atlantic Avenue (Lot 73) is occupied by the previously identified structure and is used as an unidentified store.
1932 to 1965	SB, TM, AP, CD	Yes	1059 Atlantic Avenue (Lot 73) is occupied by the previously identified structure and is used as an auto repair facility.
1976 to 2007	SB, TM, AP, CD	No	1059 Atlantic Avenue (Lot 73) is vacant, the previously identified structure has been removed.
Sources: SB – Sanborn Map; TM – Historical Topographic Map; AP – Aerial Photograph; CD – City Directory			

Table 4-2C - Subject Property Historical Usage of 1065 Atlantic Avenue (Lot 68)

Date(s)	Source	Issues Noted	Description
1888	SB, TM	No	1065 Atlantic Avenue (Lot 68) is undeveloped.
1908	SB, TM	No	1065 Atlantic Avenue (Lot 68) is occupied by a structure that occupies the majority of the lot and is used as a wagon house.
1932 to 2007	SB, TM, AP, CD	Yes	1065 Atlantic Avenue (Lot 68) appears in its current approximate configuration and is used for battery/auto repair services.
Sources: SB – Sanborn Map; TM – Historical Topographic Map; AP – Aerial Photograph; CD – City Directory			

Historical usage of the subject property includes the following:

- 1053 Atlantic Avenue (Lot 74) indicates that it was first developed sometime prior to 1888 and used for commercial and industrial purposes from approximately 1888 to present. Historical usage of the subject property indicative of potential RECs include the following:
    - Auto painting and auto repair from 1965 to 2007.
- 1059 Atlantic Avenue (Lot 73) indicates that it was first developed in approximately 1888 and used for commercial and industrial purposes from approximately 1888 to 1965 and has been a vacant lot from

approximately 1976 to present. Historical usage of the subject property indicative of potential RECs include the following:

  - Auto repair facility from 1932 to 1965.

- 1065 Atlantic Avenue (Lot 68) indicates that it was first developed in approximately 1908 and used for commercial and industrial purposes from approximately 1908 to present. Historical usage of the subject property indicative of potential RECs include the following:
  - Battery/Auto repair services from 1932 to present.

Table 4-2 – Surrounding Area Historical Usage

Date(s)	Source	Issues Noted	Description
1888 to 1900	SB, TM	No	North: Residential South: Atlantic Avenue, Commercial, Residential East: Commercial, Industrial West: Commercial, Industrial
1908	SB	No	North: Residential South: Atlantic Avenue, Piano Factory, Lumber yard East: Candy Factory, Wagon House, Stables, elevated subway tracks West: Gliddon Scaffolding & Rigging
1924 to 1995	SB, TM, AP, CD	Yes	North: Residential South: Atlantic Avenue, Piano Factory, Lumber yard, Transit System, gasoline service stations East: Used Cars, Auto Repair Radio Sales, Battery Service, elevated subway tracks West: Auto sales and Service, Garage, Manufacturing
2001 to present	SB, TM, AP, CD	Yes	North: Residential South: Atlantic Avenue, car wash, parking, auto service East: Auto body shop, paint shop, elevated subway tracks West: Auto repair
Sources: SB – Sanborn Map; TM – Historical Topographic Map; AP – Aerial Photograph; CD – City Directory			

Review of historical information reviewed for the properties surrounding the subject property indicate that the area has been developed since sometime prior to 1888. Development was initially commercial, residential and industrial and has been a consistent mixture of the three usages since. Historical usage of properties in the surrounding area indicative of potential RECs include the following:

- Adjacent/nearby properties with historical industrial usage
- Adjacent/nearby properties historically or currently utilized as auto repair/sales/painting shops
- Nearby properties historically utilized as gasoline service stations

5.0 USER PROVIDED INFORMATION

5.1 User Requirements

The user of a Phase I ESA report, in accordance with the USEPA All Appropriate Inquiries (AAI) Rule and ASTM E1527-13 has certain responsibilities which include providing the following information, if available, to PWGC to be included within the Phase I Report. Additionally, PWGC provided the user of the report a User Questionnaire form. The information requested in the User Questionnaire is intended to assist in gathering information that may be material to identify if RECs are present at the subject property. A copy of the User Questionnaire and any provided documents are included in **Appendix F**; relevant information has been incorporated into this report.

5.2 Title Records

Title records for the site may contain information about past owners and uses of the subject property. The title report may also contain site information such as restrictive declarations which are limitations on site uses based upon know environmental conditions. As of the date of this report the user has not provided PWGC with a title search or requested that PWGC perform a title search.

5.3 Environmental Liens

An environmental lien is a charge, security or encumbrance upon title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup or other remediation of hazardous substances or petroleum products upon a property, including, but not limited to, liens imposed pursuant to CERCLA 42 USC § 9607 (1) & 9607(r) and similar state and local laws. As of the date of this report the user has not provided PWGC with a lien search or requested that PWGC perform a lien search.

5.4 Specialized Knowledge

The user provided no specialized knowledge about the property to PWGC.

5.5 Commonly Known or Reasonably Ascertainable Information

The user provided no commonly known information about the property to PWGC.

5.6 Valuation Reduction for Environmental Issues

The user provided no information regarding price adjustments to the subject parcels value due to environmental issues.

5.7 Owner, Property Manager and Occupant Information

The properties are currently owned and occupied as follows:

- Tarmac Auto Body Cent (1053, 1057 and 1059 Atlantic Avenue – Lots 73 and 74); and,
- Dercada Inc. (1065 Atlantic Avenue – Lot 68).

5.8 Reason for Performing Phase I ESA

The Phase I ESA was performed to evaluate potential RECs prior to a potential property transaction.

6.0 RECORDS REVIEW

6.1 Standard Environmental Record Sources

EDR of Shelton, Connecticut was retained to provide a database search of the project area within an ASTM-standard radius of the subject property. A list of the databases searched, and the search radius is shown on the summary table below. PWGC reviewed the database output to determine if the property appears on any of the regulatory agency lists. Detailed information concerning each database list is provided in the EDR report (**Appendix G**).

In order to evaluate the potential for a site to have an adverse impact to the subject site, the migration pattern of contaminants in media such as groundwater or soil vapor is considered. Based upon the presumed regional flow towards the northeast, the following is assumed:

- Sites located southwest of the subject site are considered to have the highest potential to impact the subject site and are referred to as "up-gradient."
- Sites located northeast of the subject site, which are not neighboring or adjacent to the subject site are considered to have the least potential to impact the subject site and are referred to as "downgradient."
- All other sites not adjacent to or neighboring the subject property are referred to as "cross-gradient" and are considered to have minimal potential to impact the subject site.

A summary of standard environmental record sources researched is as follows:

6.1.1 Federal Databases

The table below summarizes the Federal databases that were searched.

Table 6-1 - Federal Databases Searched

Agency	Listing Name or database Searched	Abbreviation	Search Distance	Target Property Identified	Nearby Properties Identified
USEPA	National Priority List	NPL	1.0 mile	No	0
USEPA	National Priority List Deletions	Delisted NPL	0.5 mile	No	0
USEPA	Superfund Enterprise Management System	SEMS	0.5 mile	No	0

Agency	Listing Name or database Searched	Abbreviation	Search Distance	Target Property Identified	Nearby Properties Identified
USEPA	Superfund Enterprise Management System Archive	SEMS-ARCHIVE	0.5 mile	No	0
USEPA	Resource Conservation and Recovery Act Corrective Action Activity	CORRACTS	1.0 mile	No	0
USEPA	Resource Conservation and Recovery Act Treatment/Storage/Disposal Facilities	RCRA TSD	0.5 mile	No	0
USEPA	Resource Conservation and Recovery Act Small/Large Quantity Hazardous Waste Generators	RCRA SQG/LQG/ CESQG/ Non-Gen	Subject Property and Adjoining	Yes	2
USEPA	Federal Institutional/Engineering Control registries	US INST/ENG Controls	Subject Property	No	0
USEPA	Emergency Response Notification System	ERNS	Subject Property	No	N/A
USEPA	Superfund (CERCLA) Consent Decrees	CONSENT	1.0 mile	No	0
USEPA	Records of Decision	ROD	1.0 mile	No	0
USEPA	Mines Master Index	MINES	0.25 mile	No	0

Review of the EDR Radius Map Report indicates that the subject property is listed in Federal environmental databases searched. The subject property and nearby properties identified within the ASTM standard federal database search radii are detailed below.

RCRA Generators - The RCRA Generators database is a compilation of reporting facilities that generate hazardous waste. A Small Quantity Generator (SQG) is a site which generate more than 100 and less than 1000 kg of hazardous waste during any one calendar month and accumulates less than 6000 kg of hazardous waste at any time; or a site which generates less than 100 kg of hazardous waste during any one calendar month and accumulates less than 1000 kg of hazardous waste at any time. Large Quantity Generators (LQG) generate more than 1000 kg of hazardous waste per month. A Conditionally Exempt SQG (CESQG) generates less than 100 kg of waste a month. A RCRA non-generator (RCRA Non-Gen) no longer produces hazardous waste.

The subject property is identified as a RCRA Generator site. Tarmac Auto Body Center located at 1053 Atlantic Avenue (Lot 74) is a CESQG for unspecified universal waste. This property does not presently generate hazardous materials. No violations were found. Based on the information available in the database report, this does not appear to represent an environmental concern to the subject property.

Three properties adjacent to the subject property are identified as RCRA Generator sites. Con Edison Service Box 14849 located at 1061 Atlantic Avenue, is identified as a RCRA Non-Gen property. No violations were found for this property. Vanco Environmental Inc. located at 1045 Atlantic Avenue is identified as a non-generator site. This site was previously identified as an LQG; however, no specific wastes were identified. No violations were found. Based on the information available in the database report, these sites do not appear to represent an environmental concern to the subject property.

6.1.2 State and Local Databases

The table below summarizes the State databases that were searched.

Table 6-2 - New York State and Local Databases Searched

Agency	Listing Name or database Searched	Abbreviation	Search Distance	Target Property Identified	Nearby Properties Identified
NYSDEC	Inactive Hazardous Waste Disposal Sites in New York State	SHWS	1.0 mile	No	1
NYSDEC	Hazardous Substance Waste Disposal Site Study	HSWDS	0.5 mile	No	0
NYSDEC	Solid Waste Facility Register	SWF/LF	0.5 mile	No	4
NYSDEC	Registered Recycling Facilities	SWRCY	0.5 mile	No	0
NYSDEC	Registered Waste Tire Storage Facilities	SWTIRE	0.5 mile	No	0
NYSDEC	Leaking Underground Storage Tank Sites	LTANKS	0.5 mile	No	44
NYSDEC	Petroleum Bulk Storage (PBS)	UST/AST	Subject Property and Adjoining	No	1
NYSDEC	Chemical Bulk Storage (CBS)	CBS AST/UST	Subject Property and Adjoining	No	0

Agency	Listing Name or database Searched	Abbreviation	Search Distance	Target Property Identified	Nearby Properties Identified
NYSDEC	Institutional/Engineering Control registries	INST/ENG Controls	Subject Property	No	N/A
NYSDEC	Voluntary Cleanup Agreements	VCP	0.5 mile	No	0
NYSDEC	Brownfield sites	Brownfields	0.5 mile	No	1
NYSDEC	Major Oil Storage Facilities	MOSF	0.5 mile	No	1
NYSDEC	New York State Spills	NYSPILLS	0.125 mile	No	24
NYSDEC	Dry Cleaner Site	Drycleaners	0.25 mile	No	3
NYC	E-Designation	E-DES	Subject Property	No	N/A

Review of the EDR Radius Map Report indicates that the subject property is not listed in State environmental databases searched. The nearby properties identified within the ASTM standard State database search radii are detailed below.

New York State Inactive Hazardous Waste Disposal Sites - The New York State Department of Environmental Conservation (NYSDEC) maintains a state priority list of Inactive Hazardous Waste Disposal Sites (SHWS) considered to be actually or potentially contaminated and presenting a possible threat to human health and the environment. Referred to as the State Superfund Program, the Inactive Hazardous Waste Disposal Site Remedial Program is the cleanup program for inactive hazardous waste sites and now includes hazardous substance sites.

The subject property is not identified as a SHWS site. One property within the search radius is identified as a SHWS site. The one identified SHWS site appears to be located down gradient of the subject property and as such, appears unlikely to represent an environmental concern to the subject property.

Solid Waste Facility Register - The NYSDEC Solid Waste Facility Register (SWF) records contain an inventory of solid waste disposal facilities or landfills in New York State.

The subject property is not identified as a SWF site. Four properties within the search radius are identified as SWF sites. Of the four identified SWF sites, one appears to be located cross gradient of the subject property and

as such, appears unlikely to represent an environmental concern to the subject property. Two identified SWF sites that appear to be located upgradient of the subject property are listed as inactive, with no violations listed and do not have active concerns in the other environmental databases. The fourth identified SWF site appears to be located adjacent to the subject property. Atlantic Auto Sales Trading Corp. is located at 1120 Atlantic Avenue and is listed as inactive. No violations or active concerns in the other environmental databases were noted. Based on the information available in the database report, these sites do not appear to represent an environmental concern to the subject property.

Leaking Underground Storage Tank Sites - The Leaking Underground Storage Tank Sites (LTANKS) database contains a NYSDEC inventory of reported leaking storage tank incidents. They can be either leaking underground storage tanks or leaking aboveground storage tanks. The causes of the incidents are tank test failures, tank failures or tank overfills.

The subject property is not identified as a LTANKS site. Forty-four properties within the search radius are identified as LTANKS sites. Of the 44 identified LTANKS sites, 44 have been closed by NYSDEC and as such appear unlikely to represent an environmental concern to the subject property.

Petroleum Bulk Storage - The NYSDEC Petroleum Bulk Storage (PBS) - UST database lists facilities with a petroleum storage capacity of more than 1,100 gallons and less than 400,000 gallons. The NYSDEC Petroleum Bulk Storage - AST database lists facilities with registered ASTs.

The subject property is not identified as a PBS site. One adjacent site, Slaw Realty is an active PBS site with one 3,000-gallon No. 2 Fuel oil AST located on the subject property. The tank is located in a subterranean vault with access for inspections. No violations or spills are associated with this tank. The presence of tanks alone does not necessarily represent an environmental concern. Sites with spills or releases will be addressed in the appropriate section.

Chemical Bulk Storage - The Chemical Bulk Storage (CBS) database is a NYSDEC list of facilities that store regulated hazardous substances in aboveground tanks (AST) with capacities of 185 gallons or greater or underground tanks (UST) of any size.

The subject property is not identified as a VCP site. A total of 20 properties within the search radius are identified as VCP sites; however, each of these sites are listed as NYC VCP sites, not NYS VCP sites. Sites that have been investigated under the NYC VCP program, if determined to be a significant threat to human health or the environment because of contamination migrating off-site, are typically transferred to one of the NYS programs. Of the 20 identified VCP sites, 17 appear to be located down or cross gradient of the subject property and as such, appear unlikely to represent an environmental concern to the subject property. Of the 3 identified VCP sites that appear to be located up gradient of the subject property, the closest one is located several blocks up-gradient and the sites do not appear to be listed in other environmental databases indicating actual releases at the properties. Based on the information available in the database report, these sites do not appear to represent an environmental concern to the subject property.

Brownfields - A Brownfield is any real property where redevelopment or re-use may be complicated by the presence or potential presence of a hazardous waste, petroleum, pollutant, or contaminant.

The subject property is not identified as a NYSDEC Brownfield site. One property within the search radius is identified as a NYSDEC Brownfield sites. The one identified NYSDEC Brownfield site appears to be located cross gradient of the subject property and as such, appears unlikely to represent an environmental concern to the subject property.

New York State Spills - The New York State Spills Information Database (NYSPILLS) contains data collected on chemical and petroleum spill incidents reported to NYSDEC since April 1, 1986.

The subject property is not identified as a NYSPILLS site. Twenty-four properties within the search radius are identified as NYSPILLS sites. Of the 24 identified NYSPILLS sites, 23 have been closed by NYSDEC, and as such appear unlikely to represent an environmental concern to the subject property. The one identified NYSPILLS site listed as active appears to be located cross gradient of the subject property and as such, appear unlikely to represent an environmental concern to the subject property.

Drycleaners – The NYSDEC maintains registry of Registered Drycleaner (RDC) sites.

The subject property is not identified as a RDC site. Three properties within the search radius are identified as RDC sites. Of the three identified RDC sites, three appear to be located down gradient of the subject property and as such, appear unlikely to represent an environmental concern to the subject property.

6.1.3 EDR Databases

The table below summarizes the EDR databases that were searched.

Table 6-3 - Additional Databases Searched

Agency	Listing Name or database Searched	Abbreviation	Search Distance	Target Property Identified	Nearby Properties Identified
EDR	Manufactured Gas Plants	MGP	1.0 mile	No	0
EDR	Historical Drycleaners	HDC	0.25 mile	No	4
EDR	Historical Auto Station	HAS	0.125 mile	No	11

Review of the EDR Radius Map Report indicates that the subject property is not listed in EDR proprietary databases searched. The nearby properties identified within the EDR proprietary database search radii are detailed below.

EDR Historical Cleaners: EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc.

The subject property is not identified as an HDC site. Four properties within the search radius are identified as HDC sites. Of the four identified HDC sites, four appear to be located down or cross gradient of the subject property and as such, appear unlikely to represent an environmental concern to the subject property.

EDR US Historical Auto Stations – EDR has searched national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers.

The subject property is not identified as a HAS site. Eleven properties within the search radius are identified as HAS sites. Of the 11 identified HAS sites, 4 appear to be located down or cross gradient of the subject property and as such, appear unlikely to represent an environmental concern to the subject property. Seven identified HAS sites appear to be located up gradient of the subject property. presence of historical auto station alone does not necessarily represent an environmental concern. Sites with spills or releases will be addressed in the appropriate section.

6.1.4 Orphan Sites

Orphan sites are properties, that due to an inadequate or incomplete address in government databases or in base map files, are not able to be geographically located (i.e. mapped or geocoded). This can occur for several reasons; no street number or street name in address given; the street address is given only as a P.O. Box; or when inconsistencies exist in the address (street number does not exist in the city / zip code given).

Seven orphan sites were identified in the EDR report. PWGC performed a cursory review of the address listed. It does not appear that the subject property or neighboring properties are identified in the orphan summary.

6.2 Vapor Encroachment

PWGC performed a Tier 1 Vapor Encroachment Screening for the subject property in accordance with ASTM E2600-15, Vapor Encroachment Screening on Property Involved in Real Estate Transactions. In accordance with ASTM E2600-15, the default Area of Concern (AOC), adjusted to account for the groundwater flow direction in the vicinity of the subject property, is defined as follows:

Direction Relative to Subject Property	Petroleum Impacted Sites AOC Radius	Contaminants of Concern Impacted Sites AOC Radius
Up Gradient	528 feet	1760 feet
Cross Gradient	165 feet (LNAPL) 95 feet (dissolved)	365 feet
Down Gradient	100 feet (LNAPL) 30 feet (dissolved)	100 feet

PWGC evaluated sites identified in Federal and State databases (see Section 6.1) located within the adjusted AOC radii for the potential for petroleum impact and or contaminants of concern (such as perc) to be present. The following sites were identified within the adjusted AOC:

- Subject property listed as FINDS, ECHO, RCRA Non-Gen
- One RCRA Non-Gen site;
- Six EDR HAS sites; and,
- One SWF/LF site;

Each of these sites was evaluated for the potential for a vapor encroachment condition (VEC) to be present. Based on these sites' lack of apparent impact present and/or closed status, PWGC has determined that none are likely to represent a VEC at the subject property.

A copy of the Tier 1 Vapor Encroachment Screening is included as **Appendix H**.

6.3 Additional Environmental Record Sources

6.3.1 Freedom of Information Act Requests

Freedom of Information Act (FOIA) requests were sent to the United States Environmental Protection Agency, Region 2 (USEPA), New York City Office of the Mayer (NYCOER), New York City Department of Environmental Protection (NYCDEP), Fire Department New York City, (FDNY) and the New York State Department of Environmental Conservation, Region 2 (NYSDEC). Copies of FOIA requests are included in **Appendix I**.

As of the date of this report, responses to FOIA requests have not been received, except as noted below. As responses were not provided within the allotted due diligence period, the records were deemed not to be "reasonably ascertainable" at this time. Should records become available at a later date, pertinent information will be forwarded as an addendum upon receipt.

6.3.2 Publicly Available Information

Information regarding the subject property available on the commercial real estate website www.propertyshark.com (an aggregator of publicly available real estate information) and the New York City

Department of Buildings (NYCDOB) website was reviewed to identify pertinent information. No indication of environmental issues was identified.

Copies of publicly available information are included in **Appendix I**.

7.0 SITE RECONNAISSANCE

7.1 Methodology and Limiting Conditions

Mr. Michael Gaul of PWGC performed the site inspection on April 10, 2019. Weather conditions during the inspection were sunny with a temperature of approximately 51° Fahrenheit.

The site inspection consisted of an inspection of the interior portions of the existing buildings, followed by inspection of the exterior portions of the property. Limitations that were identified include the following:

- No roof access at any of the buildings;
- Limited access within the auto repair shop at 1065 Atlantic Avenue due to the quantity of cars and other items stored within the premises;
- Limited access within the basement of the commissary of 1053 Atlantic Avenue due to the quantity of miscellaneous supplies stored within.

7.2 Aboveground Storage Tanks (AST)

PWGC identified two ASTs in the basement of the 1065 Atlantic Avenue property. Both ASTs were 275-gallon tanks containing #2 heating oil. No evidence of leaking or a release was identified at the tank locations, although both had minor corrosion. Both tanks reside on an in-tact concrete slab with minimal evidence of staining. A six-foot-long underground fill line runs between the two tanks.

7.3 Underground Storage Tanks (UST)

PWGC did not identify evidence of USTs, such as fill ports or vent lines at the site.

7.4 Hazardous and Non-Hazardous Chemical Storage

PWGC observed chemical storage consisting of the following:

- 1057 Atlantic Avenue- storage of a variety of cleaning products (all less than 5 gallons and covered) within the basement. No staining observed in the area of storage.
- 1065 Atlantic Avenue- storage of waste oil in a 55-gallon drum, storage of antifreeze, motor oil and transmission oil (all less than 5 gallons and covered). No staining observed in the areas of storage.

7.5 Waste Generation, Storage, and Disposal

PWGC observed evidence of waste generation, storage or disposal consisting of the following:

- 1065 Atlantic Avenue- storage and disposal of general garbage and wastes via a mini dumpster.

7.6 Polychlorinated Biphenyls (PCBs)

PWGC identified potentially PCB containing equipment at the site consisting of five underground hydraulic automobile lifts in Lot 68. Three of the lifts are currently in use and two of the lifts are out of use, replaced by electric lifts and abandoned in place. No information was given as to how they were abandoned. No leakage or staining was observed on the pavement in the vicinity of the lifts.

7.7 Additional Site Conditions

The following is a summary of visual and/or physical observations made by PWGC at the time of the site inspection. Photographs of pertinent observations are included in **Appendix A**.

Table 7-1 - Additional Site Conditions

Condition	Identified
Interior drains, trenches or sumps.	Yes[1]
Interior stains or corrosion	No
Unusual odors	No
Interior pools of liquid	No
Stained Soils or Pavement	Yes[2]
Stressed Vegetation	No
Indications of solid waste disposal	No
Exterior ponds, pits, or lagoons	No
Wastewater or storm water discharge/disposal	No
Oil water separators/clarifiers	No
Septic Systems/Cesspools	No
Wells (Drinking water, monitoring wells, agricultural/ irrigation wells, or process water wells)	No
Petroleum or natural gas pipelines or easements	No
Other	No

1 – Four indoor floor drains were observed at the 1053 Atlantic Avenue property. No chemical storage was observed in the vicinity of the drains; no staining or other evidence of spills or improper discharges was observed in the vicinity of the drains. The discharge point of the floor drains was determined to be the city sewer via both information provided by the site manager and a geophysical survey conducted at the same time as the inspection.

Three floor drains and one sump pit were observed at the 1057 Atlantic avenue property. Two floor drains were in the bathrooms and the third floor drain and the sump were in the basement. No chemical storage was observed in the vicinity of the drains; no staining or other evidence of spills or improper discharges was observed in the vicinity of the drains. The discharge point of the floor drains was determined to be the city sewer via both information provided by the site manager and a geophysical survey conducted at the same time as the inspection.

One outdoor floor drain and two outdoor zipper drains were observed at the 1059 Atlantic Avenue property. No chemical storage was observed in the vicinity of the drains; no staining or other evidence of spills or improper discharges was observed in the vicinity of the drains. The discharge point of the floor drains was determined to be the city sewer via both information provided by the site manager and a geophysical survey conducted at the same time as the inspection.

One floor drain, one drain pit, one sump pit and two auto inspection pits were observed at the 1065 Atlantic Avenue property. The floor drain was located in the basement, while the other structures were located within the auto repair space. No chemical storage was observed in the vicinity of the drain pit and the sump pit. The two previously referenced heating oil ASTs were observed in the vicinity of the floor drain. A number of auto repair chemicals and petroleum products including antifreeze and motor oil were observed in the vicinity of the auto inspection pits. No staining or evidence of a release was identified in the vicinity of the floor drain, drain pit, or the auto inspection pits. Some surficial staining was observed in the vicinity of the sump pit. According to the property owner/manager the sump pit, drain pit, and floor drain all discharge to the city sewer. The geophysical survey performed at the same time as the inspection could not confirm the discharge point of the pits and drain. However, the survey did identify that the drain and pits had solid bottoms and that each of the structures drained in the direction of the city sewer. According to the property owner/manager the inspections pits do not have discharge points and are cleaned regularly. The lack of discharge points in the auto inspection pits could not be confirmed.

2 – Several areas of black surficial staining were observed in the auto repair shop area during the site inspection. None of the areas of surficial staining were co-located with cracks or voids in the building slab or other pathways towards a release to the subsurface. The only exception to this was the staining identified in the vicinity of the

sump pit referenced above. However, according to the property owner/manager the sump pit discharges to the city sewer. The geophysical survey performed at the same time as the inspection could not confirm the discharge point of the pit. However, the survey did identify that the pit had a solid bottom and that the structure drained in the direction of the city sewer. The sources of the staining could not be identified, and no free product was identified in the stained areas.

7.8 Neighboring Properties

PWGC performed a cursory inspection of the neighboring properties from the subject site and public right of ways. The neighboring properties are used for residential, commercial and industrial purposes. Potential environmental concerns observed at neighboring properties included:

- A property located to the southwest (across Atlantic Avenue) is currently used by a demolition contractor. This property usage can include the utilization and storage of hazardous substances and petroleum products for fueling, cleaning, and repairs.
- A property located to the southwest is currently used for an auto repair shop. This property usage can include the utilization and storage of hazardous substances and petroleum products for fueling, cleaning, and repairs.
- A property located to the southwest (across Atlantic Avenue) is currently used for a gasoline filling station. This property usage includes the storage of petroleum products for vehicle fueling.

8.0 INTERVIEWS

8.1 Current Owner/Occupant

PWGC interviewed Derek Singh of Tarmac, the current property owner. Mr. Singh did not have knowledge of environmental issues at the site. Information provided by Mr. Singh has been incorporated into this report where appropriate.

8.2 Previous Environmental Reports

PWGC was provided a copy of a Limited Phase II ESA dated March 2016 prepared by Associated Environmental Services, Ltd for the property located at 1065 Atlantic Avenue. Information included in the report is summarized below:

8.2.1 Limited Phase II ESA, March 2016

PWGC's review of the Phase II ESA revealed that five soil borings were conducted at the site and samples were collected from 5 to 8 feet in each boring. The samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and RCRA metals. VOCs were non-detect in each sample, SVOCs were non-detect in four samples and minor detections in one sample that did not exceed New York State Department of Environmental Conservation (NYSDEC) Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs), and metals were detected in each sample at concentrations less than Unrestricted Use SCOs.

8.3 Local Government Officials

Freedom of Information Act (FOIA) requests were sent to the United States Environmental Protection Agency, Region 2 (USEPA), New York City Fire Department (FDNY), Mayor's Office of Environmental Remediation (OER), Department of Environmental Protection (DEP) and the New York State Department of Environmental Conservation, Region 2 (NYSDEC). Copies of FOIA requests are included in **Appendix H**.

Based upon the site history, interviews with government officials to obtain additional information are not warranted at this time.

9.0 CONDITIONS OUTSIDE THE SCOPE OF ASTM 1527-13

9.1 Wetland Delineation

Based on review of the EDR Radius Map Report, which includes State and Federal wetlands, it appears that State and Federal wetlands are not present on the subject property.

Based on review of the EDR Radius Map Report, no State or Federal wetlands are located within a one-mile radius of the subject property.

9.2 Radon Risk Evaluation

Radon is a colorless, radioactive; inert gas formed by the decay of radium and may be present in soils and rocks containing granite, shale, phosphate and pitchblende. The USEPA's "Map of Radon Zones for New York State", September 1993 indicates that Kings County is not a radon risk area. The EDR report provides information from the New York State Department of Health radon survey which indicates that the average result for sites tested in Kings County is 0.750 Pico curies per liter (pCi/L) in the living area, which is below the USEPA radon action level of 4 pCi/L, and 100% of sites tested in Kings County were below the action level of 4 pCi/L in the living area.

9.3 Asbestos

PWGC did identify evidence of potential asbestos containing material (ACM) at the site. At the 1065 Atlantic Avenue property, PWGC identified potential ACM boiler insulation and approximately 100 square feet of potential ACM vinyl flooring. Based on the apparent age of the buildings at Lot 74 and Lot 68, it is possible that additional ACM is present. An inspection of suspected ACM should be conducted at the subject property prior to renovation or demolition, per federal, state and local regulations.

9.4 Lead-Based Paint (LBP)

PWGC did identify evidence of potential lead-based paint at the site. At the 1065 Atlantic Avenue property PWGC identified approximately 30 square feet of chipping and flaking green paint in the rear locker room / office area. Based on the apparent age of the buildings, it is possible that additional lead-based paint is present.

9.5 Mold

PWGC did not visually observe significant sources of mold at the site during site reconnaissance.

9.6 Historic Fill

Given the location of the site within the five boroughs of New York City, there is a potential for historic fill material to be present beneath the site. Such material, if excavated (for the purpose of constructing a building, installing new footings, and/or utilities in the construction of new buildings), will require special handling and disposal.

10.0 FINDINGS AND OPINIONS

Based upon reconnaissance of the subject and surrounding properties, interviews and review of historical records and regulatory agency databases, the following potential RECs have been identified:

Onsite

- Historical usage of the 1053/1057 Atlantic and 1059 Atlantic sites as auto repair/painting facilities.
- Current and historical usage of the 1065 Atlantic site as an auto repair facility.
- Presence of five underground hydraulic auto lifts (three active and two inactive) at the 1065 Atlantic site.
- Presence of two heating oil ASTs connected via an underground fill line at the 1065 Atlantic site.
- Presence of floor drains, zipper drains and a sump pit at the 1053/1057 Atlantic and 1059 Atlantic sites.
- Presence of a floor drain, a sump pit, a drain pit and two car inspection pits at the 1065 Atlantic site.
- Presence of black surficial staining on the pavement inside the 1065 Atlantic auto repair facility.
- Chemical storage at the 1065 Atlantic site.

Offsite

- Current and historical usage of nearby properties as auto repair facilities, gasoline filling stations and industrial facilities.

Potential RECs identified at the subject property were evaluated to determine whether items initially suspected to be RECs are in fact RECs. Evaluation of potential RECs are as follows:

- The 1053, 1057, 1059 and 1065 Atlantic sites all appear to have been historically used for auto repair/painting facilities, with 1065 Atlantic being utilized as an auto repair facility until the present day. Current operations include the storage and use of hazardous substances and petroleum products at the 1065 Atlantic site. Identified historical usages are likely to have used/stored hazardous substances and/or petroleum products at the sites as well. Based on the historical usage of the sites for industrial purposes, this represents a REC.
- Five single piston underground hydraulic lifts were identified within the auto repair facility at the 1065 Atlantic Avenue site. Three of these lifts are still in use and two of the lifts are out of service. The subsurface structures affiliated with hydraulic lifts have the potential to leak. The condition of the subsurface structures of the lifts could not be verified. The two out of service lifts do not appear to have

undergone properly abandonment. The presence of underground hydraulic lifts of unknown condition represents a REC.

- Two 275-gallon heating oil ASTs were identified in the basement of the 1065 Atlantic Avenue site. The ASTs appeared to have no evidence of leaking or a release, other than minor corrosion to the tank bodies. Both tanks reside on an in-tact concrete slab with minimal evidence of staining. However, the two ASTs are connected via approximately six feet of underground fill line which fills the one AST from the other. The fill line runs through the subsurface soils under the building and has the potential to leak. The condition of the fill line could not be verified during the site inspection. The presence of the underground fill line of unknown condition represents a REC.
- A total of seven indoor floor drains, one outdoor floor drain, two outdoor zipper drains and one sump pump were identified at the 1053, 1057 and 1059 properties. Such structures have the potential to represent a pathway for improper discharges of hazardous substances and/or petroleum products to the subsurface. However, based on the site usage (i.e., chemical usage appears to be limited to cleaning products), and the lack of staining in the vicinity of the drains/pit, the likelihood for these structures to be impacted appears to be low. In addition, an interview with the property owner/manager and a geophysical survey both indicated that the drains discharged to the city sewer. Based on this information, PWGC does not believe that the presence of onsite drains/pit represents a REC.
- One floor drain, one drain pit, one sump pit and two car inspection pits were identified at the 1065 Atlantic property. Such structures have the potential to represent a pathway for improper discharges of hazardous substances and/or petroleum products to the subsurface. In addition, the two previously identified heating oil ASTs were noted in the vicinity of the floor drain, while a number of chemicals and petroleum products utilized in auto repair work were noted in the vicinity of the inspection pits. However, in an interview with the property owner/manager, he indicated that the inspection pits have no discharge points and that the other three structures discharge to the city sewer. The geophysical survey performed at the same time as the inspection could not confirm the discharge point of the pits and drain. However, the survey did identify that the drain and pits had solid bottoms and that each of the structures drained in the direction of the city sewer. Based on this information, PWGC does not believe that the presence of onsite drain and pit structures represents a REC.
- Multiple minor locations of black surficial staining to the concrete flooring were observed within the 1065 Atlantic auto repair facility. The concrete flooring within the building appeared to be in good

condition in the vicinity of this staining. Based on the limited nature of the staining, PWGC believes that this represents a *de minimus* condition and is not a REC.

- Review of current and historical information for the properties surrounding the subject property indicate that the area has been developed prior to 1888. The area adjacent to the subject property has a history of manufacturing, industrial, and automotive usage. Historical usage of properties in the surrounding area indicative of potential RECs include an adjacent manufacturing, petroleum delivery service and auto repair facility to the west of the subject property, manufacturing of toys, radios, etc. to the west of the subject property, and gasoline filling stations to the south. Current usage of surrounding properties includes a demolition contractor to the southwest, auto repair shops to the east and southwest, and a gasoline filling station to the southwest. There does not appear to be any open spills or violations associated with these properties. If contamination is migrating from these sites onto the subject property, it is the responsibility of the responsible party to remediate the spill; however, the contamination may still have an impact on the subject property in the form of contaminated groundwater that may be encountered during redevelopment of the property or contaminated soil vapor that may intrude into existing or proposed buildings. Based upon the estimated depth to groundwater (75 feet) and the presence of several underground utilities that typically create a preferential pathway for soil vapor, the likelihood of impacts migrating onto and impacting the subject property is low; therefore, these sites do not represent a REC.

11.0 CONCLUSIONS AND RECOMMENDATIONS

PWGC has performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-13 for the subject property. There were no exceptions to, or deletions from, this practice except as noted in Section 12.0 of this report. PWGC evaluated the findings associated with the subject property and identified three RECs, no HRECs, and no CRECs with respect to the subject property.

Based on the identified RECs, PWGC recommends a Phase II ESA be performed at the site. The Phase II ESA should include:

- Subsurface investigation of the subject properties including soil and soil vapor investigation.
- Advancement of soil borings to investigate historic site usage, hydraulic lifts and the underground fill line.
- Performance of a geophysical survey across the site to investigate the discharge point of drains and pits and to identify underground anomalies.

Although not a part of the ASTM E1527-13 scope, the following additional site concerns must be considered:

- Based on the apparent age of the buildings at the site, it is possible that ACM and lead-based paint are present within the structures. PWGC recommends that, prior to demolition or renovation of the buildings, a proper asbestos and lead survey be performed, and identified ACM and/or lead based paint be properly abated.

12.0 DEVIATIONS

This Phase I ESA was conducted in accordance with the scope and limitations of the ASTM Standard E 1527-13 (Standard Practices for Environmental Site Assessment: Phase I Environmental Site Assessment Process) and 40 CFR Part 312 (Standards and Practices for All Appropriate Inquiry; Final Rule). Excluding data gaps identified in Section 2.8 and additional services outlined in Section 9.0, there were no deviations or deletions from this practice.

13.0 REFERENCES

All Appropriate Inquiry, Final Rule, 40 CFR Part 312.

Standard practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, ASTM Standard E 1527-13.

Limited Phase II Environmental Site Assessment by Associated Environmental (March 2016)

14.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312. I have the specific qualifications based on education, training and experience to assess a property of the nature, history and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR 312.

Heather Moran-Botta, SMS
Project Manager

Jennifer Lewis, PG
Sr. Project Manager

Report Completion Date: April 12, 2019

Appendix C
Phase 1 Environmental Site Assessment (ESA): Brooklyn Block 2020, Lot 70 (Executive Summary)

1061 / 1063 ATLANTIC AVENUE
BROOKLYN, NEW YORK
BLOCK 2020, LOT 70

PHASE I
ENVIRONMENTAL SITE ASSESSMENT
(ASTM 1527-13/40 CFR PART 312)

PREPARED FOR:

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AUGUST 2020

PWGC
CLIENT DRIVEN SOLUTIONS

PHASE I ENVIRONMENTAL SITE ASSESSMENT
1061 / 1063 ATLANTIC AVENUE, BROOKLYN, NEW YORK

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PHASE I ENVIRONMENTAL SITE ASSESSMENT
1061 / 1063 ATLANTIC AVENUE, BROOKLYN, NEW YORK

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1.0 EXECUTIVE SUMMARY

Atlantic Brooklyn LLC (Client) retained P.W. Grosser Consulting, Inc. (PWGC) to prepare a Phase I Environmental Site Assessment (ESA) for the property located at 1061 / 1063 Atlantic Avenue, Brooklyn, New York. The purpose of the Phase I ESA was to identify and evaluate the presence of Recognized Environmental Conditions (RECs) at the subject property. RECs are the presence or likely presence of any hazardous substance or petroleum product under conditions that indicate an existing release, a past release, or material threat of a release of any hazardous substance or petroleum product into structures on the property or into the ground, groundwater, or surface water of the property.

The subject property consists of one parcel located at 1061 / 1063 Atlantic Avenue in the Bedford-Stuyvesant Neighborhood of Brooklyn, New York. The subject property is located in Kings County. The property is identified in the New York City Tax Map as Block 2020, Lot 70.

The subject property measures approximately 0.16 acres and is occupied by one vacant two-story commercial / light industrial use building.

The subject property is currently a vacant building. The property appears to have been most recently used as a restaurant and trucking / shipping business. The building was primarily empty except for some kitchen equipment in the restaurant area.

Work was conducted in accordance with the American Society for Testing and Materials (ASTM) Standard E 1527-13 (Standard Practices for Environmental Site Assessment: Phase I Environmental Site Assessment Process), 40 Code of Federal Regulations (CFR) Part 312 (Standards and Practices for All Appropriate Inquiry; Final Rule), and PWGC's proposal for services.

PWGC evaluated the findings associated with the subject property and identified three RECs, zero HRECs, and zero CRECs with respect to the subject property. Conditions determined to be RECs are detailed below:

- The subject property appears to have been historically used for light industrial purposes, including auto repair / brake shops, a coal / fuel oil company, and a contracting / maintenance facility, since at least 1928. These types of historical property usages are likely to have utilized and stored both hazardous

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substances and petroleum products. The building is currently unoccupied. Evidence of an active spill or release such as an open NYSDEC spill record or an unresolved RCRA violation was not identified. In addition, active pathways for such substances to potentially have been released to the environment such as floor drains or an onsite sanitary system were not identified. However, the site's historical industrial usage preceded the existence of both NYSDEC spill records and RCRA violations and the building at the property has been altered/redeveloped multiple times. Based on this information, the long-standing historical usage of the site for industrial purposes represents a REC.

- FDNY tank records were acquired via a FOIA request identifying that two 275-gallon #2 fuel oil tanks were located at 1061 Atlantic Avenue. The tanks were noted as being on floor "0," which PWGC believes is the ground floor; the location of the tanks themselves (aboveground or underground) was not identified. The records were established in 1984 and last inspected in 1986. The records say that the tank records are void as the site was converted to gas / other. No NYSDEC PBS registration was identified for the property and no spill records related to these tanks were identified for the property. In addition, no evidence of tanks was identified during the site reconnaissance inspection. However, out of service oil tanks can present a source of a release of petroleum products and no documentation was provided as to whether the tanks were appropriately abandoned and / or disposed of. Based on this information, PWGC believes that the historical fuel oil tanks represent a REC.
- Multiple nearby sites appear to have been historically used for industrial purposes, including auto repair shops, battery/welding company, a coal/lumber yard, and a transit depot, since at least 1928. The neighboring site to the east is also currently used as an auto repair garage with evidence of tanks. In addition, the neighbors to the north, west and east make up a single BCP site. The surrounding properties on Atlantic Avenue (lots 68, 73, 74, and 77) contain identified soil, groundwater, and soil vapor contamination. The main contaminants of concern are chlorinated solvents identified in all three media, historical urban fill material with semi-volatile organic compounds (SVOCs) identified in the soil, and heavy metals identified in the soil. Based on this information, the historical and current usage of the nearby sites for industrial purposes and identified contamination (specifically with regards to lots that make up the BCP site) appears to represent a REC.

Based on the identified RECs, PWGC recommends a Phase II ESA be performed at the subject property. The Phase II ESA should include:

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- A subsurface investigation including an inspection of the inaccessible sidewalk vault, a geophysical survey to evaluate whether the historical tanks are still present at the site, and soil and soil vapor sampling to determine if the historical tanks and historical industrial usage of the site have impacted the subject property.

Although not a part of the ASTM E1527-13 scope, the following additional concerns associated with the subject property must be considered:

- Based on inspection of the subject property, it is possible that ACM and/or lead-based paint are present within the structure. PWGC recommends that, prior to demolition or renovation of the building, a detailed asbestos and/or lead based paint survey should be performed by a qualified asbestos/lead inspector in accordance with applicable federal, state, and local regulations prior to renovation or demolition of the building; please note that the asbestos/lead inspection performed as part of this Phase I ESA does not meet that criteria.
- PWGC did visually observe significant sources of mold at the subject property during site reconnaissance. The ceiling of the first floor was saturated in multiple places via the intrusion of rainwater through the damaged roof. This saturation can lead to the growth of significant mold.
- Given the location of the subject property within the five boroughs of New York City, there is a potential for historical fill material to be present beneath the subject property. Such material, if excavated (for the purpose of constructing a building, installing new footings, and/or utilities), will require special handling and disposal.

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2.0 INTRODUCTION

2.1 Purpose

Atlantic Brooklyn LLC (Client) retained P.W. Grosser Consulting, Inc. (PWGC) to prepare a Phase I Environmental Site Assessment (ESA) for the property located at 1061 / 1063 Atlantic Avenue, Brooklyn, New York. The purpose of the Phase I ESA was to identify and evaluate the presence of Recognized Environmental Conditions (RECs) at the subject property. RECs are the presence or likely presence of any hazardous substance or petroleum product under conditions that indicate an existing release, a past release, or material threat of a release of any hazardous substance or petroleum product into structures on the property or into the ground, groundwater, or surface water of the property.

2.2 Scope of Services

The assessment consisted of a visual inspection of the subject property and surrounding areas, interviews, a review of historical information and aerial photographs, and a review of pertinent local, state, federal and facility records. Environmental Data Resources (EDR) of Shelton, Connecticut provided the following: a database search of environmental compliance records of sites within an ASTM standard radius of the property, a Sanborn fire insurance map search, historical aerial photograph search, and a historical telephone directory search.

PWGC reviewed the environmental database report compiled by EDR as a part of the assessment. The purpose of the review was to identify reported listings for the subject property or other properties in the vicinity of the subject property. Databases reviewed included federal and state lists of known or suspected contaminated sites, lists of known handlers or generators of hazardous waste, lists of known waste disposal facilities, and lists of aboveground and underground storage tanks (ASTs and USTs). PWGC's review of the database has been incorporated into this report along with a copy of the EDR report.

The work was conducted in accordance with the American Society for Testing and Materials (ASTM) Standard E 1527-13 (Standard Practices for Environmental Site Assessment: Phase I Environmental Site Assessment Process), 40 CFR Part 312 (Standards and Practices for All Appropriate Inquiry; Final Rule) and PWGC's proposal for services.

2.3 Definitions

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1. RECs are the presence or likely presence of any hazardous substance or petroleum product in, on, or at a property: (1) due to any release to the environment; (2) under the conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.
2. Historic RECs (HREC) are identified as a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (e.g., property use restrictions, activity or use limitations (AULs), institutional controls, or engineering controls).
3. Controlled RECs (CREC) are identified as a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (e.g., as evidenced by the issuance of a No Further Action (NFA) letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (e.g., property use restrictions, AULs, institutional controls, or engineering controls).
4. A *de minimus* condition generally does not present a threat to human health or to the environment and generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimus* conditions are not RECs nor CRECs.

2.4 Significant Assumptions

PWGC has made the following significant assumptions in the preparation of this report:

1. Groundwater Flow Direction – Based upon regional groundwater elevation maps and local topography, regional groundwater flow direction appears to be toward the northeast.
2. Regulatory Records Information - PWGC assumes that all information provided by EDR regarding the regulatory status of facilities within the ASTM Standard approximate minimum search distance is complete, accurate, and current.
3. Other - PWGC assumes that all information provided through interviews is complete and unbiased.

2.5 Limitations and Exceptions

The conclusions presented in this report are professional opinions based on the data described in this report. These opinions have been arrived at in accordance with currently accepted engineering and hydrogeologic standards and practices applicable to this location and are subject to the following inherent limitations:

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1. The data presented in this report are from visual inspections, examination of records in the public domain, and interviews with individuals having information about the subject property. The passage of time, manifestation of latent conditions, or occurrence of future events may require further exploration of the subject property, analysis of data, and re-evaluation of the findings, observations, and conclusions presented in this report.
2. The data reported and the findings, observations, and conclusions expressed are limited by the scope of work. The scope of work was defined by the request of the client.
3. No warranty or guarantee, whether expressed or implied, is made with respect to the data reported, findings, observations, or conclusions. These are based solely upon conditions in existence at subject property at the time of the investigation, and other information obtained and reviewed by PWGC.
4. PWGC's Phase I ESA report presents professional opinions and findings of a scientific and technical nature. While attempts were made to relate the data and findings to applicable environmental laws and regulations, the report shall not be construed to offer legal opinion or representations as to the requirements of, nor compliance with, environmental laws, rules, or regulations or policies of federal, state, or local government agencies. PWGC does not assume liability for financial or other losses or subsequent damage caused by or related to any use of this document.
5. The conclusions presented in this report are professional opinions based on data described in this report. They are intended only for the purpose, subject property location, and project indicated. This report is not a definitive study of contamination at the subject property and should not be interpreted as such.
6. This report is based, in part, on information supplied to PWGC by third-party sources. While efforts have been made to substantiate this third-party information, PWGC cannot attest to the completeness or accuracy of information provided by others.

2.6 Special Terms and Conditions

Authorization to perform this assessment was given by a proposal for services between Atlantic Brooklyn LLC and PWGC.

2.7 User Reliance

This report was prepared for the exclusive use of Atlantic Brooklyn LLC. PWGC assumes no liability for use of this report by any person or entity other than those for which it was prepared.

2.8 Data Gaps

Any data gaps identified herein, as defined by ASTM Practice E 1527-13 § 3.2.20, are not considered to have significantly affected the ability to identify RECs in connection with the subject property and do not alter the conclusions of this report, unless otherwise noted. Data gaps identified during the preparation of this Phase I ESA include:

- PWGC was not able to access a sidewalk vault during the site reconnaissance visit.
- Reasonably ascertainable standard sources do not show pre-development conditions at the subject property. The earliest available source (1888 Sanborn Map) shows the subject property developed with commercial buildings.
- PWGC was not able to obtain completed site questionnaires from the user, property owner or site manager.

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3.0 PROPERTY DESCRIPTION AND PHYSICAL SETTING

3.1 Location and Legal Description

The subject property consists of one parcel located at 1061 / 1063 Atlantic Avenue in the Bedford-Stuyvesant Neighborhood of Brooklyn, New York. The subject property is located in Kings County. The property is identified in the New York City Tax Map as Block 2020, Lot 70.

A Site Location Map is included as **Figure 1** and a Site Plan is included as **Figure 2**; photos of the subject property are included in **Appendix A**.

3.2 Subject Property Description and Improvements

The subject property measures approximately 0.16 acres and is occupied by one vacant two-story commercial / light industrial use building.

3.2.1 Municipal Services and Utilities

Utility services are provided to the property as follows:

- Heating/Cooling System – The property has no active heating/cooling system. According to the current owner, the property was most recently heated/cooled via a forced air system fueled by natural gas.
- Water Supply – The property is connected to the municipal water supply system.
- Sanitary System – The property is connected to the municipal sewer system.
- Electric – Electricity is provided to the property by Consolidated Edison.

3.3 Physical Setting

The topography of the subject property and surrounding area was reviewed from the USGS 7.5-minute series topographic map for the Brooklyn, New York quadrangle. The property elevation is approximately 85 feet above the National Geodetic Vertical Datum (NGVD). Regional physiographic conditions are summarized below.

3.3.1 Regional Geology / Hydrogeology

The geologic setting of Long Island is well documented and consists of crystalline bedrock composed of schist and gneiss overlain by layers of unconsolidated deposits. Immediately overlying the bedrock is the Raritan Formation, consisting of the Lloyd sand confined by the Raritan Clay Member. The Lloyd sand is an aquifer and consists of discontinuous layers of gravel, sand, sandy and silty clay, and solid clay. The Raritan Clay is a solid and silty clay with: few lenses of sand and gravel, abundant lignite and pyrite, and gray, red, or white in color.

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3.3.2 Local Hydrogeology

Based upon the borings advanced at an adjacent property by PWGC, the depth to groundwater beneath the site is approximately 75 feet below existing grade. Regional groundwater flow is estimated to be toward the northeast.

Based upon information contained within the EDR report, there are no public water supply wells within a one-mile radius of the subject property.

3.3.3 Flood Potential

PWGC reviewed the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) to determine if the subject property is located within the 100-year or 500-year flood zones. Based upon FIRM data, it appears that the subject property is not located within the 100 or 500-year flood zone (FEMA Map Panel ID: 3604970064B).

3.3.4 Direction and Distance to Nearest Surface Water

Based on topographic maps, no permanent surface water bodies are located within a one-mile radius of the subject property.

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4.0 PROPERTY USAGE

4.1 Current Property Usage

The subject property is currently a vacant building. The property appears to have been most recently used as a restaurant and trucking / shipping business. The building was primarily empty except for some kitchen equipment in the restaurant area.

4.2 Current Usage of Adjoining/Surrounding Properties

A summary of the surrounding properties is as follows:

Table 4-1 – Current Usage of Surrounding Properties

Direction	Property Description
North	Residential apartment buildings
South	Atlantic Avenue, commercial warehouses
East	Auto repair shop
West	Commercial bar/restaurant, commercial plumbing supply company

4.3 Historical Usage of Subject Property and Surrounding Properties

Historical sources researched to determine past usage of the subject property and surrounding properties are as follows:

4.3.1 Sanborn Fire Insurance Maps

EDR was retained to provide historical Sanborn fire insurance maps of the subject and adjacent properties. Historical Sanborn maps for the subject property and surrounding area were reviewed for the years available which include 1888 to 2007. Review of the maps is summarized in Table 4-2 and Table 4-3. A copy of the historical Sanborn report is included in **Appendix B**.

Table 4-2 – Sanborn Map Summary (Subject Property)

Date	Issues Noted	Description
1888 - 1908	No	The subject property is occupied by commercial hay and feed store and a storage shed.
1932 - 2007	Yes	The subject property is occupied by a brake shop and auto repair shop building. The building appears to match its current layout.

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Table 4-3 – Sanborn Map Summary (Surrounding Properties)

Date	Issues Noted	Description
1888	Yes	North: Undeveloped, residential South: Atlantic Avenue, railroad East: Undeveloped West: Industrial (beer bottling plant), undeveloped
1908	Yes	North: Residential South: Atlantic Avenue, industrial (coal and wood yard) East: Wagon house West: Commercial (store), industrial (factory)
1932	Yes	North: Industrial (repair shop), residential South: Atlantic Avenue, industrial (transit depot) East: Industrial (repair shop) West: Industrial (repair shops)
1951 - 1965	Yes	North: Commercial (storage), residential South: Atlantic Avenue, industrial (transit depot) East: Industrial (repair shop) West: Commercial and industrial (repair shops and storage)
1976 - 1978	Yes	North: Commercial (storage), residential South: Atlantic Avenue, industrial (transit depot) East: Industrial (repair shop) West: Vacant lot, industrial (repair shops)
1979 - 2007	Yes	North: Commercial (storage), residential South: Atlantic Avenue, industrial (transit depot) East: Commercial (battery service) West: Vacant lot, industrial (repair shops)

4.3.2 Historical Topographic Maps

Historical topographic maps for the subject property and surrounding area were reviewed for the years available which include 1897 to 2013. Review of the maps is summarized in Table 4-4 and Table 4-5. Copies of historical topographic maps are included as **Appendix C**.

Table 4-4 – Topographic Map Summary (Subject Property)

Date	Issues Noted	Description
1897 - 2013	No	The information displayed on the available topographic maps is insufficient to draw conclusions as to the specific usage of the subject property.

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Table 4-5 – Topographic Map Summary (Surrounding Properties)

Date	Issues Noted	Description
1897 - 1995	Yes	The information displayed on the available topographic maps is insufficient to draw conclusions as to the specific usage of the surrounding properties beyond the presence of roadways in each direction and a transit line to the east.
2013	Yes	The information displayed on the available topographic maps is insufficient to draw conclusions as to the specific usage of the surrounding properties beyond the presence of roadways in each direction.

4.3.3 Historical Aerial Photographs

PWGC performed a review of readily available aerial photographs showing the subject property and surrounding area. Photographs were reviewed for the years available which include 1924 to 2017. Review of the photos is summarized in Table 4-6 and Table 4-7. A copy of the aerial photograph search is included in **Appendix D**.

Table 4-6 – Aerial Photograph Summary (Subject Property)

Date	Issues Noted	Description
1924 - 1974	No	The subject property appears to be occupied by one commercial / industrial building.
1976	No	The resolution of the aerial image is too low to make it feasible to draw conclusions about the subject property.
1980 - 2017	No	A new building matching the currently existing building appears to be present at the subject property. The subject property appears to have been occupied by one commercial / industrial building.

Table 4-7 – Aerial Photograph Summary (Surrounding Properties)

Date	Issues Noted	Description
1924	Yes	North: Residential buildings South: Atlantic Avenue, commercial/industrial yard East: Commercial buildings West: Commercial buildings
1951 - 2017	Yes	North: Residential buildings South: Atlantic Avenue, public transit depot East: Commercial buildings West: Commercial buildings

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4.3.4 City Directory Listings

EDR was retained to provide a directory of historical telephone listings at the subject property and surrounding properties. City directories were reviewed for the years available which include 1928 to 2017. Review of the photos is summarized in Table 4-8 and Table 4-9. A copy of the city directory report is included as **Appendix E**.

Table 4-8 – City Directory Summary (Subject Property)

Date	Issues Noted	Description
1928 - 1934	Yes	The subject property is listed as an auto parts sales and service center.
1940	Yes	The subject property is listed as a coal / fuel oil facility.
1985	Yes	The subject property is listed as a contracting / maintenance facility.
1992	Yes	The subject property is listed as a contracting / maintenance facility, installer, management office and cultural service center.
1994	Yes	The subject property is listed as a contracting / maintenance facility, installer, Christian ministry and Christian newspaper.
1997	No	The subject property is listed as an installer, church, Christian ministry and Christian newspaper.
1999	Yes	The subject property is listed as a contracting / maintenance facility, installer, Christian ministry and Christian newspaper.
2000	No	The subject property is listed as an installer, Christian ministry and Christian newspaper.
2004	No	The subject property is listed as an engineering office, Christian center and Christian newspaper.
2005	No	The subject property is listed as office space, a Christian center and a Christian newspaper.
2009 - 2014	No	The subject property is listed as office space and a Christian newspaper
2017	Yes	The subject property is listed as freight company, car service, office space and a Christian newspaper

Table 4-9 – City Directory Summary (Surrounding Properties)

Date	Issues Noted	Description
1928	Yes	North: Not listed South: Not listed East: Commercial (battery and welding company) West: Commercial (truck tires)

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Date	Issues Noted	Description
1934	Yes	North: Not listed South: Not listed East: Commercial (battery and welding company) West: Commercial (auto repair, auto dealer)
1940	Yes	North: Not listed South: Not listed East: Commercial (battery and welding company) West: Commercial (auto repair)
1945	Yes	North: Not listed South: Not listed East: Commercial (battery and welding company) West: Commercial (auto repair)
1949	Yes	North: Not listed South: Not listed East: Commercial (battery and welding company) West: Commercial (auto repair)
1960	Yes	North: Not listed South: Not listed East: Commercial (battery and welding company) West: Commercial (auto repair)
1965	Yes	North: Not listed South: Not listed East: Commercial (auto repair) West: Commercial (auto repair)
1970	Yes	North: Not listed South: Not listed East: Commercial (auto repair) West: Commercial (auto repair)
1973	Yes	North: Not listed South: Not listed East: Commercial (auto repair) West: Commercial (auto repair)
1976	Yes	North: Not listed South: Not listed East: Commercial (auto repair) West: Not listed

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Date	Issues Noted	Description
1980	No	North: Not listed South: Not listed East: Not listed West: Not listed
1985	Yes	North: Not listed South: Not listed East: Commercial (auto repair) West: Not listed
1992	No	North: Not listed South: Not listed East: Not listed West: Not listed
1994	Yes	North: Not listed South: Not listed East: Commercial (auto repair) West: Not listed
1997	Yes	North: Not listed South: Not listed East: Commercial (auto repair) West: Not listed
1999	Yes	North: Not listed South: Not listed East: Commercial (auto repair) West: Not listed
2000	Yes	North: Not listed South: Not listed East: Commercial (auto repair) West: Not listed
2004	No	North: Not listed South: Not listed East: Not listed West: Not listed
2005	Yes	North: Not listed South: Not listed East: Commercial (auto repair) West: Not listed

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Date	Issues Noted	Description
2009	Yes	North: Not listed South: New York City Transit Authority East: Commercial (auto repair) West: Not listed
2014	Yes	North: Not listed South: Not listed East: Commercial (auto repair) West: Not listed
2017	Yes	North: Not listed South: Not listed East: Commercial (auto repair) West: Not listed

4.3.5 Subject Property Historical Summary

Based on review of historical sources, as described in Section 4.3.1 through 4.3.4 the subject property was first developed sometime prior to 1888. The property was used for commercial and/or light industrial purposes from prior to 1888 to present. Historical uses included an auto repair and brake shop, office space, a church and a variety of commercial usages. Historical usage of the subject property indicative of potential RECs include the following:

- Usage as an auto repair shop / brake shop.
- Usage as a contracting / maintenance facility.

4.3.6 Surrounding Area Historical Summary

Based on review of historical sources, as described in Section 4.3.1 through 4.3.4, the area surrounding the subject property was first developed sometime prior to 1888. Development was primarily residential to the north, and commercial and/or light industrial to the east, west and south from prior to 1888 until the present. Historical usage of properties in the surrounding area indicative of potential RECs include the following:

- Usage of the sites to the east and west as auto repair shops
- Usage of the property to the south as an industrial coal/lumber yard and as a transit depot.

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5.0 USER PROVIDED INFORMATION

5.1 User Requirements

The user of a Phase I ESA report, in accordance with the USEPA All Appropriate Inquiries (AAI) Rule and ASTM E1527-13 has certain responsibilities which include providing the following information, if available, to PWGC to be included within the Phase I Report. Additionally, PWGC provided the user of the report a User Questionnaire form. The information requested in the User Questionnaire is intended to assist in gathering information that may be material to identify if RECs are present at the subject property. A copy of the User Questionnaire and any provided documents are included in **Appendix F**; relevant information has been incorporated into this report.

5.2 Title Records

Title records for the subject property may contain information about past owners and uses of the subject property. The title report may also contain information, such as restrictive declarations which are limitations on site uses based upon know environmental conditions. As of the date of this report, the user has not provided PWGC with a title search or requested that PWGC perform a title search.

5.3 Environmental Liens

An environmental lien is a charge, security, or encumbrance upon title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of hazardous substances or petroleum products upon a property, including, but not limited to, liens imposed pursuant to CERCLA 42 USC § 9607 (1) & 9607(r) and similar state and local laws. As of the date of this report, the user has not provided PWGC with a lien search or requested that PWGC perform a lien search.

5.4 Specialized Knowledge

The user provided no specialized knowledge about the property to PWGC.

5.5 Commonly Known or Reasonably Ascertainable Information

The user provided no commonly known information about the property to PWGC.

5.6 Valuation Reduction for Environmental Issues

The user provided no information regarding price adjustments to the subject parcels value due to environmental issues.

5.7 Owner, Property Manager, and Occupant Information

The property is currently owned by Atlantic Equity Holdings LLC and is unoccupied.

5.8 Reason for Performing Phase I ESA

The Phase I ESA was performed to evaluate potential RECs prior to a potential property transaction.

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6.0 RECORDS REVIEW

6.1 Standard Environmental Record Sources

EDR of Shelton, Connecticut was retained to provide a database search of the project area within an ASTM-standard radius of the subject property. A list of the databases searched and the search radius is shown on the summary table below. PWGC reviewed the database output to determine if the property appears on any of the regulatory agency lists. Detailed information concerning each database list is provided in the EDR report (**Appendix G**).

In order to evaluate the potential for a site to have an adverse impact to the subject property, the migration pattern of contaminants in media such as groundwater or soil vapor is considered. Based upon the presumed regional flow towards the northeast, the following is assumed:

- Sites located southwest of the subject property or sites that are neighboring or adjacent to the subject property are considered to have the highest potential to impact the subject property and are referred to as “up gradient.”
- Sites located northeast of the subject property, which are not neighboring or adjacent to the subject property are considered to have the least potential to impact the subject property and are referred to as “down gradient.”
- All other sites not adjacent to or neighboring the subject property are referred to as “cross gradient” and are considered to have minimal potential to impact the subject property.

A summary of standard environmental record sources researched is as follows:

6.1.1 Federal Databases

The table below summarizes the Federal databases that were searched.

Table 6-1 - Federal Databases Searched

Agency	Listing Name or database Searched	Abbreviation	Search Distance	Target Property Identified	Nearby Properties Identified
USEPA	National Priority List	NPL	1.0 mile	No	0
USEPA	National Priority List Deletions	Delisted NPL	0.5 mile	No	0

Agency	Listing Name or database Searched	Abbreviation	Search Distance	Target Property Identified	Nearby Properties Identified
USEPA	Superfund Enterprise Management System	SEMS	0.5 mile	No	0
USEPA	Superfund Enterprise Management System Archive	SEMS-ARCHIVE	0.5 mile	No	0
USEPA	Resource Conservation and Recovery Act Corrective Action Activity	CORRACTS	1.0 mile	No	0
USEPA	Resource Conservation and Recovery Act Treatment/Storage/Disposal Facilities	RCRA TSD	0.5 mile	No	0
USEPA	Resource Conservation and Recovery Act Small/Large Quantity Hazardous Waste Generators	RCRA SQG/LQG/ CESQG/ Non-Gen	Subject Property and Adjoining	Yes	2
USEPA	Federal Institutional/Engineering Control registries	US INST/ENG Controls	Subject Property	No	N/A
USEPA	Emergency Response Notification System	ERNS	Subject Property	No	N/A
USEPA	Superfund (CERCLA) Consent Decrees	CONSENT	1.0 mile	No	0
USEPA	Records of Decision	ROD	1.0 mile	No	0
USEPA	Mines Master Index	MINES	0.25 mile	No	0

Review of the EDR Radius Map Report indicates that the subject property is listed in the Federal environmental databases searched. The subject property and nearby properties identified within the ASTM standard federal database search radii are detailed below.

RCRA Generators - The RCRA Generators database is a compilation of reporting facilities that generate hazardous waste. Large Quantity Generators (LQG) generate more than 1,000 kg of hazardous waste per month or more than 1 kg of acutely hazardous waste per month. Small Quantity Generators (SQG) generate more than 100 kg and less than 1,000 kg of hazardous waste per month. Conditionally Exempt SQGs (CESQG) generate less than 100 kg of hazardous waste per month or less than 1 kg of acutely hazardous waste per month. A RCRA non-generator (RCRA Non-Gen) no longer produces hazardous waste.

The subject property is identified as a RCRA Generator site. The identified site, a Con Edison Service Box located at 1061 Atlantic Avenue is a RCRA Non-Gen and former CESQG. The site has no identified evidence of violations. Two properties adjacent to the subject property are identified as RCRA Generator sites. The two identified sites, a Con Edison manhole and NYCT Cable, are both located across Atlantic Avenue at 1114 Atlantic Avenue. The Con Edison site is a RCRA Non-Gen and the NYCT Cable site is an LQG (lead, mercury, ignitable waste and non-halogenated solvents). Neither site has identified evidence of violations. The NYCT Cable site has one identified spill, which occurred on pavement and has been closed by the NYSDEC. Based on the information available in the database report, these sites do not appear to represent an environmental concern to the subject property.

6.1.2 State and Local Databases

The table below summarizes the State databases that were searched.

Table 6-2 - New York State and Local Databases Searched

Agency	Listing Name or database Searched	Abbreviation	Search Distance	Target Property Identified	Nearby Properties Identified
NYSDEC	Inactive Hazardous Waste Disposal Sites in New York State	SHWS	1.0 mile	No	1
NYSDEC	Hazardous Substance Waste Disposal Site Study	HSWDS	0.5 mile	No	0
NYSDEC	Solid Waste Facility Register	SWF/LF	0.5 mile	No	3
NYSDEC	Registered Recycling Facilities	SWRCY	0.5 mile	No	0
NYSDEC	Registered Waste Tire Storage Facilities	SWTIRE	0.5 mile	No	0
NYSDEC	Petroleum Bulk Storage (PBS)	UST/AST	Subject Property and Adjoining	No	0
NYSDEC	Chemical Bulk Storage (CBS)	CBS AST/UST	Subject Property and Adjoining	No	0
NYSDEC	Major Oil Storage Facilities	MOSF	0.5 mile	No	0
NYSDEC	Leaking Underground Storage Tank Sites	LTANKS	0.5 mile	No	40
NYSDEC	New York State Spills	NYSPILLS	0.125 mile	No	24
NYSDEC	Institutional/Engineering Control registries	INST/ENG Controls	Subject Property	No	N/A
NYSDEC	Voluntary Cleanup Agreements	VCP	0.5 mile	No	22

Agency	Listing Name or database Searched	Abbreviation	Search Distance	Target Property Identified	Nearby Properties Identified
NYSDEC	Brownfield Cleanup Program & Environmental Restoration Program	BCP/ERP	0.5 mile	No	2
NYSDEC	Dry Cleaner Site	Dry cleaners	0.25 mile	No	3
NYC	E-Designation	E-DES	Subject Property	No	N/A

Review of the EDR Radius Map Report indicates that the subject property is not listed in State environmental databases searched. The nearby properties identified within the ASTM standard State database search radii are detailed below.

New York State Inactive Hazardous Waste Disposal Sites - The New York State Department of Environmental Conservation (NYSDEC) maintains a state priority list of Inactive Hazardous Waste Disposal Sites (SHWS) considered to be actually or potentially contaminated and presenting a possible threat to human health and the environment. Referred to as the State Superfund Program, the Inactive Hazardous Waste Disposal Site Remedial Program is the cleanup program for inactive hazardous waste sites and now includes hazardous substance sites.

The subject property is not identified as a SHWS site. One property within the search radius is identified as a SHWS site. The identified SHWS site appears to be located down gradient of the subject property and as such, appears unlikely to represent an environmental concern to the subject property.

Solid Waste Facility Register - The NYSDEC Solid Waste Facility Register (SWF) records contain an inventory of solid waste disposal facilities or landfills in New York State.

The subject property is not identified as a SWF site. Three properties within the search radius are identified as SWF sites. Of the three identified SWF sites, all three appear to be located upgradient of or adjacent to the subject property. The two identified SWF sites that appear to be located upgradient of the subject property are listed as inactive, with no violations listed and do not have active concerns in the other environmental databases. The third identified SWF site appears to be located adjacent to the subject property. Atlantic Auto Sales Trading Corp. is located at 1120 Atlantic Avenue and is listed as inactive. No violations or active concerns in the other

environmental databases were noted. Based on the information available in the database report, these sites do not appear to represent an environmental concern to the subject property.

Leaking Underground Storage Tank Sites - The Leaking Underground Storage Tank Sites (LTANKS) database contains a NYSDEC inventory of reported leaking storage tank incidents. They can be either leaking underground storage tanks or leaking aboveground storage tanks. The causes of the incidents are tank test failures, tank failures or tank overfills.

The subject property is not identified as a LTANKS site. A total of 40 properties within the search radius are identified as LTANKS sites. Of the 40 identified LTANKS sites, all 40 have been closed by NYSDEC, and as such appear unlikely to represent an environmental concern to the subject property.

New York State Spills - The New York State Spills Information Database (NYSPILLS) contains data collected on chemical and petroleum spill incidents reported to NYSDEC since April 1, 1986.

The subject property is not identified as a NYSPILLS site. A total of 24 properties within the search radius are identified as NYSPILLS sites. Of the 24 identified NYSPILLS sites, 23 have been closed by NYSDEC, and as such appear unlikely to represent an environmental concern to the subject property. The identified active NYSPILLS site appears to be located cross gradient of the subject property and as such, appear unlikely to represent an environmental concern to the subject property.

Voluntary Cleanup Agreements - The NYSDEC Voluntary Cleanup Program (VCP) database identifies brownfield sites undergoing private sector cleanup as part of redevelopment.

The subject property is not identified as a VCP site. A total of 22 properties within the search radius are identified as VCP sites; however, each of these sites are listed as NYC VCP sites, not NYS VCP sites. Sites that have been investigated under the NYC VCP program, if determined to be a significant threat to human health or the environment because of contamination migrating off-site, are typically transferred to one of the NYS programs. Of the 22 identified VCP sites, 20 appear to be located down or cross gradient of the subject property and as such, appear unlikely to represent an environmental concern to the subject property. Of the 2 identified VCP sites that appear to be located up gradient of the subject property, the closest one is located several blocks up-

gradient and the sites do not appear to be listed in other environmental databases indicating actual releases at the properties. Based on the information available in the database report, these sites do not appear to represent an environmental concern to the subject property.

Brownfields - A Brownfield is any real property where redevelopment or re-use may be complicated by the presence or potential presence of a hazardous waste, petroleum, pollutant, or contaminant. The NYSDEC Brownfield Cleanup Program (BCP) was established to encourage private-sector cleanups of brownfields and to promote their redevelopment as a means to revitalize economically blighted communities. The NYSDEC Environmental Restoration Program (ERP) is an equivalent to the BCP available to municipal entities.

The subject property is not identified as a NYSDEC BCP/ERP site. Two properties within the search radius are identified as NYSDEC BCP/ERP sites. Of the two identified NYSDEC BCP/ERP sites, both appear to be located cross gradient of the subject property and as such, appear unlikely to represent an environmental concern to the subject property.

Dry Cleaners – The NYSDEC maintains a registry of Registered Dry Cleaner (RDC) sites.

The subject property is not identified as an RDC site. Three properties within the search radius are identified as RDC sites. Of the three identified RDC sites, all three appear to be located down gradient of the subject property and as such, appear unlikely to represent an environmental concern to the subject property.

6.1.3 EDR Databases

The table below summarizes the EDR databases that were searched.

Table 6-3 - Additional Databases Searched

Agency	Listing Name or database Searched	Abbreviation	Search Distance	Target Property Identified	Nearby Properties Identified
EDR	Manufactured Gas Plants	MGP	1.0 mile	No	0
EDR	Historical Drycleaners	HDC	0.25 mile	No	4
EDR	Historical Auto Station	HAS	0.125 mile	No	9

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Review of the EDR Radius Map Report indicates that the subject property is not listed in EDR proprietary databases searched. The nearby properties identified within the EDR proprietary database search radii are detailed below.

EDR Historical Cleaners: EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc.

The subject property is not identified as a HDC site. Four properties within the search radius are identified as HDC sites. Of the four identified HDC sites, all four appear to be located down or cross gradient of the subject property and as such, appear unlikely to represent an environmental concern to the subject property.

EDR US Historical Auto Stations – EDR has searched national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers.

The subject property is not identified as a HAS site. Nine properties within the search radius are identified as HAS sites. Of the nine identified HAS sites, four appear to be located down or cross gradient of the subject property and as such, appear unlikely to represent an environmental concern to the subject property. Five identified HAS sites appear to be located up gradient of the subject property. The presence of historical auto stations alone does not necessarily represent an environmental concern. Each of the five sites do not have identified evidence of spills, releases or violations. Based on the information available in the database report, these sites do not appear to represent an environmental concern to the subject property.

6.1.4 Orphan Sites

Orphan sites are properties, that due to an inadequate or incomplete address in government databases or in base map files, are not able to be geographically located (i.e. mapped or geocoded). This can occur for several reasons: no street number or street name in address given, the street address is given only as a P.O. Box, or when inconsistencies exist in the address (street number does not exist in the city / zip code given).

A total of nine orphan sites were identified in the EDR report. PWGC performed a cursory review of the addresses listed. It does not appear that the subject property or neighboring properties are identified in the orphan summary.

6.2 Vapor Encroachment

PWGC performed a Tier 1 Vapor Encroachment Screening for the subject property in accordance with ASTM E2600-15, Vapor Encroachment Screening on Property Involved in Real Estate Transactions. In accordance with ASTM E2600-15, the default Area of Concern (AOC), adjusted to account for the groundwater flow direction in the vicinity of the subject property, is defined as follows:

Direction Relative to Subject Property	Petroleum Impacted Sites AOC Radius	Contaminants of Concern Impacted Sites AOC Radius
Up Gradient	528 feet	1,760 feet
Cross Gradient	165 feet (LNAPL) 95 feet (dissolved)	365 feet
Down Gradient	100 feet (LNAPL) 30 feet (dissolved)	100 feet

PWGC evaluated sites identified in Federal and State databases (see Section 6.1) located within the adjusted AOC radii for the potential for petroleum impact and or contaminants of concern (such as perc) to be present. The following sites were identified within the adjusted AOC:

- One FINDS, ECHO, US AIRS and RCRA Non-Gen site (subject property)
- Five LTANKS sites
- Ten NYSPILLS sites
- Two SWF/LF sites
- Five EDR Hist Auto sites

Each of these sites was evaluated for the potential for a vapor encroachment condition (VEC) to be present. Based on these sites' lack of apparent impact present and/or closed status, PWGC has determined that none are likely to represent a VEC at the subject property.

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PWGC has also evaluated the historic usage of the subject property and neighboring property for information that may not appear in the environmental databases. Several properties have been utilized for automotive repair work and for metals manufacturing. The potential presence of petroleum compounds or solvents at these sites indicate that a VEC may be present and should be further evaluated.

A copy of the Tier 1 Vapor Encroachment Screening is included as **Appendix H**.

6.3 Additional Environmental Record Sources

6.3.1 Freedom of Information Act Requests

Freedom of Information Act (FOIA) requests were sent to the United States Environmental Protection Agency, Region 2 (USEPA), the New York State Department of Environmental Conservation, Region 2 (NYSDEC), the New York City Office of Environmental Remediation (NYCOER), the Fire Department of New York City (FDNY), the New York City Department of Environmental Protection (NYCDEP) and the New York City Department of Health and Mental Hygiene (NYCDOHMH). Copies of FOIA requests are included in **Appendix I**.

As of the date of this report, responses to FOIA requests have not been received, except as noted below. As responses were not provided within the allotted due diligence period, the records were deemed not to be "reasonably ascertainable" at this time. Should records become available at a later date, pertinent information will be forwarded as an addendum upon receipt.

USEPA – PWGC was provided with a response of "no information found for the submitted address".
FDNY – PWGC was provided with FDNY tank records identifying that two 275-gallon #2 fuel oil tanks were located at 1061 Atlantic Avenue. The tanks were noted are being on floor "0", which PWGC believes is the ground floor. The records were established in 1984 and last inspected in 1986. The records say that the tank records are void as the site was converted to gas / other.
NYSDEC – PWGC was provide with a response of "please be advised that a diligent search of the files maintained by DEC produced no responsive records."

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6.3.2 Publicly Available Online Information

Information regarding the subject property available on the commercial real estate website www.propertyshark.com (an aggregator of publicly available real estate information) was reviewed to identify pertinent information.

Review of publicly available information identified the following potential environmental issues:

- The subject property is identified as a hazardous waste generator and/or transporter.

A review of the NYSDEC DECInfo Locator website did not reveal environmental issues at the subject property. The DECInfo Locator did identify the following environmental issues at nearby properties:

- The neighbors to the north, west and east make up a single BCP site. This site entered into the BCP program after the EDR Database report was ordered; therefore, information regarding it was not yet supplied to EDR. The surrounding properties on Atlantic Avenue (lots 68, 73, 74, and 77) contain soil, groundwater, and soil vapor contamination. The main contaminants of concern are chlorinated solvents identified in all three media, historical urban fill material with semi-volatile organic compounds (SVOCs) identified in the soil, and heavy metals identified in the soil.

A review of New York City Department of Buildings (NYCDOB) filings, permits, and certificates of occupancy revealed the following information regarding the building history and/or environmental concerns:

- The subject property submitted an oil burner application in 1961.
- Demolition permits were pulled in 1919 and 1977.

Copies of publicly available information are included in **Appendix I**.

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7.0 SITE RECONNAISSANCE

7.1 Methodology and Limiting Conditions

Mr. Michael Gaul of PWGC performed site reconnaissance on August 13, 2020. Weather conditions during the inspection were rainy with a temperature of approximately 78° Fahrenheit.

The site reconnaissance consisted of an inspection of the interior portions of the existing building, followed by inspection of the exterior portions of the property. A Site Inspection Checklist is included as **Appendix J**. Limitations to the inspection included the following:

- PWGC was not able to access the sidewalk vault basement

7.2 Aboveground Storage Tanks (AST)

PWGC did not identify ASTs at the subject property.

7.3 Underground Storage Tanks (UST)

PWGC did not identify evidence of USTs, such as fill ports or vent lines at the subject property.

7.4 Hazardous and Non-Hazardous Chemical Storage

PWGC observed chemical storage consisting of the following:

- Multiple 5-gallon paint containers. Each container was closed and there was no evidence of spillage or a release.

7.5 Waste Generation, Storage, and Disposal

PWGC did not identify evidence of waste generation, storage or disposal at the subject property.

7.6 Polychlorinated Biphenyls (PCBs)

PWGC did not identify potentially PCB containing equipment such as electrical transformers or hydraulic lifts at the subject property.

7.7 Additional Site Conditions

The following is a summary of visual and/or physical observations made by PWGC at the time of site reconnaissance. Photographs of pertinent observations are included in **Appendix A**.

Table 7-1 - Additional Site Conditions

Condition	Identified
Interior drains, trenches or sumps.	Yes[1]
Interior stains or corrosion	No
Unusual odors	No
Interior pools of liquid	Yes[2]
Stained Soils or Pavement	No
Stressed Vegetation	No
Indications of solid waste disposal	No
Exterior ponds, pits, or lagoons	No
Wastewater discharge/disposal	No
Storm water discharge/disposal	No
Oil water separators/clarifiers	Yes[3]
Septic Systems/Cesspools	No
Wells (Drinking water, monitoring wells, agricultural/ irrigation wells, or process water wells)	No
Petroleum or natural gas pipelines or easements	No
Other	Yes[4]

1 – One sewer cleanout pit was observed in the first floor. The pit was approximately 6 feet deep and located in the center of the northern side of the property. No chemical storage was observed in the vicinity of the pit; no staining or other evidence of spills or improper discharges was observed in the vicinity of the pit. The current site owner indicated that the pit discharges to the municipal sewer.

2 – Multiple interior pools of rainwater were observed on the floor of the first-floor area. The pools appeared to be the result of water intrusion through the damaged roof. The current owner indicated that the roof damage was the result of a recent storm. No evidence that the pools were the result of a spill/release of hazardous substances or petroleum products was identified.

3 – One grease trap was observed in the former restaurant area on the first floor. The grease trap appeared to be self-contained; no staining or other evidence of spills or improper discharges was observed in the vicinity of the grease trap. The current site owner indicated that the water that exits the grease trap discharges to the municipal sewer.

4 – A partial basement may be present at the building. A solid, metal grate is located on the sidewalk in front of the roll-up gate on the eastern side of the property. This grate did not have a mechanism to open and appeared to be sealed to the ground. A view of historical Google street views indicate that this area used to be covered with a 2-door metal covering that could be opened.

7.8 Neighboring Properties

PWGC performed a cursory inspection of the neighboring properties from the subject property and public right of ways. The neighboring properties are used for residential, commercial and industrial purposes. Potential environmental concerns observed at neighboring properties included:

- The site located to the east is currently used for an auto repair shop. A tank fill port and vent pipe were noted protruding from the sidewalk in front of the site.

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8.0 INTERVIEWS

8.1 Current Owner/Occupant

PWGC interviewed Joel Teitelbaum, a current property co-owner. Mr. Teitelbaum did not have knowledge of environmental issues at the subject property. Information provided by Mr. Teitelbaum has been incorporated into this report where appropriate.

8.2 Previous Environmental Reports

PWGC was not provided copies of previous environmental reports for the subject property.

8.3 Local Government Officials

Freedom of Information Act (FOIA) requests were sent to the United States Environmental Protection Agency, Region 2 (USEPA), the New York State Department of Environmental Conservation, Region 2 (NYSDEC), the New York City Office of Environmental Remediation (NYCOER), the Fire Department of New York City (FDNY), the New York City Department of Environmental Protection (NYCDEP) and the New York City Department of Health and Mental Hygiene (NYCDOHMH).

Based upon the subject property history, interviews with government officials to obtain additional information are not warranted at this time.

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9.0 CONDITIONS OUTSIDE THE SCOPE OF ASTM 1527-13

9.1 Wetland Delineation

Based on review of the EDR Radius Map Report, which includes State and Federal wetlands, it appears that State and Federal wetlands are not present on the subject property. Based on review of the NYSDEC Environmental Resources Mapper, the subject property does not appear to be located within a wetlands checkzone.

Based on review of the EDR Radius Map Report, no State or Federal wetlands are located within a one-mile radius of the subject property.

9.2 Radon Risk Evaluation

Radon is a colorless, radioactive; inert gas formed by the decay of radium and may be present in soils and rocks containing granite, shale, phosphate and pitchblende. The USEPA's "Map of Radon Zones for New York State", September 1993 indicates that Kings County is not a radon risk area. The EDR report provides information from the New York State Department of Health radon survey which indicates that the average result for sites tested in Kings County is 0.750 Pico curies per liter (pCi/L) in the living area, which is below the USEPA radon action level of 4 pCi/L, and 100% of sites tested in Kings County were below the action level of 4 pCi/L in the living area.

9.3 Asbestos

PWGC performed a cursory visual inspection of the building during site reconnaissance for potential asbestos containing material (ACM) and observed potential ACM consisting of potential ACM time and mastic making up the majority of the first floor. Additionally, regardless of the age of the building, ACM may be present in building products such as drywall, acoustic ceiling tiles, plaster, joint compound, roofing materials, waterproofing material, caulk, grout, flooring, mastics, thermal systems, and pipe wrap. A detailed asbestos survey should be performed by a qualified asbestos inspector in accordance with applicable federal, state, and local regulations prior to renovation or demolition of the building; please note that the asbestos inspection performed as part of this Phase I ESA does not meet that criteria.

9.4 Lead-Based Paint (LBP)

PWGC did identify evidence of potential lead-based paint at the subject property. PWGC identified peeling paint on the walls of both the first and second floor. Based on the apparent age of the building, it is possible that additional lead-based paint is present.

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9.5 Mold

PWGC did visually observe significant sources of mold at the subject property during site reconnaissance. The ceiling of the first floor was saturated in multiple places via the intrusion of rainwater through the damaged roof. This saturation can lead to the growth of significant mold.

9.6 Historical Fill

Given the location of the subject property within the five boroughs of New York City, there is a potential for historical fill material to be present beneath the subject property. Such material, if excavated (for the purpose of constructing a building, installing new footings, and/or utilities), will require special handling and disposal.

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10.0 FINDINGS AND OPINIONS

Based upon reconnaissance of the subject and surrounding properties, interviews, and review of historical records and regulatory agency databases, the following potential RECs have been identified:

Onsite

- Historical usage of the subject property as an auto repair shop / brake shop, coal/fuel oil company, and a contracting / maintenance facility.
- FDNY tank records identifying two 275-gallon #2 fuel oil tanks at the subject property.

Offsite

- Historical usage of the sites to the east and west as auto repair shops and current usage of the site to the east as an auto repair shop.
- Historical usage of the site to the south as an industrial coal/lumber yard, battery/welding company and as a transit depot.

Potential RECs identified at the subject property were evaluated to determine whether items initially suspected to be RECs are in fact RECs. Evaluation of potential RECs are as follows:

- The subject property appears to have been historically used for light industrial purposes, including auto repair / brake shops, a coal / fuel oil company, and a contracting / maintenance facility, since at least 1928. These types of historical property usages are likely to have utilized and stored both hazardous substances and petroleum products. The building is currently unoccupied. Evidence of an active spill or release such as an open NYSDEC spill record or an unresolved RCRA violation was not identified. In addition, active pathways for such substances to potentially have been released to the environment such as floor drains or an onsite sanitary system were not identified. However, the site's historical industrial usage preceded the existence of both NYSDEC spill records and RCRA violations and the building at the property has been altered/redeveloped multiple times. Based on this information, the long-standing historical usage of the site for industrial purposes represents a REC.
- FDNY tank records were acquired via a FOIA request identifying that two 275-gallon #2 fuel oil tanks were located at 1061 Atlantic Avenue. The tanks were noted as being on floor "0," which PWGC believes is the ground floor; the location of the tanks themselves (aboveground or underground) was not identified. The records were established in 1984 and last inspected in 1986. The records say that the tank records are void as the site was converted to gas / other. No NYSDEC PBS registration was identified for the property and no spill records related to these tanks were identified for the property. In addition,

no evidence of tanks was identified during the site reconnaissance inspection. However, out of service oil tanks can present a source of a release of petroleum products and no documentation was provided as to whether the tanks were appropriately abandoned and / or disposed of. Based on this information, PWGC believes that the historical fuel oil tanks represent a REC.

- Multiple nearby sites appear to have been historically used for industrial purposes, including auto repair shops, battery/welding company, a coal/lumber yard, and a transit depot, since at least 1928. The neighboring site to the east is also currently used as an auto repair garage with evidence of tanks. In addition, the neighbors to the north, west and east make up a single BCP site. The surrounding properties on Atlantic Avenue (lots 68, 73, 74, and 77) contain identified soil, groundwater, and soil vapor contamination. The main contaminants of concern are chlorinated solvents identified in all three media, historical urban fill material with semi-volatile organic compounds (SVOCs) identified in the soil, and heavy metals identified in the soil. Based on this information, the historical and current usage of the nearby sites for industrial purposes and identified contamination (specifically with regards to lots that make up the BCP site) appears to represent a REC.

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11.0 CONCLUSIONS AND RECOMMENDATIONS

PWGC has performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-13 for the subject property. There were no exceptions to, or deletions from, this practice except as noted in Section 12.0 of this report. PWGC evaluated the findings associated with the subject property and identified three RECs, zero HRECs, and zero CRECs with respect to the subject property.

Based on the identified RECs, PWGC recommends a Phase II ESA be performed at the subject property. The Phase II ESA should include:

- A subsurface investigation including an inspection of the inaccessible sidewalk vault, a geophysical survey to evaluate whether the historical tanks are still present at the site, and soil and soil vapor sampling to determine if the historical tanks and historical industrial usage of the site have impacted the subject property.

Although not a part of the ASTM E1527-13 scope, the following additional concerns associated with the subject property must be considered:

- Based on inspection of the subject property, it is possible that ACM and/or lead-based paint are present within the structure. PWGC recommends that, prior to demolition or renovation of the building, a detailed asbestos and/or lead based paint survey should be performed by a qualified asbestos/lead inspector in accordance with applicable federal, state, and local regulations prior to renovation or demolition of the building; please note that the asbestos/lead inspection performed as part of this Phase I ESA does not meet that criteria.
- PWGC did visually observe significant sources of mold at the subject property during site reconnaissance. The ceiling of the first floor was saturated in multiple places via the intrusion of rainwater through the damaged roof. This saturation can lead to the growth of significant mold.
- Given the location of the subject property within the five boroughs of New York City, there is a potential for historical fill material to be present beneath the subject property. Such material, if excavated (for the purpose of constructing a building, installing new footings, and/or utilities), will require special handling and disposal.

12.0 DEVIATIONS

This Phase I ESA was conducted in accordance with the scope and limitations of the ASTM Standard E 1527-13 (Standard Practices for Environmental Site Assessment: Phase I Environmental Site Assessment Process) and 40 CFR Part 312 (Standards and Practices for All Appropriate Inquiry; Final Rule). Excluding data gaps identified in Section 2.8 and additional services outlined in Section 9.0, there were no deviations or deletions from this practice.

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13.0 REFERENCES

All Appropriate Inquiry, Final Rule, 40 CFR Part 312.

Standard practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, ASTM Standard E 1527-13.

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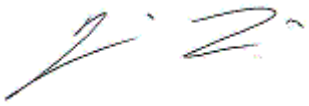
14.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR 312.



Michael Gaul

Project Manager



Jennifer Lewis, PG

Senior Project Manager

Qualifications of the Environmental Professionals are included in **Appendix K.**

Report Completion Date: 8/18/20

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Appendix D
Phase 2 Environmental Site Assessment (ESA): Brooklyn Block 2020, Lot 77 (Executive Summary)

1045 ATLANTIC AVENUE
BROOKLYN, NEW YORK
TAX MAP ID 02020-0077

PHASE II
ENVIRONMENTAL SITE ASSESSMENT
(ASTM 1903-11)

PREPARED FOR:

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APRIL 2019 – REVISED AUGUST 2019

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FIGURES

FIGURE 1	Site Location Map
FIGURE 2	Site Plan
FIGURE 3	Soil Boring Exceedances
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TABLE 1	Soil Boring Details
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APPENDICES

APPENDIX A	Soil Boring Logs
APPENDIX B	Laboratory Analytical Reports
APPENDIX C	Soil Vapor Sampling Log

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ACRONYM	DEFINITION
ASP	Analytical Services Protocol
ASTM	American Society for Testing and Materials
CFR	Code of Federal Regulations
DER	Department of Environmental Remediation
ELAP	Environmental Laboratory Approval Program
EM	Electromagnetic
ESA	Environmental Site Assessment
GQS	Groundwater Quality Standard
GV	Guidance Value
NYCRR	New York Codes, Rules, and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PCB	Polychlorinated Biphenyl
PID	Photo-ionization Detector
PWGC	P.W. Grosser Consulting, Inc.
QA/QC	Quality Assurance / Quality Control
REC	Recognized Environmental Condition
SCO	Soil Cleanup Objective
SVOC	Semi-volatile Organic Compound
USCS	Unified Soil Classification System
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VISL	USEPA Vapor Intrusion Screening Levels
VOC	Volatile Organic Compound

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1.0 INTRODUCTION

BEB Capital (Client) retained P.W. Grosser Consulting, Inc. (PWGC) to prepare a Phase II Environmental Site Assessment (ESA) for the property located at 1045 Atlantic Avenue, Brooklyn, New York. The purpose of the Phase II ESA was to further evaluate recognized environmental conditions (RECs) identified in the Phase I ESA prepared by PWGC in March 2019 to obtain sound, scientifically valid data concerning actual property conditions.

Work was conducted in accordance with the American Society for Testing and Materials (ASTM) Standard E 1903-11 (Standard Practices for Environmental Site Assessment: Phase II Environmental Site Assessment Process) and in substantial conformance with the New York State Department of Environmental Conservation's (NYSDEC's) Division of Environmental Remediation's (DER's) Technical Guidance for Site Investigation and Remediation, May 2010 (DER-10).

2.0 BACKGROUND

2.1 Site Description and Features

The subject property consists of one parcel located at 1045 Atlantic Avenue in the Bedford-Stuyvesant neighborhood of Brooklyn, New York. The site is located in the Borough of Brooklyn and Kings County. The property is identified on the New York City Tax Map as 02020-0077. The subject property measures approximately 27,400 square feet and is occupied by a one-story industrial building, a warehouse building, and a concrete paved rear yard.

A Site Location Map is included as **Figure 1** and a Site Plan is included as **Figure 2**.

2.2 Physical Setting

The topography of the site and surrounding area was reviewed from the USGS 7.5-minute series topographic map for the Brooklyn, New York quadrangle. The property elevation is approximately 79 feet above the National Geodetic Vertical Datum (NGVD). Regional physiographic conditions are summarized below.

2.3 Site History and Land Use

Historical usage of the property indicates that it was first developed prior to 1888, used for residential purposes from at least 1888 to 1908, and commercial and industrial purposes from at least 1932 to the present. Historical usage of the subject property indicative of potential RECs includes usage of the property for metals manufacturing, auto repair, and petroleum delivery services.

2.4 Adjacent Property Land Use

Review of historical information for the properties surrounding the subject property indicate that the area has been developed prior to 1888. The area adjacent to the subject property has a history of manufacturing, industrial, and automotive repair usage. Historical usage of properties in the surrounding area indicative of potential RECs include the following:

- Adjacent auto repair to the east and west of the subject property.
- Manufacturing of toys, radios, etc. to the west of the subject property.
- Gasoline service stations up-gradient of the subject property.

2.5 Summary of Previous Assessments

2.5.1 Phase I ESA, May 2004

General Consolidated Industries, Inc. (GCI) issued a Phase I ESA for the subject property on August 20, 2014. This Phase I Report references an earlier Phase I from May 2004. A copy of this report was not supplied to PWGC. According to information included in the 2014 Phase I, the RECs from May 2004 included:

- Dye testing on the interior and exterior discharge points.
- The oil water separator (OWS) specifications should be reviewed and the OWS and associated drains should be properly sealed and abandoned.
- The former repair pit should be inspected and soil boring should be installed.
- Waste manifests for the waste oil produced by the site should be inspected.
- Exterior storage drums should be moved indoors or properly disposed of.
- Stained areas at the exterior diesel storage tank should be cleaned.
- A geophysical investigation should be conducted.
- A subsurface investigation should be conducted within the vicinity of the gasoline tanks as depicted on the Sanborn maps.
- Proper permitting of the onsite aboveground storage tanks (ASTs).
- Asbestos-containing materials should be abated and/or an Operations and Maintenance Program should be implemented.
- The open violations should be rectified.

2.5.2 Phase II ESA, August 2004

GCI issued a Phase II ESA in August 2004. The RECs from the May 2004 Phase I ESA were more succinctly summarized as:

- There was a concern that the sinks and/or drains may discharge to an onsite underground injection control (UIC) structure.
- Based on historical usage, there was a concern that undocumented USTs may be present.
- There was a concern that historical usage may have impacted subsurface soils and/or groundwater.

The Phase II included:

- Dye tests which confirmed that the interior and exterior drains, sinks, and sump pit are connected to the New York City Sewer System.
- A geophysical investigation was conducted which identified a 1,000-gallon underground storage tank (UST) along the northwest side of the industrial building and no magnetic anomaly was identified along the northeast side of the same building which corresponded to a historic location of a gasoline tank on the Sanborn maps.
- Soil borings were installed in the former repair pit, near the 1,000-gallon UST in the northwest, and in the northeast area where a gasoline tank was identified on the Sanborn maps. The soil results indicated that volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals met their respective NYSDEC Recommended Soil Cleanup Objectives (SCOs). One SVOC was slightly elevated which was stated to be 'due to site background conditions and is not considered a significant threat to human health.'

2.5.3 Tank Abandonment Report, January 2005

GCI issued a Tank Abandonment Report on January 24, 2005 for a tank abandonment that occurred at the subject property on December 22, 2004. A 1,000-gallon gasoline/diesel fuel UST was abandoned in place with foam, northwest of the industrial building, with piping and vent lines cut and removed. No further action was recommended by GCI. This appears to be the UST identified in the Phase II geophysical survey.

2.5.4 Phase I ESA, August 2014

The Phase I conducted in August 2014 by GCI (previously discussed in Section 2.5.1) identified one REC: there was a significant amount of staining around an exterior diesel tank and it was recommended that the area be power washed.

2.5.5 PWGC, Phase I ESA, March 2019

PWGC conducted a Phase I ESA for 1045 Atlantic Avenue in March 2019. Conditions determined to be RECs are detailed below:

- The site appeared to have been historically used for industrial purposes. Historic usage of the property for manufacturing, auto repair, and petroleum delivery services. Current operations included the

storage and use of hazardous substances and petroleum products at the site. An OWS had historically been utilized at the property which had the potential to leak. No information had been provided regarding sampling of soils below or adjacent to the OWS. The OWS was reportedly out of service, but had not been properly abandoned. Identified historical usages are likely to have used/stored hazardous substances and/or petroleum products at the site, as well.

- The subject property was listed as a petroleum bulk storage (PBS) site for one 3,000-gallon No. 2 Fuel oil AST located on the subject property. The tank is located in a subterranean vault with limited access for inspections. No violations or spills were associated with this tank. There were four additional ASTs that were identified during the site inspection, including one 275-gallon active diesel AST, one 275-gallon active waste oil AST, and two 275-gallon empty inactive ASTs. A significant amount of oil staining was observed at the exterior diesel oil AST believed to be the result of poor dispensing practices. A recommendation was made in a Phase I ESA prepared by GCI in August 2014, discussed below, to steam clean this area; however, since concrete is porous and significant staining was observed, sampling of the soil beneath the slab to determine if the subsurface has been impacted was warranted.
- The subject property was listed as a PBS, ERNS, and RCRA NonGen site. No violations or other issues were identified in the database report with respect to these listings; however, the site inspection did identify issues related to onsite petroleum storage and poor housekeeping practices which is a concern related to historic storage of chemicals.

3.0 WORK PERFORMED AND RATIONALE

3.1 Scope of Assessment

The Phase II ESA included the following tasks:

- Soil Quality Evaluation
- Groundwater Investigation
- Soil Vapor Intrusion Investigation

3.2 Soil Quality Evaluation

An initial soil quality evaluation was conducted on March 22, 2019 to determine if subsurface conditions at the site have been impacted by the following:

- Historic industrial use and poor housekeeping practices (SB006 and SB007);

- Presence of Diesel tank, Waste Oil Tank, and OWS (SB001, SB002, SB003, SB005, and SB008);
- Presence of an Inspection Pit (SB004); and,
- Drum storage area (Grab001).

Based on the results of the initial evaluation, PWGC returned to the site on April 9, 2019 to further delineate the subsurface conditions at the site and to evaluate groundwater quality beneath the site as it relates to the initial soil results. Soil and groundwater sample locations were performed, as follows:

- Soil and groundwater samples were collected to delineate the approximate upgradient soil quality and for additional investigation of chlorinated solvents near the SS002 location (SB009/GW002);
- Data gap near the western, central portion of the subject property (SB013);
- Soil and groundwater for additional delineation of the SB007 hotspot location for metals and chlorinated VOCs (SB010/GW001, SB011, and SB012); and,
- Data gap area near the former location of the two 275-gallon ASTs (SB014).

Boring locations were focused in areas where contaminants are more likely to impact the subsurface through preferential pathways, such as areas with cracks in the slab or patches and to further delineate soil and groundwater quality obtained during the initial sampling. Soil boring locations are illustrated on **Figure 2**. At the time of the initial Phase II ESA sampling, the waste oil AST had been removed.

A summary of soil boring locations, depths, rationales, and analyses is included on **Table 1**.

3.2.1 Soil Boring Protocol

Coastal Environmental Solutions (Coastal) of Medford, New York provided environmental drilling services during the investigation on March 22, 2019. A Geoprobe 54LT was utilized by Coastal to install the environmental soil borings. Eastern Environmental Solutions (Eastern) of Manorville, New York provided the environmental drilling services during the investigation on April 9, 2019. A Geoprobe 7822DT was utilized by Eastern to install the environmental soil borings. Prior to performing each soil boring, 10-mil polyethylene sheeting, sufficiently large to hold the anticipated number of soil cores, was laid on the ground in the area where each soil boring was performed.

Soils were collected continuously from ground surface to an approximate depth of 20 feet below grade surface (bgs) or refusal.

The soil cores were placed on the 10-mil polyethylene sheeting in the order they came out of the ground. The acetate liners were cut open and the soil core was screened for the presence of volatile organic vapors, which are commonly associated with petroleum products and industrial solvents, utilizing a photo-ionization detector (PID). Each soil core was classified by a hydrogeologist using the Unified Soil Classification System (USCS). A soil boring log was developed for each location and includes the characterization and screening data along with photo-documentation. Boring Logs are included in **Appendix A**.

Soil characterization indicated that urban fill was present in the soils from grade up to 7-feet bgs. PID results were mostly zero with a max reading of 2.0 parts per million (ppm) in SB003; however, the rainy conditions encountered during the initial investigation may have affected the PID results. There were no odors detected in any of the borings except a petroleum odor in SB008 from 0 to 2-feet bgs, which was beneath the former location of the waste oil tank. Native soils were mostly poorly graded medium to coarse grained sands or clayey sands.

3.2.2 Sample Collection Protocol

Sample intervals were chosen based on field screening results and depths related to evaluating the specific REC. During the initial investigation, samples were collected from the two-foot interval exhibiting the highest degree of contamination from each boring or, if contamination was not observed, from the 0 to 2-foot interval to evaluate historic site usage and diesel and waste oil tank surface staining and from the 2-foot interval beneath the subgrade OWS.

During the follow-up investigation on April 9th, samples were collected from the two-foot interval exhibiting the highest degree of contamination from each boring or, if contamination was not observed samples were collected from varying depths to assess the site's overall soil quality. The intermediate and deep soil sample depths were performed to attempt to determine soil quality beneath the historic fill layer, soil quality in the vicinity of the proposed future development depths, and to determine if chlorinated volatile organic compounds (CVOCs)

identified in initial shallow soils continued with depth. Samples were collected and analyzed for the following chemical analyses, as discussed on **Table 1**:

- Volatile Organic Compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260 or VOCs by USEPA Method 8260, CP-51 List for petroleum related compounds only;
- Semi-Volatile Organic Compounds (SVOCs) by USEPA Method 8270, CP-51 List, and,
- RCRA Metals by USEPA Methods 6010/7471.

Samples collected for volatile organic analysis were collected directly from the acetate liners utilizing terra-core sampling devices. The remaining sample volumes were transferred to a stainless-steel bowl and homogenized. Once homogenized, samples were transferred to laboratory supplied glassware and packed in a cooler with ice and shipped under proper chain-of-custody procedures to Alpha Analytical Laboratory (Alpha), a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certified laboratory, for the above analyses following NYSDEC Analytical Services Protocol (ASP)-Category A Deliverables.

3.2.3 Soil Analytical Results

Soil analytical results were compared to the NYSDEC's Title 6 New York Codes, Rules, and Regulations (NYCRR) Part 375 and Final Commissioner Policy, CP-51 Soil Cleanup Objectives (SCOs) for Unrestricted Use, Restricted Residential Use, Commercial Use, and Protection of Groundwater.

Historic Industrial Use and Poor Housekeeping Practices

Two soil samples were collected during the initial evaluation to determine if historic industrial use and/or poor housekeeping practices have impacted the soils of the subject property. SB006 (0 to 2 feet) and SB007 (4 to 6 feet) were collected and were analyzed for VOCs, SVOCs (CP-51 list), and RCRA Metals. Based on the results discussed below, PWGC collected additional samples from SB010, SB011, and SB012, to further delineate the impacts to soil on the subject property.

The results of the samples from the initial investigation, SB006 and SB007, indicated that these two samples contained concentrations of tetrachloroethene (PCE) and trichloroethene (TCE) that exceeded their respective Unrestricted Use SCOs; SB007 also contained a concentration of cis-1,2-dichloroethene (DCE) that exceeded its

Unrestricted Use SCO. The area around SB007 was vertically delineated with borings SB010, SB011, and SB012 and varying 2 foot sample intervals between 10 and 20 feet. Detectable concentrations of PCE, TCE, and DCE were observed in the four samples collected from these three borings; however, only the sample collected from SB011 (10 to 12 feet) contained an exceedance of Unrestricted Use SCOs for TCE.

SB006 did not contain SVOC exceedances of Unrestricted SCOs. SVOCs were detected at concentrations that exceeded the Unrestricted, Restricted-Residential, and/or Commercial Use SCOs in SB007, including: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. The follow-up investigation indicated that SVOC impacts are not present at concentrations greater than Unrestricted Use SCOs in the deeper interval (10- to 12-feet) from SB010, SB011, or SB012. The presence of SVOCs in the shallow interval appears to be related to the presence of historic fill material.

Metal analytical results for SB006 and SB007 indicated there were impacts of lead, mercury, and chromium which exceeded their respective Unrestricted, Restricted-Residential, and/or Commercial Use SCOs. SB007 contained an initial concentration of chromium of 7,010 mg/kg, exceeding the Commercial Use SCO of 1,500 mg/kg. To confirm the results were not due to laboratory error, the same sample was re-analyzed for chromium only and the concentration on the second run was 7,960 mg/kg. The follow-up investigation indicates that metal impacts decrease with depth; however, chromium and mercury were still present and cadmium was also encountered in excess of their respective Unrestricted and/or Restricted-Residential Use SCOs in the deeper intervals of the step out borings SB010, SB011, and SB012.

Presence of Diesel Tank, Waste Oil Tank, and OWS

From the five soil borings conducted in the vicinity of the diesel tank, waste oil tank, and OWS, four soil samples were collected: SB002, SB003, SB005, and SB008. As borings SB001 and SB002 were conducted on opposite sides of the diesel tank and contained little visual or olfactory difference, only the sample from SB002 was submitted for analysis.

The results of the initial investigation indicated that these samples did not contain VOCs at concentrations exceeding Unrestricted SCOs, except for TCE, which exceeded its respective Unrestricted SCO in SB002 (0 to 2 feet) and SB003 (4 to 6 feet). Generally, most petroleum related VOCs were not detected at concentrations greater than detection limits and there were no exceedances of Unrestricted Use SCOs.

SVOCs were detected at concentrations that exceeded the Unrestricted, Restricted-Residential, and/or Commercial Use SCOs in SB002, SB003, and SB005, including: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene chrysene, dibenzo(a,h)anthracene, and, indeno(1,2,3-cd)pyrene. The presence of SVOCs in the shallow interval appears to be related to the presence of historic fill material, not petroleum contamination as there was no visual or olfactory evidence of petroleum impact in these borings.

Metals were also observed in SB003 and SB008 at concentrations exceeding Unrestricted and/or Restricted Residential SCOs, specifically cadmium, lead, and chromium in the shallow samples corresponding with historic fill depths. The concentration of cadmium identified in SB003 (2 to 4 feet) is 210 mg/kg; the Commercial Use SCO for cadmium is 9.3 mg/kg. This boring is located approximately 20 feet west of the warehouse building that was labeled as a spray room on Sanborn maps between 1951 and 2007. Chromium was detected at a concentration of 200 mg/kg in SB002 and 38 mg/kg in SB008. Metal concentrations did not exceed Unrestricted Use SCOs in SB005 and metals were not sampled in SB002.

Presence of an Inspection Pit

During the initial investigation, one soil sample was collected from boring SB004 (0 to 2 feet) in the vicinity of the inspection pit located in the warehouse building. This location appears to be east of the portion of the building that was used as a spray room.

The analytical results indicated that only one VOC was detected at a concentration exceeding its Unrestricted Use SCO. Total xylenes were detected at a concentration of 1.1 mg/kg. TCE was also detected at 0.19 mg/kg which is less than the Unrestricted Use SCO of 0.47 mg/kg.

SVOCs were detected at concentrations that exceeded the Unrestricted and/or Restricted-Residential SCOs in SB004, including: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene chrysene, dibenzo(a,h)anthracene, and, indeno(1,2,3-cd)pyrene. This is likely due to the presence of historic fill underlaying the subject property and not likely related to the presence of the inspection pit as there was no visual or olfactory evidence of petroleum impact in this boring.

Metal results exceeded Unrestricted and/or Restricted-Residential SCOs for cadmium, lead, and mercury in SB004 also coinciding with the historic fill layer. The concentration of cadmium at this location was 7.07 mg/kg and chromium was 79.6 mg/kg.

Drum Storage Area

A grab sample, Grab001, was collected from the drum storage area located in the northeast section of the site near the warehouse building from the 0 to 2-foot interval due to minor surface staining observed in this area.

VOCs and SVOCs, which were limited to the CP-51 list of petroleum related compounds, were not detected at concentrations which exceeded their respective Unrestricted Use SCOs in Grab001. Metals that exceeded their respective Unrestricted and/or Restricted-Residential SCOs included cadmium, chromium, lead, and mercury. The cadmium concentration at this location was 8.9 mg/kg and chromium was 63.3 mg/kg.

Further Delineation of Soil Quality and CVOCs

SB009 was collected during the follow-up investigation in the southwest, exterior portion of the subject property in order to obtain soil and groundwater quality in the vicinity of an elevated soil gas result (discussed in Section 3.4), as well as to provide insight to the potential of groundwater impact (discussed in Section 3.3) migrating onto the subject property from an up-gradient source. Soil samples were collected from deeper intervals, 10- to 12-feet (chlorinated VOCs [CVOCs], CP-51 SVOCs, and RCRA metals) and 18- to 20-feet (chlorinated VOCs only).

In the 10- to 12-feet interval, chlorinated VOCs and CP-51 SVOCs were less than detection limits and RCRA metals were not detected at concentrations exceeding Unrestricted Use SCOs. In the 18- to 20-feet interval, TCE was detected at 0.00054 mg/kg which is less than its Unrestricted Use SCO.

SB013 was also installed in the western portion of the site to further delineate overall soil quality and a sample was collected from the 10 to 12 feet interval. The sample was analyzed for CVOCs, SVOCs (CP-51 list), and RCRA metals.

PCE, TCE, and DCE were each detected in the sample; however, at concentrations less than their respective Unrestricted Use SCOs. SVOCs were not detected at concentrations exceeding detection limits. Metals were not detected at concentrations exceeding Unrestricted Use SCOs.

Former Location of the Two 275-gallon ASTs

SB014 was collected during the follow-up investigation in the vicinity of the former location of the two 275-gallon ASTs. Two samples were collected, one from the 4 to 6 feet interval and one from the 10 to 12 feet interval.

CVOCs were not detected at concentrations which exceeded Unrestricted Use SCOs except for TCE which was detected at 1.2 mg/kg in the deeper sample. The 4 to 6 feet sample contained several SVOC concentrations exceeding Unrestricted Use, Restricted Residential SCOs, and/or Commercial Use SCOs, but the 10 to 12 feet sample did not contain exceedances of Unrestricted Use SCOs. Lead and mercury were detected at concentrations exceeding their respective Unrestricted Use SCOs in the 4 to 6 foot sample; however, concentrations in the 10 to 12 feet sample were less than Unrestricted Use SCOs.

Analytical results are detailed in **Tables 2 through 4**; **Figure 3** shows the soil sample results that exceeded Unrestricted and/or Restricted-Residential; and, the complete laboratory analytical report is included in **Appendix B**.

3.3 Groundwater Investigation

In order to characterize groundwater quality, groundwater samples were collected during the follow-up investigation on April 9, 2019. Groundwater flow at the site is estimated to be towards the northeast. Two groundwater samples were collected, one from the approximate upgradient location (GW002) and one from the approximate downgradient location (GW001). These locations also correspond to an elevated soil gas result

(GW002) and the greatest concentration of CVOCs detected in shallow soil (GW001) at the site. Groundwater sampling locations are illustrated on **Figure 4**.

3.3.1 Sampling Collection Protocol

Following the completion of the soil borings at SB009 and SB010, Eastern installed a temporary 2-inch well in each borehole. Groundwater was encountered at approximately 75 feet bgs. The screen was set from 65- to 75-feet bgs in each borehole. Disposable polyethylene tubing was inserted into the water bearing zone of the screen point sampler. The end of the tubing was connected to a peristaltic pump with dedicated silicone tubing. Four casing volumes of water were purged from the temporary sampling point prior to the collection of samples.

Samples were collected in pre-cleaned laboratory supplied glassware and stored in a cooler on ice for transport to Alpha for analysis. Groundwater samples were analyzed for CVOCs by USEPA Method 8260.

3.3.2 Groundwater Analytical Results

Groundwater analytical results were compared to NYSDEC ambient water quality standards (AWQSs) specified in 6 NYCRR Part 703.

CVOCs were not detected at concentrations which exceeded AWQSs with the exception of chloroform in GW001 (0.19 µg/L) and TCE in GW001 (42 µg/L) and GW002 (8.8 µg/L). TCE was detected in on-site soils between 0 and 12 feet below grade at concentrations exceeding the Protection of Groundwater SCOs, indicating that an on-site source of TCE is present and may be contributing to the groundwater impact.

Analytical results are detailed in **Table 5** and **Figure 4** shows the groundwater sample results that exceeded AWQSs. The complete laboratory analytical report is included in **Appendix B**.

3.4 Soil Vapor Intrusion Investigation

To evaluate potential vapor intrusion at the subject property, a soil vapor intrusion investigation was performed. Sample locations were chosen by identifying potential pathways to the subsurface, such as cracks in the concrete slab, and installing the soil vapor probes several feet away from these cracks to prevent short-circuiting of the samples.

3.4.1 Sampling Protocol

Sampling was conducted in accordance with the NYSDOH "Guidance for Evaluating Soil Vapor Intrusion in New York State," (NYSDOH Guidance) October 2006. Temporary soil vapor probes were installed immediately beneath the concrete slab in the main building and sealed to prevent ambient air intrusion. Prior to sampling, the integrity of the sampling port seals was tested using tracer gas analysis. The environment surrounding the seal was enriched with the tracer gas, helium, as readings were collected through the sampling probe with a portable helium detector. Tracer gas readings collected from each soil vapor probe were acceptable indicating the seals were intact and the sampling probes were acceptable for sample collection.

After the initial tracer gas test was performed, one to three volumes of the sample tubing was purged prior to collecting samples. Flow rates for both purging and collecting did not exceed 0.2 liters per minute to minimize potential indoor air infiltration during sampling.

Sub-slab samples were collected into 2.7-liter Summa® vacuum canisters fitted with 2-hour flow controllers. The samplers were batch certified clean by the laboratory. Proper quality assurance (QA) / quality control (QC) protocol was followed during the collection of soil gas samples to ensure that cross-contamination in the field did not occur. Canister sampling data sheets are included as **Appendix C**. The samples were submitted to Alpha for analysis of VOCs by USEPA Method TO-15.

3.4.2 Analytical Results

As New York State has not developed standards or guidance levels for soil vapor concentrations, soil vapor sample analytical data were compared to the USEPA Vapor Intrusion Screening Levels (VISLs) for default residential target sub-slab and near source gas concentration criteria, compiled August 2019, as specified at https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-level-calculator. Analytical data are summarized in **Table 6** and **Figure 5** shows the soil vapor sample results that exceeded the EPA's VISLs. A copy of the laboratory analytical report is included as **Appendix B**.

VOCs did not exceed their respective VISLs with the following exceptions:

- Chloroform ranged from non-detect to 7.23 µg/m^3 (SS-002); and,

- TCE ranged from 193 µg/m^3 to 774 µg/m^3 (SS-001, SS-002, and SS-003).

PCE was also observed; however, not at concentrations exceeding VISLs. DCE and vinyl chloride, typical by-products of PCE, were not observed at concentrations greater than detection limits. The sub-slab TCE concentrations observed indicate that mitigation of a potential soil vapor intrusion concern is recommended by NYSDOH.

4.0 CONCLUSIONS AND RECOMMENDATIONS

PWGC has performed a Phase II ESA in conformance with the scope and limitations of ASTM Practice E1903-11 for the subject property. The Phase II ESA consisted of the following tasks:

- Soil Quality Evaluation
- Groundwater Quality Investigation
- Soil Vapor Intrusion Investigation

4.1 Conclusions

PWGC conducted an initial Phase II investigation for the subject property on March 22, 2019. Based on the results of the initial investigation, a follow-up investigation occurred on April 9, 2018. The investigations were conducted to determine if historic industrial use, poor housekeeping practices, and the presence of the inspection pit, drum storage, diesel tank, waste oil tank, and/or OWS have impacted the subsurface of the subject property.

Results of the investigations indicated that chlorinated VOCs, including TCE, were present in excess of their Unrestricted Use and Protection of Groundwater SCOs in the soil, in excess of AWQS in groundwater which was located at approximately 75 feet below grade, and EPA VISLs in the soil vapor. Impact in the soil was observed from grade to a depth of 12 feet below grade. Based on this information, PWGC has concluded that there is CVOC impact (mainly TCE) at the subject property that appears to be related to historic on-site activities. Generally, VOCs associated with petroleum impact were not observed at concentrations exceeding Unrestricted Use SCOs with the exception of xylene in one boring.

SVOCs were detected at concentrations that exceeded the Unrestricted, Restricted-Residential, and/or Commercial Use SCOs in soils from grade to 7 feet below grade which generally corresponds to the depths that historic fill were observed at. The presence of SVOCs in this shallow interval appears to be related to the presence of historic fill material and not petroleum contamination as there was no visual or olfactory evidence of petroleum impact in these borings.

Metal impacts of lead, mercury, cadmium, and chromium which exceeded Unrestricted, Restricted-Residential, and/or Commercial Use SCOs were observed in the shallow and deeper intervals in several of the soil borings. The concentrations of lead and mercury seem consistent with concentrations typically observed in historic fill material; however, concentrations of chromium and cadmium were higher and exceeded Commercial Use SCOs. The highest concentration of chromium was in SB007 (4 to 6 feet) at 7,960 mg/kg. Step-out borings were conducted horizontally and a deeper sample (SB011 from 10 to 12 feet) was collected in the vicinity of SB007; concentrations of chromium in these samples were approximately 700 mg/kg. The highest concentration of cadmium was detected in SB003 (2 to 4 feet) at 210 mg/kg; other nearby borings contained concentrations of cadmium around 8 mg/kg. The highest concentrations of cadmium and chromium are located just west of the warehouse building that was previously used as a spray room. The source of the metal impacts is likely due to historic usage of the subject property and the presence of historic fill.

In summary, there appears to be minimal petroleum contamination at the site, but historic fill material is present. The main classes of contaminants are chlorinated solvents which were detected in soils from 0 to 12 feet below grade, in groundwater at 75 feet below grade, and in sub-slab soil vapor samples and metals impact likely relating to the use of chromium and cadmium in the spray room.

Based on the information presented in this report, PWGC offers the following recommendations:

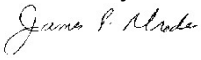
- Redevelopment and rezoning of the subject property will likely be impacted by the presence of TCE in the soil, groundwater, and soil vapor. This may include enrolling the site as an E-designation site or in the Brownfield Cleanup Program. Enrollment in either of these programs will likely include additional investigation to determine the source of, and a remediation plan to address, the chlorinated solvents and metals detected in the subsurface. PWGC recommends that any future redevelopment plans also include a vapor barrier and/or a subsurface depressurization system to mitigate the migration of TCE and other chlorinated solvents into the indoor air of the new structures.
- Historic fill is present in the subsurface of the subject property from approximately 0 to 7-feet bgs. This material will require additional handling and disposal during redevelopment.

5.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312. I have the specific qualifications based on education, training and experience to assess a property of the nature, history and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR 312.



Jennifer Lewis, PG
Senior Project Manager



James P. Rhodes, PG
Chief Operating Officer

Report Completion Date: April 25, 2019, Revised August 2019

6.0 REFERENCES

- 6 NYCRR Part 375 Environmental Remediation Programs Subparts 375-1 to 375-4 & 375-6.
- 6 NYCRR Part 703 Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations.
- CP-51 / Soil Cleanup Guidance.
- DER-10 / Technical Guidance for Site Investigation and Remediation.
- Standard practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process, ASTM Standard E 1903-11.
- P. W. Grosser Consulting, Phase I ESA, March 2019
- General Consolidated Industries, Inc., Phase I ESA, August 20, 2014.
- General Consolidated Industries, Inc., Tank Abandonment Report, January 2005
- General Consolidated Industries, Inc., Phase II ESA, August 2004

7.0 LIMITATIONS

The conclusions presented in this report are professional opinions based on the data described in this report. These opinions have been arrived at in accordance with currently accepted engineering and hydrogeologic standards and practices applicable to this location and are subject to the following inherent limitations:

1. The data presented in this report are from visual inspections and examination of records prepared by others. The passage of time, manifestation of latent conditions, or occurrence of future events may require further exploration of the site, analysis of data, and re-evaluation of the findings, observations, and conclusions presented in this report.
2. The data reported and the findings, observations, and conclusions expressed are limited by the scope of work. The scope of work was defined by the request of the client.
3. No warranty or guarantee, whether expressed or implied, is made with respect to the data reported, findings, observations, or conclusions. These are based solely upon site conditions in existence at the time of the investigation, and other information obtained and reviewed by PWGC.
4. The conclusions presented in this report are professional opinions based on data described in this report. They are intended only for the purpose, site location, and project indicated. This report is not a definitive study of contamination at the site and should not be interpreted as such.
5. This report is based, in part, on information supplied to PWGC by third-party sources. While efforts have been made to substantiate this third-party information, PWGC cannot attest to the completeness or accuracy of information provided by others.

Appendix E
Phase 2 Environmental Site Assessment (ESA): Brooklyn Block 2020, Lots 68, 73, 74 (Executive Summary)

ATLANTIC AVENUE PROPERTIES
1053, 1057, 1059, AND 1065 ATLANTIC AVE
BROOKLYN, NEW YORK
TAX MAP ID: BLOCK 2020; LOTS 73, 74, AND 68

PHASE II
ENVIRONMENTAL SITE ASSESSMENT
(ASTM 1903-11)

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APRIL 2019

PHASE II ENVIRONMENTAL SITE ASSESSMENT
1053, 1057, 1059, AND 1065 ATLANTIC AVENUE, BROOKLYN, NEW YORK

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PHASE II ENVIRONMENTAL SITE ASSESSMENT
1053, 1057, 1059, AND 1065 ATLANTIC AVENUE, BROOKLYN, NEW YORK

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APPENDICES

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APPENDIX B	LABORATORY ANALYTICAL REPORTS
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ACRONYM	DEFINITION
ASP	Analytical Services Protocol
ASTM	American Society for Testing and Materials
CFR	Code of Federal Regulations
DER	Department of Environmental Remediation
ELAP	Environmental Laboratory Approval Program
EM	Electromagnetic
ESA	Environmental Site Assessment
GQS	Groundwater Quality Standard
GV	Guidance Value
NYCRR	New York Codes, Rules, and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PCB	Polychlorinated Biphenyl
PID	Photo-ionization Detector
PWGC	P.W. Grosser Consulting, Inc.
QA/QC	Quality Assurance / Quality Control
REC	Recognized Environmental Condition
SCO	Soil Cleanup Objective
SVOC	Semi-volatile Organic Compound
USCS	Unified Soil Classification System
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VISL	USEPA Vapor Intrusion Screening Levels
VOC	Volatile Organic Compound

1.0 INTRODUCTION

HSBC Bank USA, NA (Client) retained P.W. Grosser Consulting, Inc. (PWGC) to prepare a Phase II Environmental Site Assessment (ESA) for the property located at 1053, 1057, 1059, and 1065 Atlantic Avenue, Brooklyn, New York. The purpose of the Phase II ESA was to further evaluate recognized environmental conditions (RECs) identified in the Phase I ESA prepared by PWGC in March 2019 to obtain sound, scientifically valid data concerning actual property conditions.

Work was conducted in accordance with the American Society for Testing and Materials (ASTM) Standard E 1903-11 (Standard Practices for Environmental Site Assessment: Phase II Environmental Site Assessment Process) and in substantial conformance with the New York State Department of Environmental Conservation's (NYSDEC's) Division of Environmental Remediation's (DER's) Technical Guidance for Site Investigation and Remediation, May 2010 (DER-10).

2.0 BACKGROUND

2.1 Site Description and Features

The subject property consists of three parcels located at 1053, 1057, 1059, and 1063 Atlantic Avenue, Brooklyn, New York in the Bedford-Stuyvesant neighborhood of Brooklyn, New York. The site is located in the Borough of Brooklyn and Kings County. The property is identified in the New York City Tax Map as 02020-0074,0073, and 0068.

The subject property includes:

- 1053 and 1057 Atlantic Avenue (Lot 74) measures approximately 5,120 square feet and is occupied by a one-story building with 2 commercial units. There is a small paved rear yard behind 1053 Atlantic Avenue that contains a walk-in freezer and storage;
- 1059 Atlantic Avenue (Lot 73) measures approximately 1,679 square feet and is improved with a concrete paved lot; and,
- 1065 Atlantic Avenue (Lot 68) measures approximately 5,720 square feet and is occupied by a two-story building with a garage on the first floor and office space, storage and an artist's loft on the second floor. The building occupies the entirety of the lot.

A Site Location Map is included as **Figure 1** and a Site Plan is included as **Figure 2**.

2.2 Physical Setting

The topography of the site and surrounding area was reviewed from the USGS 7.5-minute series topographic map for the Brooklyn, New York quadrangle. The property elevation is approximately 79 feet above the National Geodetic Vertical Datum (NGVD). Regional physiographic conditions are summarized below.

Based upon the borings advanced at an adjacent property by PWGC, the depth to groundwater beneath the site is approximately 75 feet below existing grade. Regional groundwater flow is estimated to be toward the northwest.

2.3 Site History and Land Use

Historical usage of the subject property includes the following:

- 1053 Atlantic Avenue (Lot 74) indicates that it was first developed sometime prior to 1888 and used for commercial and industrial purposes from approximately 1888 to present. Historical usage of the subject property indicative of potential RECs include the following:
    - Auto painting and auto repair from 1965 to 2007.
- 1059 Atlantic Avenue (Lot 73) indicates that it was first developed in approximately 1888 and used for commercial and industrial purposes from approximately 1888 to 1965 and has been a vacant lot from approximately 1976 to present. Historical usage of the subject property indicative of potential RECs include the following:
    - Auto repair facility from 1932 to 1965.
- 1065 Atlantic Avenue (Lot 68) indicates that it was first developed in approximately 1908 and used for commercial and industrial purposes from approximately 1908 to present. Historical usage of the subject property indicative of potential RECs include the following:
    - Battery/Auto repair services from 1932 to present.

2.4 Adjacent Property Land Use

Historical usage of properties in the surrounding area indicative of potential RECs include the following:

- Adjacent/nearby properties with historical industrial usage.
- Adjacent/nearby properties historically or currently utilized as auto repair/sales/painting shops.
- Nearby properties historically utilized as gasoline service stations.

2.5 Summary of Previous Assessments

2.5.1 Phase I Environmental Site Assessment Report (April 2019)

PWGC conducted a Phase I ESA in April 2019. PWGC identified the following RECs for the subject property:

- The 1053, 1057, 1059 and 1065 Atlantic sites all appeared to have been historically used for auto repair/painting facilities, with 1065 Atlantic being utilized as an auto repair facility until the present day. Current operations include the storage and use of hazardous substances and petroleum products at the 1065 Atlantic site. Identified historical usages are likely to have used/stored hazardous substances

and/or petroleum products at the sites as well. Based on the historical usage of the sites for industrial purposes, this represented a REC.

- Five single piston underground hydraulic lifts were identified within the auto repair facility at the 1065 Atlantic Avenue site. Three of these lifts are still in use and two of the lifts are out of service. The subsurface structures affiliated with hydraulic lifts have the potential to leak. The condition of the subsurface structures of the lifts could not be verified. The two out of service lifts do not appear to have undergone properly abandonment. The presence of underground hydraulic lifts of unknown condition represented a REC.
- Two 275-gallon heating oil ASTs were identified in the basement of the 1065 Atlantic Avenue site. The ASTs appeared to have no evidence of leaking or a release, other than minor corrosion to the tank bodies. Both tanks reside on an in-tact concrete slab with minimal evidence of staining. However, the two ASTs are connected via approximately six feet of underground fill line which fills the one AST from the other. The fill line runs through the subsurface soils under the building and has the potential to leak. The condition of the fill line could not be verified during the site inspection. The presence of the underground fill line of unknown condition represented a REC.

2.5.2 Phase II Environmental Site Assessment Report (March 2016)

PWGC was provided a copy of a Limited Phase II ESA dated March 2016 prepared by Associated Environmental Services, Ltd for the property located at 1065 Atlantic Avenue. PWGC's review of the Phase II ESA revealed that five soil borings were conducted at the site and samples were collected from 5 to 8 feet in each boring. The samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and RCRA metals. VOCs were non-detect in each sample, SVOCs were non-detect in four samples and minor detections in one sample that did not exceed New York State Department of Environmental Conservation (NYSDEC) Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs), and metals were detected in each sample at concentrations less than Unrestricted Use SCOs.

3.0 WORK PERFORMED AND RATIONALE

3.1 Scope of Assessment

The Phase II ESA included the following tasks:

- Geophysical Survey
- Soil Quality Evaluation
- Soil Vapor Intrusion Investigation

3.2 Geophysical Survey

On April 10, 2019, PWGC and Delta Geophysics, Inc. (Delta) of Catasauqua, Pennsylvania mobilized to the subject property to perform a geophysical survey. The purpose of the geophysical survey was to determine the absence/presence of subsurface anomalies at the subject property. Descriptions of the geophysical methods are described below.

3.2.1 Electromagnetic Survey

Delta utilized a Fisher M-Scope TW-6 electromagnetic (EM) instrument. The Fisher M-Scope TW-6 uses the principle of EM induction to measure the variability of electrical conductivity of subsurface materials and the presence of buried metal objects. Significant contrasts in the electrical properties between non-indigenous materials and surrounding soil enable accurate delineation of buried waste materials, fill, and geologic features. The large EM response to metal makes this technique particularly well suited to identifying buried metal objects such as underground storage tanks (USTs), metallic wastes, buried drums, pipelines, reinforced building foundations, and other metal components of buried structures. It is, however, equally sensitive to metal objects on the ground surface.

3.2.2 Ground Penetrating Radar Survey

Following the electromagnetic survey, Delta utilized an SIR-3000 Ground Penetrating Radar (GPR) unit with a 400 Mhz antenna to further investigate the metallic anomalies. GPR is a geophysical method that has been developed over the past thirty years for shallow, high-resolution, subsurface investigations of the earth. GPR uses high frequency pulsed electromagnetic waves to acquire subsurface information. Energy is propagated downward into the ground and is reflected back to the surface from boundaries at which there are electrical property contrasts. GPR is a method that is commonly used for environmental, engineering, archeological, and other shallow investigations.

3.2.3 Survey Findings

Based on the survey of the accessible areas of the interior and exterior portions of the three lots, no evidence of former or current USTs was observed. An underground line was identified, which was associated with the exterior fill port for the ASTs located in the basement of 1065 Atlantic (Lot 68).

The complete Geophysical Survey, including further detail regarding the methodology and findings, is included in **Appendix A**.

3.3 Soil Quality Evaluation

To characterize soil quality, soil borings were installed throughout the subject property. Boring locations were focused in areas of potential concern as identified by the Phase I ESA and geophysical survey. A total of seven soil borings were installed during the investigation. Soil boring locations are illustrated on **Figure 2**.

3.3.1 Soil Boring Protocol

Coastal Environmental Solutions (Coastal) of Medford, New York provided environmental drilling services during the investigation. A Geoprobe 54LT was utilized to install the environmental soil borings. Prior to performing each soil boring, 10-mil polyethylene sheeting, sufficiently large to hold the anticipated number of soil cores was laid on the ground in the area where each soil boring was performed.

Soils were collected continuously from ground surface to an approximate depth of 12 or refusal feet below surface grade (bgs), as detailed on **Table 1**.

The soil cores were placed on the 10-mil polyethylene sheeting in the order they came out of the ground. The acetate liners were cut open and the soil core was screened for the presence of volatile organic vapors, which are commonly associated with petroleum products and industrial solvents, utilizing a photo-ionization detector (PID). Each soil core was classified by a hydrogeologist using the Unified Soil Classification System (USCS). A soil boring log was developed for each location (**Appendix B**) and includes the characterization and screening data along with photo-documentation.

Soil characterization indicated that historic fill is present to 9-feet bgs. PID results were mostly zero with a max reading of 13.7 in SB018. There were no odors detected in any of the borings except a slight petroleum odor in SB021. Native soils were mostly poorly graded medium to coarse grained sands or clayey sands.

3.3.2 Sample Collection Protocol

Sample locations were chosen based on field conditions, geophysical results and site access. The sampling interval was based on field screening results samples were collected from the two-foot interval exhibiting the highest degree of contamination from each boring or, if contamination was not observed, from the 4- to 6-foot interval. Borings conducted in the basements of the buildings were advanced using a hand auger, and samples were collected from the 0 to 2-foot interval.

Samples were analyzed for the following chemical analysis:

- Volatile Organic Compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260 Full List and CP-51 List;
- Semi-Volatile Organic Compounds (SVOCs) by USEPA Method 8270, CP-51 List;
- Polychlorinated biphenyl's (PCBs) by USEPA Method 8082; and,
- RCRA Metals by USEPA Methods 6010/7196/7471/9012.

Samples collected for volatile organic analysis were collected directly from the acetate liners utilizing terra-core sampling devices. The remaining sample volumes were transferred to a stainless-steel bowl and homogenized. Once homogenized, samples were transferred to laboratory supplied glassware and packed in a cooler with ice and shipped under proper chain-of-custody procedures to Alpha Analytical Laboratory (Alpha), a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certified laboratory, for the following analysis individually following NYSDEC Analytical Services Protocol (ASP)-Category A Deliverables.

3.3.3 Soil Analytical Results

Soil analytical results were compared to the NYSDEC's Title 6 New York Codes, Rules, and Regulations (NYCRR) Part 375 and Final Commissioner Policy, CP-51 Soil Cleanup Objectives (SCOs) for Unrestricted Use, Restricted Residential Use, and Soil Cleanup Levels for Fuel Oil Contaminated Sites.

Historic Usage

All borings performed were designed to assess if the historic use of the subject site has resulted in impact to shallow soils beneath the site, while targeting specific areas of concern that were identified as REC's.

Three samples (SB019, SB018 and SB020) were collected from the site and analyzed for VOCs, SVOCs (CP-51) and RCRA metals in order to determine if historical usage has impacted the subsurface. VOCs at concentrations exceeding Unrestricted and/or Restricted-Residential SCOs were not detected, except for trichloroethene (TCE), which exceeded its Unrestricted SCO in SB019; and, naphthalene which exceeded its Unrestricted and Restricted-Residential SCOs in SB018.

SVOCs at concentrations exceeding Unrestricted and/or Restricted-Residential SCOs were not detected in SB015, SB020 and SB021. SVOCs at concentrations exceeding Unrestricted and/or Restricted-Residential SCOs were detected in SB018 and SB019.

RCRA Metals at concentrations exceeding Unrestricted and/or Restricted-Residential SCOs were not detected except for lead and mercury in SB018 and SB019.

Based on the location of the exceedances, it appears that VOC, SVOC and metals impacts are at the subject property are highest in the western portion of the property, Lots 73 and 74. SB019 and SB018 were collected in the basement of 1053 Atlantic (Lot 74) and within the former basement area of 1059 Atlantic (Lot 73). There is historic fill within the areas of these two boring locations, which may be contributing to the elevated concentrations of SVOCs and RCRA Metals seen in these locations. The detections of TCE is not typically related to historic fill, and although a specific source has not been identified, TCE is commonly used in commercial automotive applications and is likely related to historic usage of the site.

Hydraulic Lifts

One sample (SB015) was collected from the area near the active and inactive hydraulic lifts located on 1065 Atlantic (Lot 68). Two additional borings (SB016 and SB017) were conducted in this area and were field screened for impacts. The three borings did not exhibit evidence of impact and SB015 was chosen for analysis based on its central location. PCBs were not detected in SB015.

Underground Fill Line

One sample (SB021) was collected from the area of adjacent to the underground fill line and the two ASTs located in the basement of 1065 Atlantic (Lot 68). The sample was analyzed for VOCs (CP-51) and SVOCs (CP-51). VOCs and SVOCs were not detected at concentrations exceeding their respective Unrestricted and/or Restricted-Residential SCOs.

Analytical results are detailed in **Tables 2 through 6**; **Figure 3** shows the soil sample results that exceeded Unrestricted and/or Restricted-Residential; and, the complete laboratory analytical report is included in **Appendix C**.

3.4 Soil Vapor Intrusion Investigation

To evaluate potential vapor intrusion at the subject property, a soil vapor intrusion investigation was performed. Sample locations were chosen by identifying potential pathways to the subsurface, such as cracks in the concrete slab, and installing the soil vapor probes several feet away from these cracks to prevent short-circuiting of the samples.

3.4.1 Sampling Protocol

Sampling was conducted in accordance with the NYSDOH "Guidance for Evaluating Soil Vapor Intrusion in New York State," (NYSDOH Guidance) October 2006. Sub-slab and soil vapor samples were collected into 2.7-liter Summa® vacuum canisters fitted with 2-hour flow controllers. The samplers were batch certified clean by the laboratory. Proper quality assurance (QA) / quality control (QC) protocol was followed during the collection of soil gas samples to ensure that cross-contamination in the field did not occur. The samples were submitted to Alpha for analysis of VOCs by USEPA Method TO-15.

Temporary soil vapor probes were installed through the floor slab for SS-004 and SS-005 and to a depth of five-feet bgs for SV-001 in accordance with procedures specified in the NYSDOH Guidance. Prior to sampling the integrity of the sampling port seals was tested using tracer gas analysis. The environment surrounding the seal was enriched with the tracer gas, helium, as readings were collected through the sampling probe with a portable helium detector. Tracer gas readings collected from each soil vapor probe were acceptable indicating the seals were intact and the sampling probes were acceptable for sample collection.

After the initial tracer gas test was performed, one to three volumes of the sample tubing was purged prior to collecting samples. Flow rates for both purging and collecting did not exceed 0.2 liters per minute to minimize potential indoor air infiltration during sampling.

3.4.2 Analytical Results

NYSDOH has indoor air guidance values for three VOCs (Methylene chloride, tetrachloroethene, and trichloroethene). TCE in the three samples and PCE in the SS-004 exceeded the indoor air guidance values. Indoor air guidance values are provided as a reference but are not directly applicable to soil vapor results.

NYSDOH has also established matrices for evaluating sub-slab soil vapor and indoor air results. These matrices apply to eight VOCs. Based on the levels reported in the sub-slab soil vapor samples (i.e., no indoor air samples were collected during the investigation), the sub-slab soil vapor results for TCE would fall into the 'Mitigate' category on the NYSDOH Soil Vapor/Indoor Air Matrix A, regardless of the indoor air concentration.
Soil vapor sample analytical data were also compared to the USEPA Vapor Intrusion Screening Levels (VISLs) specified at https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-level-calculator.Analytical results VOCs did not exceed their respective VISLs with the following exceptions:

- Chloroform at a maximum concentration of 9.38 µg/m3 in SS005;
- Tetrachloethene (PCE) at a maximum concentration of 492 µg/m3 in SS004; and,
- TCE at a maximum concentration of 386 µg/m3 in SS005.

Analytical data are summarized in Table 7; Figure 4 shows the sub-slab and soil vapor sample results that exceeded the EPA's VISL's; and, a copy of the laboratory analytical report is included as Appendix B, Matrix A for TCE is included as Appendix D.

4.0 CONCLUSIONS AND RECOMMENDATIONS

PWGC has performed a Phase II ESA in conformance with the scope and limitations of ASTM Practice E1903-11 for the subject property. The Phase II ESA consisted of the following tasks:

- Geophysical Survey
- Soil Quality Evaluation
- Soil Vapor Intrusion Investigation

The scope of the Phase II investigation for the subject property on April 10, 2019, included a geophysical survey, seven soil borings, two sub-slab and one soil vapor sample. The investigation was conducted to determine if subsurface anomalies; impacts from historical usage; presence of hydraulic lifts; or, presence of underground fill line have impacted the subsurface of the subject property.

The results of the soil and soil vapor investigations indicate that VOCs, including TCE, PCE and naphthalene are present on the site in concentrations that exceed their respective Unrestricted and/or Restricted-Residential SCOs. SVOCs were detected at concentrations that exceeded the Unrestricted and/or Restricted-Residential SCOs in SB018 and SB019. RCRA Metals at concentrations exceeding Unrestricted and/or Restricted-Residential SCOs were not detected except for lead and mercury in SB018 and SB019.

Based on the information presented in this report, PWGC offers the following conclusions and recommendations:

- Redevelopment and rezoning of the subject property will likely be impacted by the presence of VOCs in the soil and soil vapor as well as SVO's and metals detected in the shallow subsurface soils at the site. This may include enrolling the site as an E-designation site or in the Brownfield Cleanup Program. Enrollment in either of these programs will likely include additional investigation to determine the source of, and a remediation plan to address, the VOCs, SVOC's and metals detected in the subsurface. PWGC recommends that any future redevelopment plans also include a vapor barrier and/or a subsurface depressurization system to mitigate the migration of VOCs into the indoor air of the new structures.
- Historic fill is present in the subsurface of the subject property from approximately 0 to 9-feet bgs. This material will require additional handling and disposal during redevelopment.
- Based on the results of the geophysical survey, no former or current USTs are present on the subject property.
- Based on the analytical results, it does not appear that the presence of the underground fill line has impacted the subsurface condition of the subject property.
- Based on the analytical results, it does not appear that the presence of the hydraulic lifts has impacted the subsurface condition of the subject property.

5.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312. I have the specific qualifications based on education, training and experience to assess a property of the nature, history and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR 312.

Heather Moran-Botta, SMS
Project Manager

James P. Rhodes, PG
Chief Operating Officer

Report Completion Date: April 26, 2019

6.0 REFERENCES

6 NYCRR Part 375 Environmental Remediation Programs Subparts 375-1 to 375-4 & 375-6.

6 NYCRR Part 703 Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations.

CP-51 / Soil Cleanup Guidance.

DER-10 / Technical Guidance for Site Investigation and Remediation.

SCDHS Article 12, SOP 9-95

Standard practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process, ASTM Standard E 1903-11.

Suffolk County Department of Health (SCDHS) Standard Operating Procedure (SOP) 9-95 (August 2010)

PWGC, Phase I Environmental Site Assessment Report (April 2019)

Associated Environmental, Phase II Environmental Site Assessment Report (March 2016)

7.0 LIMITATIONS

The conclusions presented in this report are professional opinions based on the data described in this report. These opinions have been arrived at in accordance with currently accepted engineering and hydrogeologic standards and practices applicable to this location, and are subject to the following inherent limitations:

1. The data presented in this report are from visual inspections and examination of records prepared by others. The passage of time, manifestation of latent conditions, or occurrence of future events may require further exploration of the site, analysis of data, and re-evaluation of the findings, observations, and conclusions presented in this report.
2. The data reported and the findings, observations, and conclusions expressed are limited by the scope of work. The scope of work was defined by the request of the client.
3. No warranty or guarantee, whether expressed or implied, is made with respect to the data reported, findings, observations, or conclusions. These are based solely upon site conditions in existence at the time of the investigation, and other information obtained and reviewed by PWGC.
4. The conclusions presented in this report are professional opinions based on data described in this report. They are intended only for the purpose, site location, and project indicated. This report is not a definitive study of contamination at the site and should not be interpreted as such.
5. This report is based, in part, on information supplied to PWGC by third-party sources. While efforts have been made to substantiate this third-party information, PWGC cannot attest to the completeness or accuracy of information provided by others.

Appendix F
New York Landmarks Preservation Commission (LPC) Environmental Review Letters

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: 1045 ATLANTIC AVENUE
Date Received: 10/19/2020

Properties with no Architectural or Archaeological significance:

1) 1065 ATLANTIC AVENUE, BBL: 3020200068
2) 1061 ATLANTIC AVENUE, BBL: 3020200070
3) 1059 ATLANTIC AVENUE, BBL: 3020200073
4) 1053 ATLANTIC AVENUE, BBL: 3020200074
5) 1041 ATLANTIC AVENUE, BBL: 3020200077

Properties with Architectural significance in the radius:

S/NR LISTED CLINTON HILL SOUTH HISTORIC DISTRICT AND S/NR ELIGIBLE BEDFORD HILL HISTORIC DISTRICT WITHIN RADIUS.

Gina Santucci 10/22/2020

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 35232_FSO_DNP_10222020.docx

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 / 77DCP733K
Project: 1045 ATLANTIC AVENUE
Date Received: 1/26/2021

The LPC is in receipt of Figure G-1, Shadow Assessment. The S/NR eligible St. Peter Claver Institute, 1 Jefferson Ave., and St. Peter Claver Church, 21 Claver Place, are within the shadow radius, however, the complex does not appear sun-sensitive. There are no other concerns.

Gina Santucci 1/29/2021

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 35232_FSO_GS_01292021.docx

Appendix G
Letter from Rosenwasser Grossman Consulting Engineering, P.C. Regarding Construction Schedule

ROSENWASSER / GROSSMAN
Consulting Engineers, P.C.
www.rgce.com
519 Eighth Avenue, 20th Floor, New York, NY 10018 / Tel (212) 564-2424

June 11, 2021

Anthony M Howard
Senior Project Manager
NYC Dept. of City Planning
120 Broadway
New York, NY 10271

Re: **1045 Atlantic Ave – Construction Duration**

Dear Mr. Howard:

We have reviewed the proposed building at the above-mentioned address to evaluate the construction timeframe. This is a 17 story building located on a wide street and on a large lot in Brooklyn. With this in mind, there are several design considerations that have led to the current construction schedule.

- Although the building is 17 stories tall, the aspect ratio is more horizontal (and not vertical) due to the 370 feet lot frontage. This makes the construction very efficient.

- The site is located on a wide arterial roadway. Atlantic Avenue is 120 feet wide. This allows for just-in-time deliveries and large flat beds to coordinate multiple deliveries.

- The project site is almost 130 feet deep in parts which allow for ample staging areas and on-site warehousing of materials. In addition to the rear yard there is a wide stretch of the site where there is no construction being planned. This allows for more spaces for construction shanties and trailers.

- Typically, high rise construction has 10,000 sf floor plates, however, typical floor plate here is over 30,000 sf which allows for more streamlined site logistics.

- The large floorplates will allow multiple trade teams to work concurrently. Trades can work together, instead of having to wait for one another.

- The building is cast-in-place concrete construction which is significantly faster than precast plank & beam, and carries less delay risk due to fabrication/delivery. With these efficiencies we project the Superstructure to be topped out in just under a year.

PRESIDENT Benjamin Pimentel | Bernard Taub | Steven Liao | Matthew Segerman
Brian Murtha | Lili Papadakis | Omri Semadar | Roman Suholutsky

- Because of the length of the building, it may enable the project to utilize two low-rise tower cranes to help expedite the completion of super structure.

- The foundation footprint will be coordinated to the influence lines of the neighboring structures in an effort to eliminate underpinning for a more efficient design.

- Dewatering measures will not be required as groundwater is well below 40’ of the site grade.

- The project is contemplating off-site fabrication for a number of trades especially the façade. This will be a panelized or precast system – and due to the available wide roadbed of Atlantic Avenue, we are contemplating just-in-time deliveries.

- Over 20% of the building program includes Parking, Retail and Office Spaces will be delivered as White-Box spaces for the TCO. These spaces have a lower burden of finishes and can also be used for site offices, material lay-down and other logistics during construction.

Please refer to the enclosed preliminary schedule which demonstrates the sequence of work. As shown,this project would take under 24-months to complete.

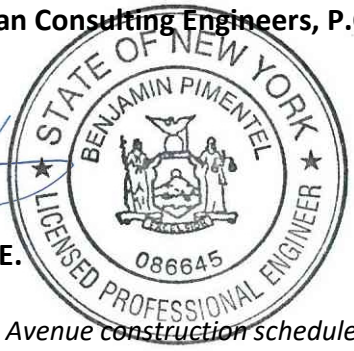
Some important schedule highlights are listed below:

- Support of Excavation will begin in Month 3 after bidding, awarding and mobilization.
- Foundations will occur Months 4 through 6.
- Superstructure will occur Months 7 through 10.
- With two cranes, slab pours range 4-8 days depending on floorplate size. However, as you are pouring the east end, you are forming the west end on the same day. The overlap will half the scheduled time per floor.
- Because of the just-in-time delivery, façade would be 7-10 floors behind superstructure.
- The elevator shaft and bulkhead up to the machine room will be poured at the same time as the concrete superstructure allowing the elevator program to commence right after with temp waterproofing.
- MEP risers begin when re-shores are removed.
- Façade will be overlayed with roofing and waterproofing in Months 10 through 14.
- As described above, special consideration would be given to critical path trade buyouts such as façade; And just-in-time delivery of panelized façade systems; And ensure the building is watertight as early as possible for the façade program to commence.
- There is a possibility to utilize additional temp waterproofing measures to improve the schedule.
- Schedule assumes temp waterproofing at elevator shaft to allow early elevator installation.

- There is a possibility to utilize additional temp waterproofing measures to improve the schedule.
- Inspection, Sign Offs, and TCO is a 12-week process which would begin well before the projected date to ensure that this milestone is achieved.

Sincerely

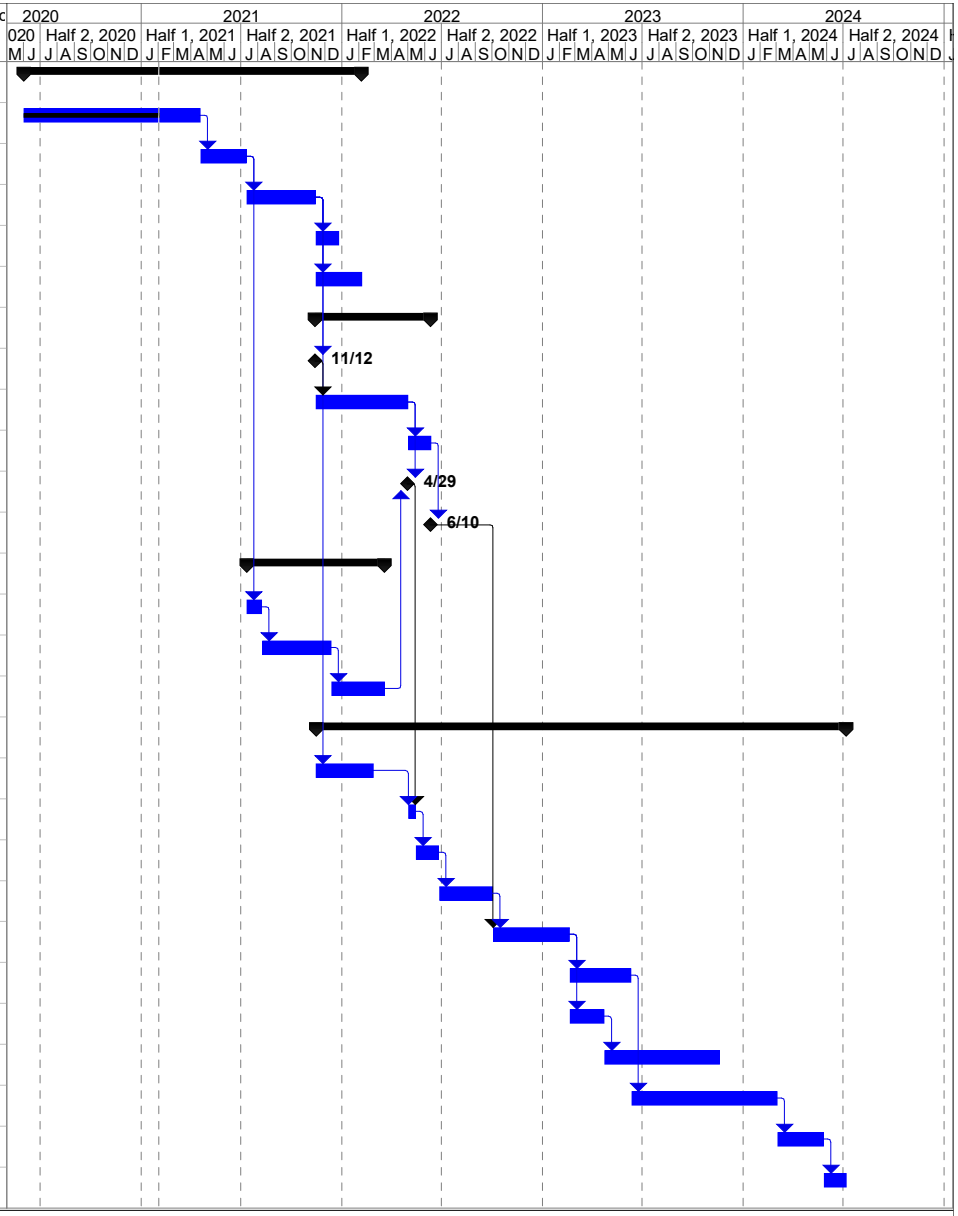
Rosenwasser Grossman Consulting Engineers, P.C.



Benjamin Pimentel P.E.

Enclosure: 1045 Atlantic Avenue construction schedule

ID	Task Name	Duration	Start	Finish	% Comple	edecessc
1	**ULURP & Design**	**440 days**	**Mon 6/1/20**	**Fri 2/4/22**	**37%**	
2	Programming and ULURP Drawings	230 days	Mon 6/1/20	Fri 4/16/21	77%	
3	Schematic Design	60 days	Mon 4/19/21	Fri 7/9/21	0%	2
4	Design Development	90 days	Mon 7/12/21	Fri 11/12/21	0%	3
5	Foundation Drawings - Bid Set	30 days	Mon 11/15/21	Fri 12/24/21	0%	4
6	Construction Drawings - Bid Set	60 days	Mon 11/15/21	Fri 2/4/22	0%	4
7	**DOB Approvals**	**150 days**	**Fri 11/12/21**	**Fri 6/10/22**	**0%**	
8	Submit DD Set to DOB	0 days	Fri 11/12/21	Fri 11/12/21	0%	4
9	DOB Review and Approvals - Foundations	120 days	Mon 11/15/21	Fri 4/29/22	0%	8
10	DOB Review and Approvals - Full Building	30 days	Mon 5/2/22	Fri 6/10/22	0%	9
11	Issue DOB Work Permit - Foundations	0 days	Fri 4/29/22	Fri 4/29/22	0%	9,16
12	Issue DOB Work Permit - Full Building	0 days	Fri 6/10/22	Fri 6/10/22	0%	10
13	**Demolition of Existing Buildings**	**180 days**	**Mon 7/12/21**	**Fri 3/18/22**	**0%**	
14	Demolition Bid and Award (Design and Demo	20 days	Mon 7/12/21	Fri 8/6/21	0%	3
15	Design and DOB Approvals - Demoltion	90 days	Mon 8/9/21	Fri 12/10/21	0%	14
16	Demoliton of Buildings and Sign Offs	70 days	Mon 12/13/21	Fri 3/18/22	0%	15
17	**Construction**	**690 days**	**Mon 11/15/21**	**Fri 7/5/24**	**0%**	
18	Construction Manager Bid and Award	75 days	Mon 11/15/21	Fri 2/25/22	0%	4
19	Mobilization	10 days	Mon 5/2/22	Fri 5/13/22	0%	18,11
20	Support of Excavation	30 days	Mon 5/16/22	Fri 6/24/22	0%	19
21	Foundations	70 days	Mon 6/27/22	Fri 9/30/22	0%	20
22	Superstructure	100 days	Mon 10/3/22	Fri 2/17/23	0%	12,21
23	Façade	80 days	Mon 2/20/23	Fri 6/9/23	0%	22
24	Roofing, Waterproofing	45 days	Mon 2/20/23	Fri 4/21/23	0%	22
25	Elevator	150 days	Mon 4/24/23	Fri 11/17/23	0%	24
26	Interior Construction - Core and Shell	190 days	Mon 6/12/23	Fri 3/1/24	0%	23
27	Inspection and Sign-Offs	60 days	Mon 3/4/24	Fri 5/24/24	0%	26
28	Certificate of Occupancy	30 days	Mon 5/27/24	Fri 7/5/24	0%	27



1045 Atlantic Avenue - ULURP Construction Schedule

Task	External Milestone	Manual Summary Rollup	
Split	Inactive Task	Manual Summary	
Milestone	Inactive Milestone	Start-only	
Summary	Inactive Summary	Finish-only	
Project Summary	Manual Task	Progress	
External Tasks	Duration-only	Deadline	

Appendix H
Letter from William Vitacco Associates LTD
Regarding Construction Schedule

WVA BUILDING & ZONING LAW CONSULTANTS
WILLIAM VITACCO ASSOCIATES LTD
proudly serving nyc for over 50 years

June 11, 2021

Re: 1045 Atlantic Avenue

To Whom it May Concern,

William Vitacco Associates has reviewed the project schedule, particularly the demolition timeline, and we do not see any concerns related to the project schedule.

WVA has been engaged with the development team for the past six months working on the project with the express goal of qualifying for the 421A program. To date, we have had preliminary discussions with the New York City Building Department regarding the project. As part of those discussions, the project schedule was discussed and deemed to be feasible by the Department. In addition to discussions with the Building Department, merging the existing lots for future development is currently underway and scheduled to be completed in the late summer or early fall.

The existing building's full demolition filing and approval process should be able to be completed within the 60-day duration as noted. There is no precursor to starting this aspect of the project, nor will it impact the DOB filing process related to the development. DOB has also confirmed that foundation permit issuance and foundation work can start before the completion of demolition activities. Based on the work done to date, we do not see an issue with the project schedule, particularly the demolishing of the existing structures.

Regards,



Pablo Vives

Director of Project Management

T: 212.791.4578 F: 212.513.0637 299 Broadway, 5th Floor New York, NY 10007 www.vitacco.com