# City Environmental Quality Review
# ENVIRONMENTAL ASSESSMENT STATEMENT (EAS) SHORT FORM

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

## Part I: GENERAL INFORMATION

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

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

**2. *Project Name*** 824 Metropolitan Avenue Rezoning

**3. *Reference Numbers***

| CEQR REFERENCE NUMBER (to be assigned by lead agency) | BSA REFERENCE NUMBER (if applicable) |
|---|---|
| 20DCP110K | |
| ULURP REFERENCE NUMBER (if applicable) | OTHER REFERENCE NUMBER(S) (if applicable) |
| 200314ZMK N200315ZRK | (*e.g.*, legislative intro, CAPA) Project ID No.: P2018K0031 |

| **4a. *Lead Agency Information*** | | | **4b. *Applicant Information*** | | |
|---|---|---|---|---|---|
| NAME OF LEAD AGENCY | | | NAME OF APPLICANT | | |
| New York City Department of City Planning (NYCDCP) | | | 824 Metropolitan Avenue Owner, LLC | | |
| NAME OF LEAD AGENCY CONTACT PERSON | | | NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON | | |
| Olga Abinader | | | Steven Sinacori, Akerman LLP | | |
| ADDRESS 120 Broadway, 31st Floor | | | ADDRESS 666 Fifth Avenue, 20th Floor | | |
| CITY New York | STATE NY | ZIP 10271 | CITY New York | STATE NY | ZIP 10103 |
| TELEPHONE (212) 720-3425 | EMAIL oabinad@planning.nyc.gov | | TELEPHONE 212-822-2212 | EMAIL steven.sinacori@akerman.com | |

**5. *Project Description***

The Applicant, 824 Metropolitan Avenue Owner, LLC, is proposing the following actions:

1. A Zoning Map Amendment from an existing C8-2 district and R6B district with a C2-4 commercial overley to an R7A district with a C2-4 commercial overlay of properties bounded by Metropolitan Avenue to the north, Bushwick Avenue to the west, and residential properties to the south and east in the Greenpoint-Williamsburg neighborhood of Brooklyn, Community District 1. This would involve a rezoning of the Applicant's property, Brooklyn Block 2916, Lots 14 and 16 (the Development Site ), and a single non-Applicant property, Brooklyn Block 2916, Lot 8 (Potential Development Site).

2. A Zoning Map Amendment from an existing C8-2 to a R6B district with a C2-4 commercial overlay at a small, southwestern portion of Brooklyn Block 2916, Lot 17 in order to make that portion of the lot's zoning consistent with the remainder of the lot's area.

3. A Zoning Text Amendment to modify ZR §23-933, Appendix F to designate the newly mapped R7A district as a Mandatory Inclusionary Housing (MIH) designated area.

Collectively, these three actions are referred to as the "Proposed Action" and all properties wholly or partially affected by the proposed Zoning Map and Text Amendments are collectively known as the "Affected Area."

The proposed rezoning would permit the development of the Applicant-owned Development Site with a nine-story / 95-foot, 34,500 gsf Quality Housing Program mixed-used residential and commercial building (a 4.6 floor area ratio [FAR]), including 27,500 gsf of residential uses and 7,000 gsf of commercial retail, featuring 40 residential dwelling units. The overall structure height would extend to 105 feet with a 10-foot bulkhead No accessory parking would be required or provided.

Although the Potential Development Site is not proposed for development, it is anticipated that it could be redeveloped with a nine-story / 95-foot, 58,075 gsf (4.6 FAR) mixed-use residential and commercial building with 45,450 gsf of

residential floor area for 66 dwelling units (13 of which would be affordable as, pursuant to CEQR, an assumption that 20 percent of the residential floor area would be reserved as affordable to households with incomes at or below 80% of the AMI) and 12,625 gsf of ground floor commercial floor. The overall structure height would extend to 105 feet with a 10-foot bulkhead. Approximately 27 accessory parking spaces would be provided for the residential use in a subsurface parking structure approximately 9,000 sf in size.

See attached Project Description.

***Project Location***

| BOROUGH Brooklyn | COMMUNITY DISTRICT(S) 01 | STREET ADDRESS 824-832 Metropolitan Avenue |
|---|---|---|
| TAX BLOCK(S) AND LOT(S) Block 2916, Lots 8, 14, 16, 17 | | ZIP CODE 11211 |

DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS The proposed rezonign area is bounded by Metropolitan Avenue to the north, Bushwick Avenue to the west, and residential uses to the south and east.

| EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY C8-2 and R6B with a C2-4 Commercial Overlay | ZONING SECTIONAL MAP NUMBER 13b |
|---|---|

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

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

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

☐ SPECIAL PERMIT (if appropriate, specify type: ☐ modification; ☐ renewal; ☐ other); EXPIRATION DATE:

SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION 29-933, Appendix F

***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: Department of Buildings building permit |

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

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

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

| | | |
|---|---|---|
| ☒ SITE LOCATION MAP | ☒ ZONING MAP | ☒ SANBORN OR OTHER LAND USE MAP |
| ☒ TAX MAP | ☐ FOR LARGE AREAS OR MULTIPLE SITES, A GIS SHAPE FILE THAT DEFINES THE PROJECT SITE(S) | |

☒ PHOTOGRAPHS OF THE PROJECT SITE TAKEN WITHIN 6 MONTHS OF EAS SUBMISSION AND KEYED TO THE SITE LOCATION MAP

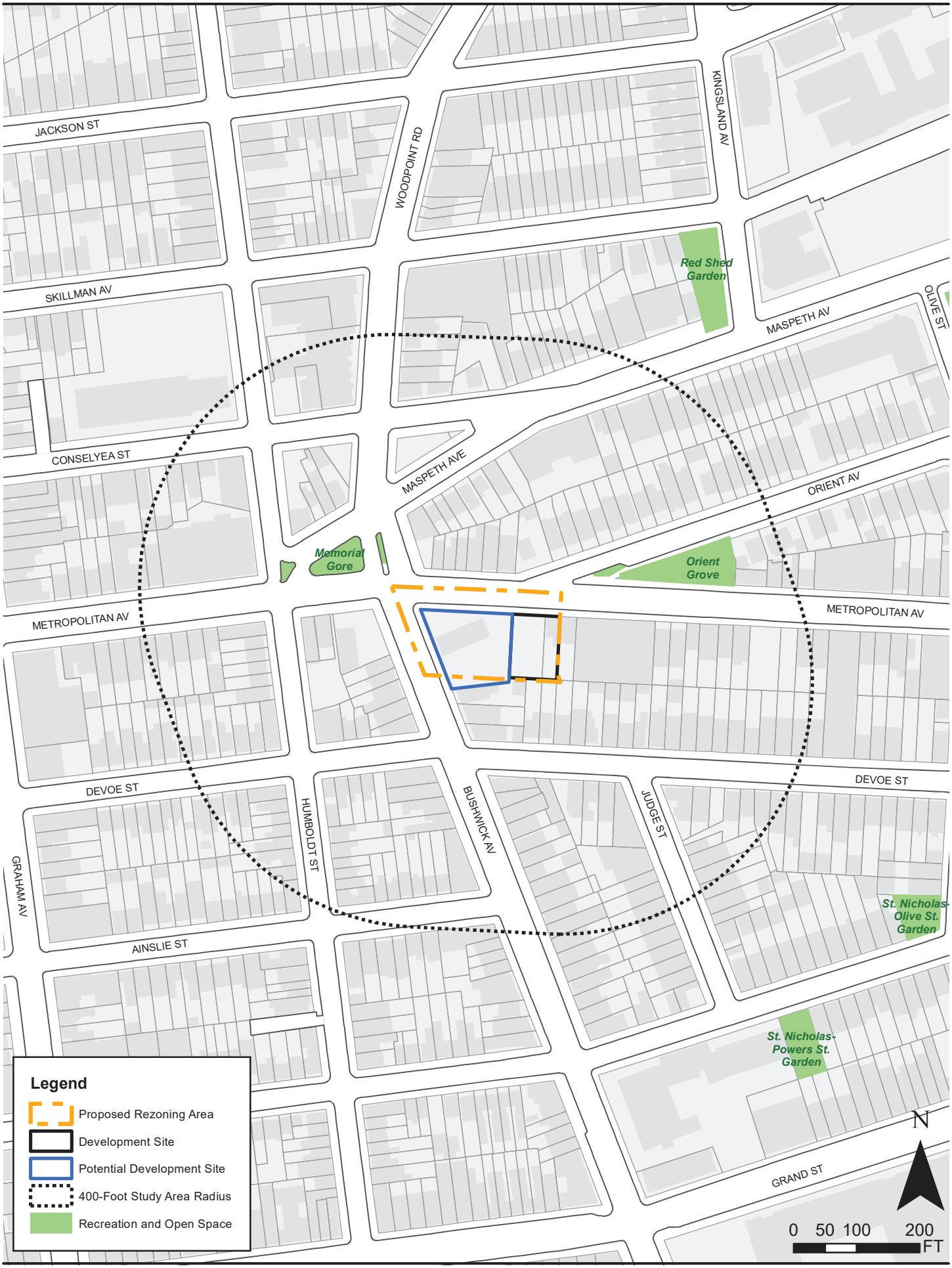
***Physical Setting*** (both developed and undeveloped areas)

Total directly affected area (sq. ft.): 18,835 (Rezoning Area); 7,500 (Development SIte)

Waterbody area (sq. ft) and type: 0

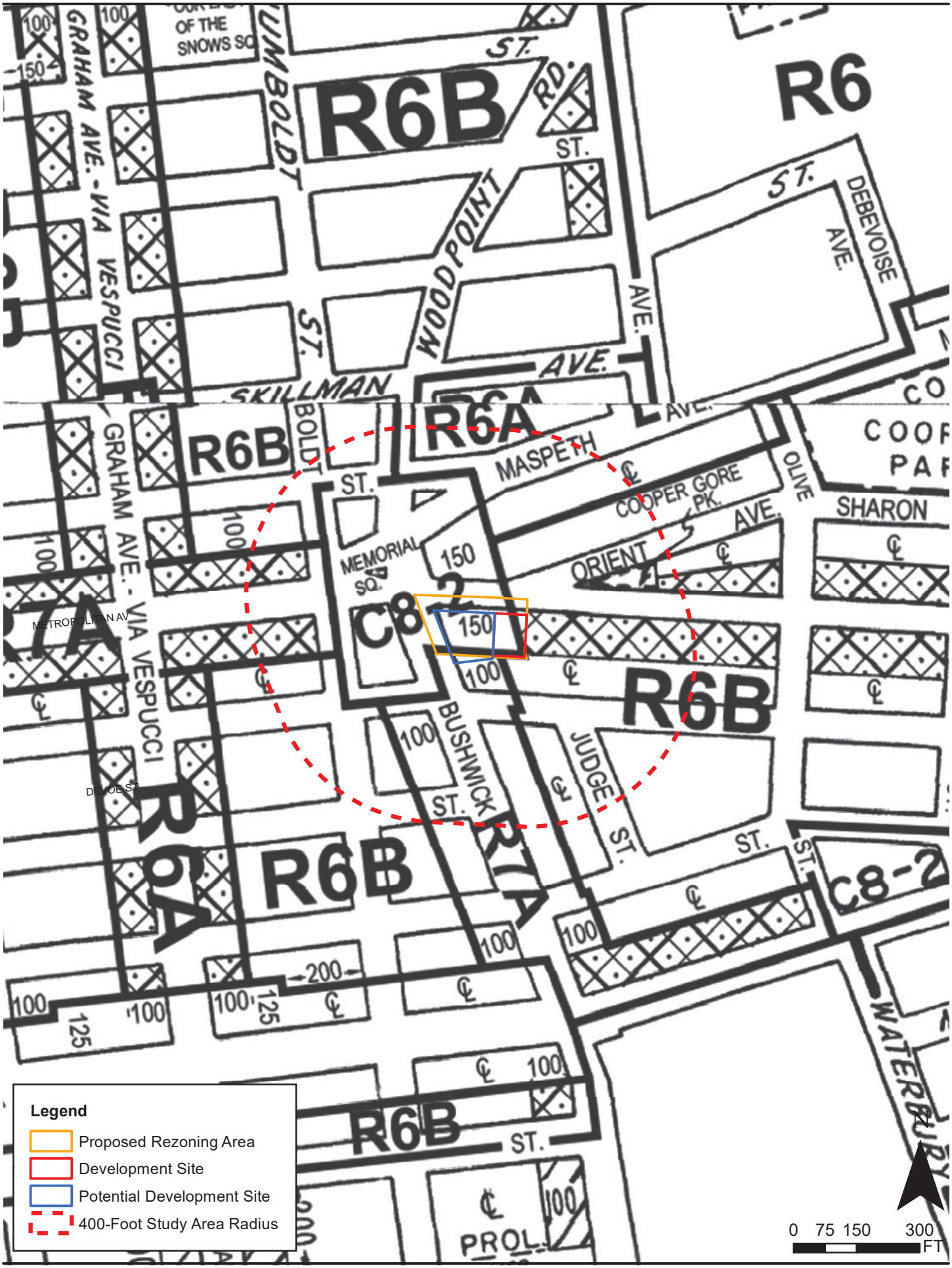
Roads, buildings, and other paved surfaces (sq. ft.): 18,835 (Rezoning

Other, describe (sq. ft.): 0



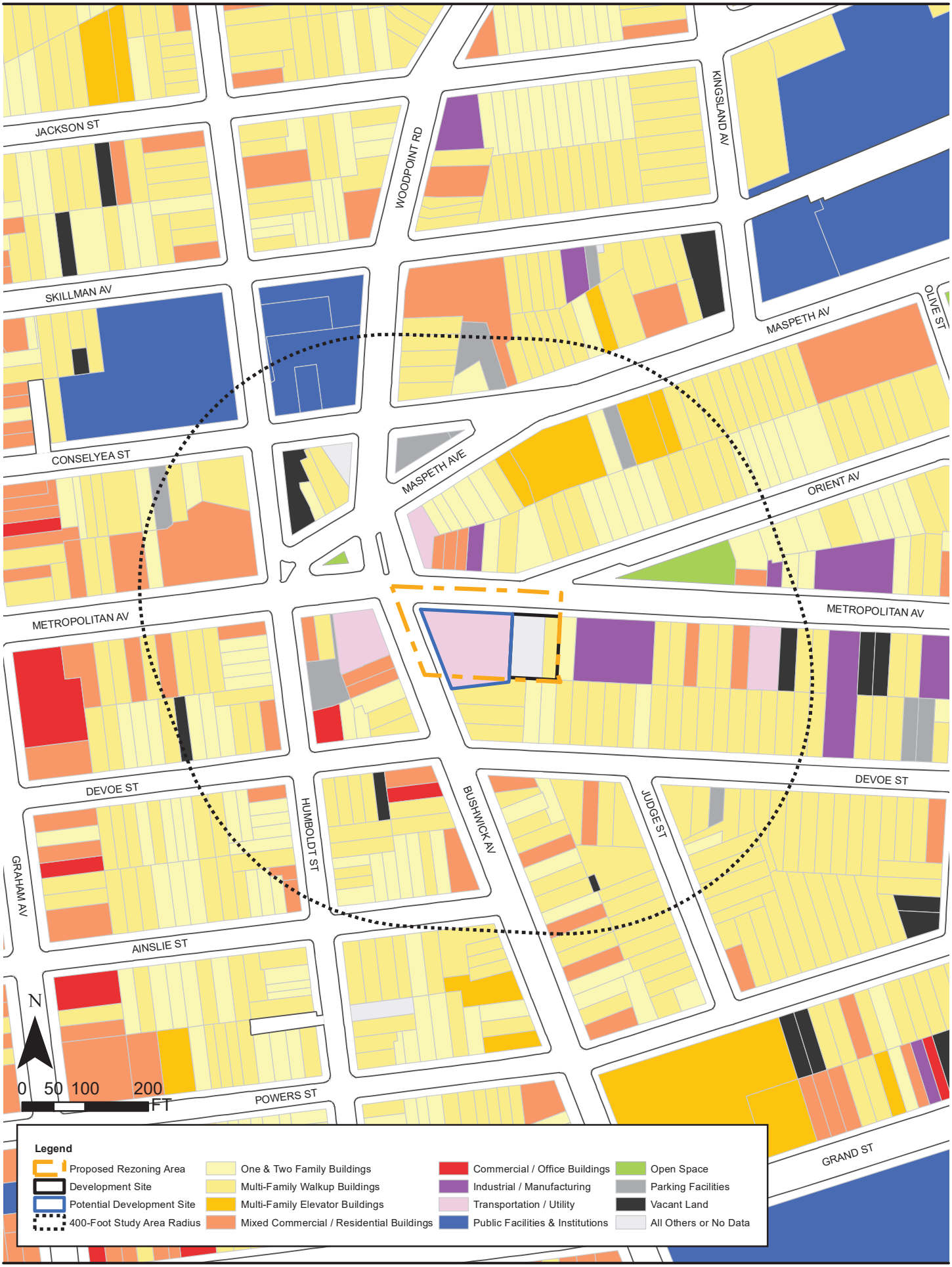

**824 Metropolitan Avenue Rezoning**

**Figure 1 - Site Location Map**

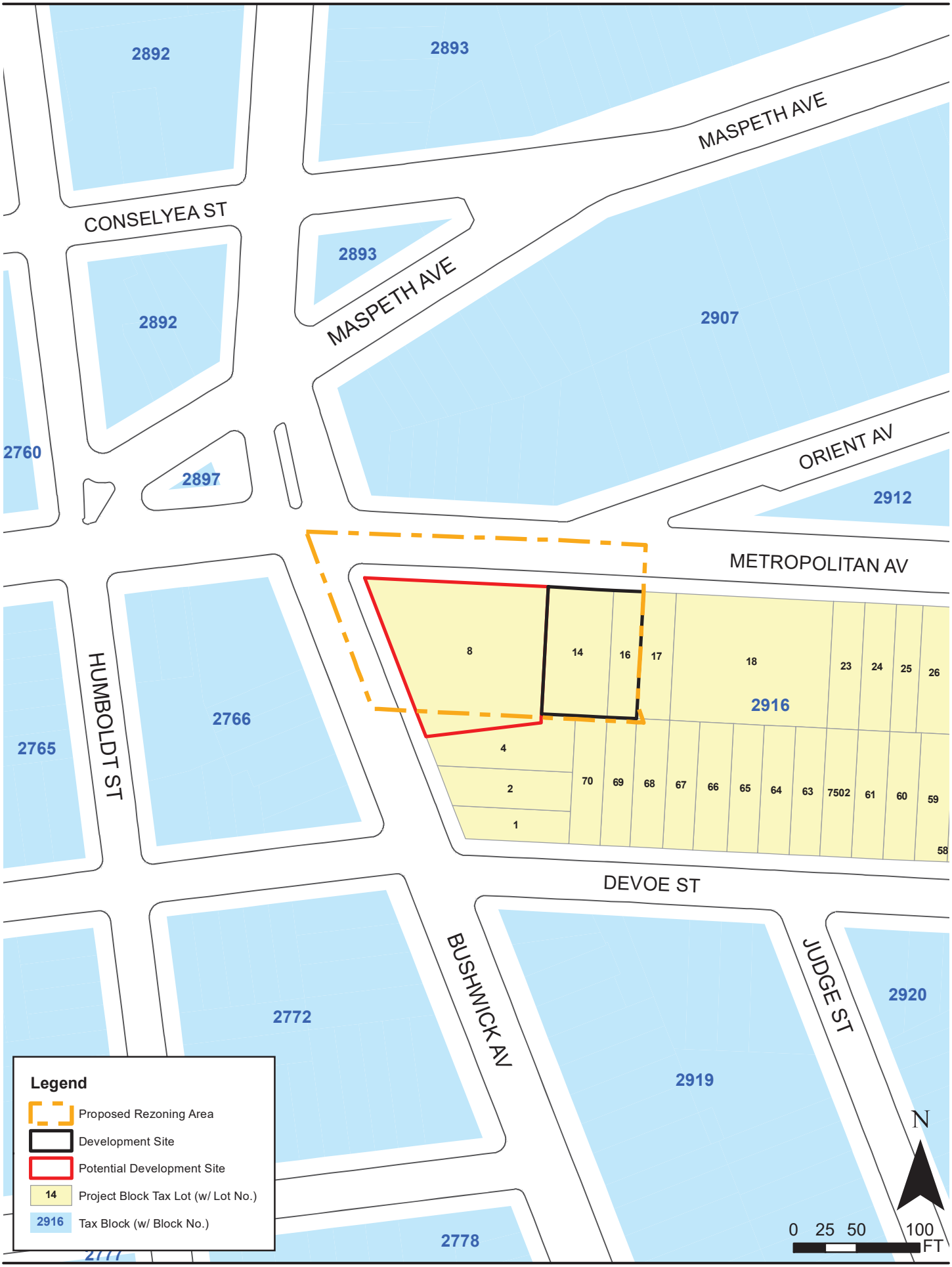



824 Metropolitan Avenue Rezoning

EAS Figure 2 - Zoning Map




**824 Metropolitan Avenue Rezoning** **EAS Figure 3 - Land Use Map**




824 Metropolitan Avenue Rezoning

EAS Figure 4 - Tax Map




**824 Metropolitan Avenue Rezoning** **EAS FIgure 5 - Affected Area Photograph Key Map**



**Photo No. 1**: View of Lot 14 of the Development Site, facing south from Metropolitan Avenue



**Photo No. 2**: View of Lot 16 of the Development Site, facing south from Metropolitan Avenue



**Photo No 3**: View of Lot 8 within the Affected Area, facing southeast from Metropolitan and Bushwick Avenues

Area); 7,500 (Development SIte)

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

SIZE OF PROJECT TO BE DEVELOPED (gross square feet): 34,500

NUMBER OF BUILDINGS: 1

GROSS FLOOR AREA OF EACH BUILDING (sq. ft.): 34,500

HEIGHT OF EACH BUILDING (ft.): 95 feet (excludes 10-foot bulkhead)

NUMBER OF STORIES OF EACH BUILDING: 9

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

If "yes," specify: The total square feet owned or controlled by the applicant: 7,500

The total square feet not owned or controlled by the applicant: 11,335

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

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

AREA OF TEMPORARY DISTURBANCE: 7,500 sq. ft. (width x length)

VOLUME OF DISTURBANCE: 75,000 cubic ft. (width x length x depth)

AREA OF PERMANENT DISTURBANCE: 7,500 sq. ft. (width x length)

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

| | ***Residential*** | ***Commercial*** | ***Community Facility*** | ***Industrial/Manufacturing*** |
|---|---|---|---|---|
| ***Size*** (in gross sq. ft.) | 27,500 | 7,000 | | |
| ***Type*** (*e.g.,* retail, office, school) | 40 units | Retail (grocery) | | |

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

If "yes," please specify:

NUMBER OF ADDITIONAL RESIDENTS: 92

NUMBER OF ADDITIONAL WORKERS: 19

Provide a brief explanation of how these numbers were determined: Based on an average household size of 2.3 persons for Kings County Census Tract 481 (pursuant to the 2013-2017 U.S. Census American Community Survey), an average of 2.5 workers per 1,000 square feet of retail space, and 0.04 workers per dwelling unit.

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

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

If "yes," see Chapter 2, "Establishing the Analysis Framework" and describe briefly:

**9. *Analysis Year*** CEQR Technical Manual Chapter 2

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

ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS: 24

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

BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE: It is assumed that the all necessary development and project approvals would be obtained by late 2020 with construction activities (including demolition) commencing in early 2021. Construction would be undertaken in one phase and last 24 months, resulting in a build year of 2023.

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

☒ RESIDENTIAL ☒ MANUFACTURING ☒ COMMERCIAL ☒ PARK/FOREST/OPEN SPACE ☒ OTHER, specify: Transportation / Utility Uses

## Part II: TECHNICAL ANALYSIS

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

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

| | YES | NO |
|---|---|---|
| **1. *LAND USE, ZONING, AND PUBLIC POLICY***: CEQR Technical Manual Chapter 4 | | |
| **(a)** Would the proposed project result in a change in land use different from surrounding land uses? | ☐ | ☒ |
| **(b)** Would the proposed project result in a change in zoning different from surrounding zoning? | ☐ | ☒ |
| **(c)** Is there the potential to affect an applicable public policy? | ☒ | ☐ |
| **(d)** If "yes," to (a), (b), and/or (c), complete a preliminary assessment and attach. See attached | | |
| **(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 200 or more residential units? | ☐ | ☒ |
| ○ Generate a net increase of 200,000 or more square feet of commercial space? | ☐ | ☒ |
| ○ Directly displace more than 500 residents? | ☐ | ☒ |
| ○ Directly displace more than 100 employees? | ☐ | ☒ |
| ○ Affect conditions in a specific industry? | ☐ | ☒ |
| **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, hospitals and other health care facilities, day care centers, police stations, or fire stations? | ☐ | ☒ |
| **(b) Indirect Effects** | | |
| ○ **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) | ☐ | ☒ |
| ○ **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) | ☐ | ☒ |
| ○ **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) | ☐ | ☒ |
| ○ **Health Care Facilities and Fire/Police Protection:** Would the project result in the introduction of a sizeable new neighborhood? | ☐ | ☒ |
| **4. *OPEN SPACE***: CEQR Technical Manual Chapter 7 | | |
| **(a)** Would the proposed project change or eliminate existing open space? | ☐ | ☒ |
| **(b)** Is the project located within an under-served area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island? | ☐ | ☒ |
| ○ If "yes," would the proposed project generate more than 50 additional residents or 125 additional employees? | ☐ | ☐ |
| **(c)** Is the project located within a well-served area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island? | ☐ | ☒ |
| ○ If "yes," would the proposed project generate more than 350 additional residents or 750 additional employees? | ☐ | ☐ |
| **(d)** If the project in located an area that is neither under-served nor well-served, would it generate more than 200 additional residents or 500 additional employees? | ☐ | ☒ |

| | YES | NO |
|---|---|---|
| **5. *SHADOWS***: CEQR Technical Manual Chapter 8 | | |
| **(a)** Would the proposed project result in a net height increase of any structure of 50 feet or more? | ☒ | ☐ |
| **(b)** Would the proposed project result in any increase in structure height and be located adjacent to or across the street from a sunlight-sensitive resource? | ☒ | ☐ |
| **6. *HISTORIC AND CULTURAL RESOURCES***: CEQR Technical Manual Chapter 9 | | |
| **(a)** Does the proposed project site or an adjacent site contain any architectural and/or archaeological resource that is eligible for or has been designated (or is calendared for consideration) as a New York City Landmark, Interior Landmark or Scenic Landmark; that is listed or eligible for listing on the New York State or National Register of Historic Places; or that is within a designated or eligible New York City, New York State or National Register Historic District? (See the GIS System for Archaeology and National Register to confirm) | ☒ | ☐ |
| **(b)** Would the proposed project involve construction resulting in in-ground disturbance to an area not previously excavated? | ☐ | ☒ |
| **(c)** If "yes" to either of the above, list any identified architectural and/or archaeological resources and attach supporting information on whether the proposed project would potentially affect any architectural or archeological resources. See attached | | |
| **7. *URBAN DESIGN AND VISUAL RESOURCES***: CEQR Technical Manual Chapter 10 | | |
| **(a)** Would the proposed project introduce a new building, a new building height, or result in any substantial physical alteration to the streetscape or public space in the vicinity of the proposed project that is not currently allowed by existing zoning? | ☒ | ☐ |
| **(b)** Would the proposed project result in obstruction of publicly accessible views to visual resources not currently allowed by existing zoning? | ☐ | ☒ |
| **8. *NATURAL RESOURCES***: CEQR Technical Manual Chapter 11 | | |
| **(a)** Does the proposed project site or a site adjacent to the project contain natural resources as defined in Section 100 of Chapter 11? | ☐ | ☒ |
| ○ If "yes," list the resources and attach supporting information on whether the proposed project would affect any of these resources. | | |
| **(b)** Is any part of the directly affected area within the Jamaica Bay Watershed? | ☐ | ☒ |
| ○ 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: See attached | ☒ | ☐ |
| **10. *WATER AND SEWER INFRASTRUCTURE***: CEQR Technical Manual Chapter 13 | | |
| **(a)** Would the project result in water demand of more than one million gallons per day? | ☐ | ☒ |
| **(b)** If the proposed project located in a combined sewer area, would it result in at least 1,000 residential units or 250,000 square feet or more of commercial space in Manhattan, or at least 400 residential units or 150,000 square feet or more of commercial space in the Bronx, Brooklyn, Staten Island, or Queens? | ☐ | ☒ |
| **(c)** If the proposed project located in a separately sewered area, would it result in the same or greater development than the amounts listed in Table 13-1 in Chapter 13? | ☐ | ☒ |
| **(d)** Would the proposed project involve development on a site that is 5 acres or larger where the amount of impervious surface would increase? | ☐ | ☒ |
| **(e)** If the project is located within the Jamaica Bay Watershed or in certain specific drainage areas, including Bronx River, Coney Island Creek, Flushing Bay and Creek, Gowanus Canal, Hutchinson River, Newtown Creek, or Westchester Creek, would it involve development on a site that is 1 acre or larger where the amount of impervious surface would increase? | ☐ | ☒ |

| | YES | NO |
|---|---|---|
| **(f)** Would the proposed project be located in an area that is partially sewered or currently unsewered? | ☐ | ☒ |
| **(g)** Is the project proposing an industrial facility or activity that would contribute industrial discharges to a Wastewater Treatment Plant and/or generate contaminated stormwater in a separate storm sewer system? | ☐ | ☒ |
| **(h)** Would the project involve construction of a new stormwater outfall that requires federal and/or state permits? | ☐ | ☒ |
| **11. *SOLID WASTE AND SANITATION SERVICES***: CEQR Technical Manual Chapter 14 | | |
| **(a)** Using Table 14-1 in Chapter 14, the project's projected operational solid waste generation is estimated to be (pounds per week): 6,468 | | |
| ○ Would the proposed project have the potential to generate 100,000 pounds (50 tons) or more of solid waste per week? | ☐ | ☒ |
| **(b)** Would the proposed project involve a reduction in capacity at a solid waste management facility used for refuse or recyclables generated within the City? | ☐ | ☒ |
| **12. *ENERGY***: CEQR Technical Manual Chapter 15 | | |
| **(a)** Using energy modeling or Table 15-1 in Chapter 15, the project's projected energy use is estimated to be (annual BTUs): 4,998,350 MBTus | | |
| **(b)** Would the proposed project affect the transmission or generation of energy? | ☐ | ☒ |
| **13. *TRANSPORTATION***: CEQR Technical Manual Chapter 16 | | |
| **(a)** Would the proposed project exceed any threshold identified in Table 16-1 in Chapter 16? | ☐ | ☒ |
| **(b)** If "yes," conduct the screening analyses, attach appropriate back up data as needed for each stage and answer the following questions: | | |
| ○ 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 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) See attached. | ☒ | ☐ |
| **(c)** Does the proposed project involve multiple buildings on the project site? | ☐ | ☒ |
| **(d)** Does the proposed project require federal approvals, support, licensing, or permits subject to conformity requirements? | ☐ | ☒ |
| **(e)** Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to air quality that preclude the potential for significant adverse impacts? | ☐ | ☒ |
| **15. *GREENHOUSE GAS EMISSIONS***: CEQR Technical Manual Chapter 18 | | |
| **(a)** Is the proposed project a city capital project or a power generation plant? | ☐ | ☒ |
| **(b)** Would the proposed project fundamentally change the City's solid waste management system? | ☐ | ☒ |
| **(c)** If "yes" to any of the above, would the project require a GHG emissions assessment based on the guidance in Chapter 18? | ☐ | ☐ |
| **16. *NOISE***: CEQR Technical Manual Chapter 19 | | |
| **(a)** Would the proposed project generate or reroute vehicular traffic? | ☒ | ☐ |
| **(b)** Would the proposed project introduce new or additional receptors (see Section 124 in Chapter 19) near heavily trafficked roadways, within one horizontal mile of an existing or proposed flight path, or within 1,500 feet of an existing or proposed rail line with a direct line of site to that rail line? | ☒ | ☐ |
| **(c)** Would the proposed project cause a stationary noise source to operate within 1,500 feet of a receptor with a direct line of sight to that receptor or introduce receptors into an area with high ambient stationary noise? | ☐ | ☒ |
| **(d)** Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to noise that preclude the potential for significant adverse impacts? | ☐ | ☒ |
| **17. *PUBLIC HEALTH***: CEQR Technical Manual Chapter 20 | | |

| | YES | NO |
|---|---|---|
| **(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. No significant unmitigated adverse impacts for these analysis areas were identified. | | |
| **18. *NEIGHBORHOOD CHARACTER*:** CEQR Technical Manual Chapter 21 | | |
| **(a)** Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Land Use, Zoning, and Public Policy; Socioeconomic Conditions; Open Space; Historic and Cultural Resources; Urban Design and Visual Resources; Shadows; Transportation; Noise? | ☐ | ☒ |
| **(b)** If "yes," explain why an assessment of neighborhood character is or is not warranted based on the guidance in Chapter 21, "Neighborhood Character." Attach a preliminary analysis, if necessary. | | |
| **19. *CONSTRUCTION*:** CEQR Technical Manual Chapter 22 | | |
| **(a)** Would the project's construction activities involve: | | |
| ○ Construction activities lasting longer than two years? | ☐ | ☒ |
| ○ Construction activities within a Central Business District or along an arterial highway or major thoroughfare? | ☐ | ☒ |
| ○ Closing, narrowing, or otherwise impeding traffic, transit, or pedestrian elements (roadways, parking spaces, bicycle routes, sidewalks, crosswalks, corners, *etc.*)? | ☐ | ☒ |
| ○ Construction of multiple buildings where there is a potential for on-site receptors on buildings completed before the final build-out? | ☐ | ☒ |
| ○ The operation of several pieces of diesel equipment in a single location at peak construction? | ☐ | ☒ |
| ○ Closure of a community facility or disruption in its services? | ☐ | ☒ |
| ○ Activities within 400 feet of a historic or cultural resource? | ☐ | ☒ |
| ○ Disturbance of a site containing or adjacent to a site containing natural resources? | ☐ | ☒ |
| ○ Construction on multiple development sites in the same geographic area, such that there is the potential for several construction timelines to overlap or last for more than two years overall? | ☐ | ☒ |
| **(b)** If any boxes are checked "yes," explain why a preliminary construction assessment is or is not warranted based on the guidance in Chapter 22, "Construction." It should be noted that the nature and extent of any commitment to use the Best Available Technology for construction equipment or Best Management Practices for construction activities should be considered when making this determination. | | |

## 20. *APPLICANT'S CERTIFICATION*

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

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

| APPLICANT/REPRESENTATIVE NAME | DATE |
|---|---|
| Matthew Sloane | May 12, 2021 |

SIGNATURE 

***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.

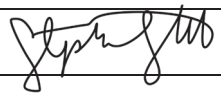
**3.** Check determination to be issued by the lead agency:

☐ **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 |
|---|---|
| NAME Stephanie Shellooe | DATE 5/14/2021 |
| 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 Applicant, 824 Metropolitan Avenue Owner, LLC, is proposing the following actions: a Zoning Map Amendment from an existing C8-2 district and R6B district with a C2-4 commercial overlay to an R7A district with a C2-4 commercial overlay of Brooklyn Block 2916, Lots 14 and 16 (Projected Site 1), Brooklyn Block 2916, Lot 8 (Potential Development Site 1), and a small, southwestern portion of Brooklyn Block 2916, Lot 17 in the Greenpoint-Williamsburg neighborhood of Brooklyn, Community District 1; a Zoning Text Amendment to modify ZR §23-933, Appendix F to designate the newly mapped R7A district as a Mandatory Inclusionary Housing (MIH) designated area. The proposed rezoning would permit the development of the Applicant-owned Projected Site 1 with a nine-story, 95- foot, 34,500 gross square foot (gsf) Quality Housing Program mixed-used residential and commercial building, including 27,500 gsf of residential uses and 7,000 gsf of commercial retail, containing 40 residential dwelling units. The overall structure height would extend to 105 feet with a 10-foot bulkhead. No accessory parking would be required or provided. Although Potential Development Site 1 is not proposed for development, it is anticipated that it could be redeveloped with a nine-story , 95-foot, 58,075 gsf (4.6 FAR) mixed-use residential and commercial building with 45,450 gsf . The proposed actions would not affect the existing character of the area, nor affect public policy, which represent the thresholds of impact significance in the 2020 CEQR Technical Manual. The analysis concludes that no significant adverse impacts related to Land Use, Zoning, and Public Policy would result from the proposed actions.

### Shadows

A detailed analysis related to shadows is included in the EAS. New incremental shadows generated from Projected Development Site 1 and Potential Development Site 1 have the potential to reach five sunlight sensitive resources: Greenstreets facilities on Orient Avenue, Bushwick Avenue, and Humboldt Street; one landscaped memorial, Memorial Gore; and the Orient Grove community garden. The analysis found that projected shadows from the proposed project would not fall on any of these resources during either of the May 6 / August 6 or June 21 analysis days and those shadows that fell on the December 21 and March 21 / September 21 analysis days were largely inconsequential with regard to the viability of the vegetation at those resources or the public's use and enjoyment of said resource, with the exception of the Greenstreets at Orient Avenue and Bushwick Avenue, and Orient Grove Community Garden resources during the March 21/September 21 analysis days. A detailed analysis for these resources on those analysis days revealed that despite new incremental shadows from the With-Action RWCDS on the March 21 / September 21 analysis days, the entirety of these resources would exceed the minimum amount of direct sunlight to maintain the viability of vegetation. No other open space sensitive resource would be affected by shadows generated by the proposed actions. Therefore, per the 2020 CEQR Technical Manual, the proposed actions would not result in significant shadow impacts, and no further analysis is necessary.

#### Historic and Cultural Resources

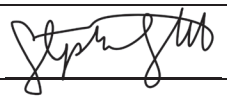
A detailed analysis related to Historic and Cultural Resources for archaeology in included in the EAS. Based on coordination with the NYC Landmarks Preservation Commission, a Phase 1A Archaeological Survey was required as part of the environmental assessment. The October 2020 Phase 1A Documentary Study and Archaeological Assessment found that on Projected Development Site 1 there exists moderate to high potential for the recovery of mid- to late-nineteenth century resources associated with the working class residents of the properties. Therefore, it is recommended that Phase 1B testing be undertaken in areas of the property that are likely to contain history rear yard resources. On Potential Development Site 1, the lot has been redeveloped twice as a gas station and the entirety of the area is disturbed; therefore, no archaeological work is recommended should this site be redeveloped in the future. A Restrictive Declaration will be implemented at the Applicant's Development Site, Projected Development Site 1, for archaeological resources, stipulating the necessity of a Phase 1B archaeological study at said before any development activities can commence. Based on the analysis and review by Landmarks Preservation Commission, the proposed actions are not anticipated to create significant adverse historic and cultural impacts, and no further study is necessary.

### Hazardous Materials, Air Quality, and Noise

An (E) designation (E-618) related to hazardous materials, air quality, 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, air quality, 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, air quality, 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 Katherine Glass at +1 212-720-3425.*

**Project Name: 824 Metropolitan Avenue**
**CEQR # 20DCP110K**
**SEQRA Classification: Unlisted**

| | |
|---|---|
| TITLE<br>Deputy Director, Environmental Assessment and Review Division | LEAD AGENCY<br>Department of City Planning on behalf of the City Planning Commission<br>120 Broadway, 31st Fl. New York, NY 10271 \| 212.720.3328 |
| NAME<br>Stephanie Shellooe, AICP | DATE<br>May 14, 2021 |
| SIGNATURE  | |
| TITLE<br>Chair, City Planning Commission | |
| NAME<br>Marisa Lago | DATE<br>May 17, 2021 |
| SIGNATURE | |

**Project Name: 824 Metropolitan Avenue**
**CEQR # 20DCP110K**
**SEQRA Classification: Unlisted**

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 2916, Lots 14 and 16 |
| Potential Development Site 1 | Brooklyn | Block 2916, Lot 8 |

(E) Designation Requirements

To ensure that the proposed actions would not result in significant adverse impacts related to hazardous materials, air quality, and noise an (E) designation (**E-618**) would be established as part of approval of the proposed actions on **Projected Development Site 1 and Potential Development Site 1** as described below:

| Development Site | Hazardous Materials | Air Quality | Noise |
|---|---|---|---|
| Projected Development Site 1 | X | X | X |
| Potential Development Site 1 | X | X | X |

*Hazardous Materials*

The (E) designation requirements applicable to **Projected Development Site 1 and Potential Development Site 1** 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.*

*Air Quality*

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

**Block 2916, Lot 14 and 16 (Projected Development Site 1):** Any new residential/commercial development on the above-referenced property must ensure that the heating, ventilating, air conditioning (HVAC), and hot water system(s) stack is located at the building's highest tier and at least 98 feet above grade, and is at least 25 feet from the western lot line facing Bushwick Avenue to avoid any potential significant adverse air quality impacts.

**Block 2916, Lot 18 (Potential Development Site 1):** Any new residential/commercial development on the above-referenced property must ensure that the heating, ventilating, air conditioning (HVAC), and hot water system(s) stack is located at the building's highest tier and at least 98 feet above grade, and is at least 55 feet from the eastern lot line facing Olive Street to avoid any potential significant adverse air quality impacts.

*Noise*

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

**Block 2916, Lots 14 and 16 (Projected Development Site):** To ensure an acceptable interior noise environment, future residential uses must provide a closed-window condition with a minimum of 35 dBA window/wall attenuation on all facades to maintain an interior noise level not greater than 45 dBA for residential uses. To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.

**Block 2916, Lot 8 (Potential Development Site):** To ensure an acceptable interior noise environment, future residential/commercial office uses must provide a closed-window condition with a minimum of 35 dBA window/wall attenuation on all facades to maintain an interior noise level not greater than 45 dBA for residential uses or not greater than 50 dBA for commercial office uses. 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.

# 1.0 PROJECT DESCRIPTION

## 1.1 INTRODUCTION

The Applicant, 824 Metropolitan Avenue Owner LLC, seeks two zoning map amendments and a zoning text amendment (detailed below in Section 1.6) to facilitate a 34,500 gsf Quality Housing Program mixed-used residential and commercial building at 824 Metropolitan Avenue in the East Williamsburg neighborhood of Brooklyn Community District 1 (the "Proposed Project").

## 1.2 THE AFFECTED AREA AND DEVELOPMENT SITES

Affected Area

The proposed zoning map amendments and zoning text amendment encompasses a part of the northeastern portion of Brooklyn Block 2916, including four contiguous tax lots, p/o Lot 8, Lots 14 and 16, and p/o Lot 17 (see EAS Figure 4), bounded by the centerline of Metropolitan Avenue to the north, the centerline of Bushwick Avenue to the west, the northern boundary of the existing R7A zoning district and the rear lot line of those lots fronting on Devoe Street to the south, and the remainder of Lot 17 not included in the proposed zoning map and text amendments to the east (see EAS Figure 1).

Development Site

The 7,500-square-foot (-sf) Development Site is a zoning lot comprised of Lots 14 (a 5,000 sf at 824 Metropolitan Avenue) and 16 (a 2,500 sf at 832 Metropolitan Avenue), which, respectively, are undeveloped and features a residential building. The undeveloped lot is currently fenced and utilized for vehicle storage. The residential building contains 2,316 gross square feet (gsf) over three floors in a multi-family residential building with three dwelling units (featuring a built Floor Area Ratio [FAR] of 0.93).

Potential Development Site

Lot 8 is the only potential development site within the Affected Area and is not owned by the Applicant. The 12,625-sf corner lot at 808 Metropolitan Avenue is developed with a gas station use, featuring an approximate twenty-foot canopy structure and 30-sf attendant booth (an overall built FAR of 0.01), with multiple gas pumps.

Non-Development Site

A small portion of Lot 17 (a lot not owned by the Applicant) would be subject to a proposed zoning map amendment in order to make that portion of the Lot's zoning consistent with the remainder of the Lot's area. As such, Lot 17 is expected to remain in its existing condition and is considered a Non-Development Site.

## 1.3 DESCRIPTION OF THE SURROUNDING AREA

The Affected Area is located in the East Williamsburg neighborhood of Community District 1 of Brooklyn. East Williamsburg is generally characterized by medium density residential development (most buildings ranging from one-to-four stories) with related commercial retail uses (e.g., local shopping and food

retailers, etc.) and institutional uses (e.g., schools, etc.) in the western half of the neighborhood with two-story warehouse industrial uses predominating the eastern half of the neighborhood. The area within 400 feet of the Affected Area is characterized by primarily one- and two-family and multi-family residential uses interspersed with several commercial uses, two community facility uses to the northwest (i.e., the St. Francis of Paolo Church and School) and light industrial uses to the east (see EAS Figure 3).

Existing zoning within 400 feet of the Affected Area consists of a C8-2 district adjacent to the Affected Area to the west and north, multiple R6B districts, including immediately east (with a C2-4 commercial overlay) and southeast of the Affected Area and at the northwest and southwest extents of the 400-foot vicinity, an R6A district at the northern and northeast extent of the 400-foot vicinity, and two R7A districts in the southern central (with a C2-4 commercial overlay) and western central portions of the 400-foot vicinity (see EAS Figure 2).

The Affected Area was rezoned on July 29, 2009, under the Greenpoint-Williamsburg contextual rezoning that rezoned all or portions of 175 blocks with the goals of preserving neighborhood scale and facilitating affordable housing development (C 090334 ZMK). As part of that action, the overlay along Metropolitan Avenue within the Affected Area was changed from C2-3 to C2-4. As a related action, a text amendment applied the Inclusionary Housing program to the nearby R7A district located just southwest of the Affected Area (N 090333 ZRK). No E-Designations were instituted at any of the lots comprising the Affected Area as part of the Greenpoint-Williamsburg contextual rezoning.

**1.4 THE PROPOSED PROJECT**

Development Site

The Applicant seeks two zoning map amendments and a zoning text amendment at the Affected Area in order to remap the zoning districts at the Development Site from C8-2 and R6B with a C2-4 commercial overlay to the R7A zoning district with a C2-4 commercial overlay, for the purpose of facilitating the development of an eight-story, 34,500-gsf Quality Housing Program mixed-used residential and commercial building, including 27,500 gsf of residential floor area and 7,000 gsf of commercial retail floor area. The residential component would include approximately 36 dwelling units (with an average area of approximately 764 sf each) and would occupy floors two through eight of the proposed building, with 11 of the proposed dwelling units developed as affordable units pursuant to Mandatory Inclusionary Housing (MIH) Option 2 (which requires 30 percent of dwelling units to be affordable). The commercial component would be approximately 7,000 square feet and would occupy the ground floor of the proposed building with a local retail use. The building would reach a maximum height of 85 feet after a required 15-foot setback after a base building height of 65 feet. Further, the building would feature a 35-foot rear yard setback after the first floor, with a permitted rear yard obstruction on the first floor for building mechanical systems. No off-street parking would be provided or required.

Potential Development Site

The Potential Development Site could be redeveloped with a nine-story, 58,075 gsf (4.6 FAR) mixed-use residential and commercial building with 45,450 gsf of residential floor area featuring 66 dwelling units (13 of which would be affordable as, pursuant to CEQR, an assumption that 20 percent of the residential floor area would be reserved as affordable to households with incomes at or below 80 percent of the Area Median Income [AMI]) and 12,625 gsf of ground floor commercial floor. The building height would be 95

feet (105 feet when including a 10-foot bulkhead). Approximately 27 accessory parking spaces would be provided for the residential use in a subsurface parking structure approximately 9,000 sf in size.

**1.5 PROJECT PURPOSE AND NEED**

The proposed zoning map amendments and zoning text amendments would permit the redevelopment of the Development Site in the East Williamsburg neighborhood of Brooklyn on currently underutilized land, and are needed to permit sufficient residential and commercial floor area for the project to be economically feasible. The Applicant seeks to develop the zoning lot with residential housing consistent with the standards of the Quality Housing Program as well as the MIH Program zoning regulations. The development of the Proposed Project in part with affordable units is consistent with the expressed desires of the City's current mayoral administration to substantially increase the amount of affordable housing throughout the City. Further, there is a high demand for affordable housing in this neighborhood of Brooklyn, as well as the entire borough and New York City as a whole.

This area of the East Williamsburg neighborhood is generally residential in character, including single- and multi-family residential buildings, mixed-use residential and commercial buildings with ground floor neighborhood retail uses, and several standalone commercial uses. There are several industrial uses east of the Affected Area as well. The Development Site is located along Metropolitan Avenue, a narrow street 66 feet in width. The site is well served by public transit, with the Graham and Grand Avenue L subway stops approximately 0.2-mile west and south of the site, respectively. Two small open space spaces, Memorial Gore (0.07-acre) and the Orient Grove Community Garden (0.18-acre) are located directly northwest and northeast of the site, respectively, with the larger Cooper Park (6.4 acres) located approximately 0.25-mile to the northeast. Combined, these three open spaces provide various active and passive recreational opportunities to the surrounding neighborhood.

The Proposed Project cannot be developed under the current mix of C8-2 and R6B / C2-4 zoning districts currently found in the Affected Area, as the C8-2 zoning district does not permit residential uses. The applicant believes the proposed R7A zoning district reinforces existing land use and zoning patterns in the surrounding area, including an existing mapped R7A zoning district located directly west and south of the Affected Area. The proposed increase in density would allow residential development on underutilized property in close proximity to public transportation (in addition to the Affected Area being located within a Transit Zone). The proposed rezoning would also allow for the creation of new affordable housing in Brooklyn Community District 1, where 26.7 percent of households are rent burdened (spending 35 percent or more of their income on rent).

**1.6 THE PROPOSED ACTION**

The Applicant is seeking the following actions:

1. A Zoning Map Amendment from an existing C8-2 district and R6B district with a C2-4 commercial overlay to an R7A district with a C2-4 commercial overlay of properties bounded by Metropolitan Avenue to the north, Bushwick Avenue to the west, and residential properties to the south and east in the Greenpoint-Williamsburg neighborhood of Brooklyn, Community District 1. This would involve a rezoning of the Applicant's property, Brooklyn Block 2916, Lots 14 and 16 (the Development Site), and a single non-Applicant property, Brooklyn Block 2916, Lot 8 (the Potential Development Site); and

2. A Zoning Map Amendment from an existing C8-2 to a R6B district with a C2-4 commercial overlay at a small, southwestern portion of Brooklyn Block 2916, Lot 17 in order to make that portion of the lot's zoning consistent with the remainder of the lot's area; and

3. A Zoning Text Amendment to modify ZR §23-933, Appendix F to designate the newly mapped R7A district as a Mandatory Inclusionary Housing (MIH) designated area.

Collectively, these three separate actions are referred to as the "Proposed Action."

**1.7 BUILD YEAR / PROJECT PHASING**

It is assumed that the Proposed Action would be approved in 2020 and that it would take approximately 24 months (i.e., two years) to construct the Proposed Project at the Development Site, resulting in a build year of 2023.

**1.8 ANALYSIS FRAMEWORK**

The No-Action Condition

*Development Site*

Absent the Proposed Action (the No-Action Condition), both lots comprising the Development Site would be expected to remain in their existing conditions (i.e., an undeveloped lot utilized for vehicle storage and a multi-family residential building).

*Potential Development Site*

In the No-Action Condition the Potential Development Site would be anticipated to continue operating as the lawful, conforming gas station use that currently exists at the site.

*Non-Development Site*

Lot 17 is not owned by the Applicant and would remain in its existing condition in the No-Action Scenario.

The With-Action Condition

*Development Sites*

The Proposed Action would permit the development of the Applicant-owned Development Site with a nine-story, 34,500 gsf Quality Housing Program mixed-use residential and commercial building, including 27,500 gsf of residential uses and 7,000 gsf of commercial retail uses (anticipated to be occupied by a local grocery store), featuring 40 residential dwelling units (based on an assumption that each unit would be the minimum required 680 sf), and a building height of 95 feet (including 15-foot setback after a base building height of 75 feet). The top height of the building's bulkhead would be 105 feet. A 30-foot rear yard would be provided and a one-story portion of the building containing mechanical rooms would extend to the rear lot line as a permitted obstruction. Additionally, the building would feature 7,000 sf of commercial retail space on the ground floor. The building would have a FAR of 4.6 based on 34,500 zoning square feet (zsf) on the 7,500-sf lot. For the purposes of a conservative analysis pursuant to CEQR, it is

assumed that 20 percent of the residential floor area would be reserved as affordable to households with incomes at or below 80 percent of the Area Median Income (AMI), resulting in 8 affordable units.

*Potential Development Site*

The Proposed Action would permit the redevelopment of the identified Potential Development Site with nine-story, 58,075 gsf mixed-use residential and commercial building, including 45,450 gsf of residential floor area with 66 dwelling units (13 of which would be affordable as, pursuant to CEQR, an assumption that 20 percent of the residential floor area would be reserved as affordable to households with incomes at or below 80 percent of the AMI) and 12,625 gsf of ground floor commercial floor area. Approximately 27 accessory parking spaces would be provided for the residential use in a subsurface parking structure approximately 9,000 sf in size. The building would have a height of 95 feet and a FAR of 4.6 based on 58,075 zsf on the 12,625-sf development lot. The height to the top of the building's bulkhead would be 105 feet.

*Non-Development Site*

Lot 17 is not owned by the Applicant and would remain in its existing condition in the With-Action Scenario.

## 1.9 INCREMENT BETWEEN NO-ACTION AND WITH-ACTION SCENARIOS

The With-Action Condition would result in a new increase of 32,184 gsf over the No-Action Condition, including increases of 25,184 gsf for residential uses and 7,000 gsf for commercial uses at the Development Site. Detailed incremental increases between the No-Action and With-Action Conditions are provided in the table below.

| | No-Action Condition | With-Action Condition | Increment |
|---|---|---|---|
| **Development Site (Lots 14 and 16)** | | | |
| Residential and Commercial Use GSF | | | |
| *Residential* | 2,316 | 27,500 | +25,184 |
| *Commercial* | 0 | 7,000 | +7,000 |
| *TOTAL:* | 2,316 | 34,500 | +32,184 |
| Residential Dwelling Units | | | |
| *Market Rate Dwelling Units* | 3 | 32 | +29 |
| *Affordable Dwelling Units* | 0 | 8 | +8 |
| *TOTAL:* | 3 | 40 | +37 |
| Floor Area Ratio (Ratio) | 0.31[1] | 4.6 | +3.29 |
| Maximum Building Height (Feet) | 33 | 105 | +72 |
| Accessory Parking (Count) | 0 | 0 | 0 |
| **Potential Development Site 1 (Lot 8)** | | | |
| Residential and Commercial Use GSF | | | |
| *Residential* | 0 | 45,450 | +45,450 |
| *Commercial* | 30 | 12,625 | +12,595 |
| *TOTAL:* | 30 | 58,075 | +58,045 |
| Residential Dwelling Units | | | |
| *Market Rate Dwelling Units* | 0 | 53 | +53 |
| *Affordable Dwelling Units* | 0 | 13 | +13 |
| *TOTAL:* | 0 | 66 | +66 |
| Floor Area Ratio (Ratio) | 0.01 | 4.6 | +4.59 |
| Maximum Building Height (Feet) | 20[2] | 105 | +85 |
| Accessory Parking (Count) | 0 | 27 | +27 |

**Notes:**
[1] – Reflects the existing built FAR at the Development Site for the existing multi-family residential building at Lot 16 (2,316 gsf) and the combined lot area of both Lot 14 and 16 (7,500 sf)
[2] – Assumes an existing maximum building height to the top of the gas station canopy structures

# 2.0 SUPPLEMENTAL ENVIRONMENTAL ANALYSES

Based on the analysis and the screens contained in the Environmental Assessment Statement (EAS) Short Form, the analysis areas that require further explanation include land use, zoning, and public policy, shadows, historic and cultural resources, urban design and visual resources, hazardous materials, transportation, air quality, and noise as further detailed below and listed by section number as follows:

- 2.1 – Land Use
- 2.2 – Shadows
- 2.3 – Historic and Cultural Resources
- 2.4 – Urban Design and Visual Resources
- 2.5 – Hazardous Materials
- 2.6 – Transportation
- 2.7 – Air Quality
- 2.8 – Noise

## 2.1 LAND USE

This section considers the potential for the Proposed Project to result in significant adverse impacts to land use, zoning, and public policy. Under the guidelines of the *2014 City Environmental Quality Review Technical Manual* ("*2014 CEQR Technical Manual*"), this analysis evaluates the uses in the area that may be affected by the Proposed Project and determines whether the Proposed Project is compatible with land use, zoning, and public policy conditions, or may otherwise affect them. The analysis also considers the Proposed Project's compatibility with zoning regulations and other public policies applicable to the area.

### 2.1-1 - Introduction

This analysis of land use, zoning and public policy follows the guidelines set forth in the *2014 CEQR Technical Manual*. It characterizes the existing conditions in the area surrounding the Development Site and addresses potential impacts to land use, zoning, and public policy that would be associated with the Proposed Action.

### 2.1-2 - Methodology

This preliminary analysis of land use, zoning, and public policy follows the guidelines set forth in the *2014 CEQR Technical Manual* for a preliminary assessment (Section 320). According to the *2014 CEQR Technical Manual*, a preliminary land use and zoning assessment includes a basic description of existing and future land uses and zoning information and describes any changes in zoning that could result in changes in land use. It also characterizes the land use development trends in the area surrounding the development site that might be affected by the proposed action and determines whether the Proposed Project is compatible with those trends or may affect them.

For public policy, the *2014 CEQR Technical Manual* stipulates that a preliminary assessment should identify and describe any public policies (formal plans, published reports) that pertain to the study area, and should determine whether the Proposed Project could alter or conflict with identified policies. If so, a detailed assessment should be conducted; otherwise, no further assessment is needed.

The following land use, zoning and public policy assessment follows this guidance and provides a description of existing conditions of the project area and its surroundings. This is followed by an assessment of the No-Action condition and the With-Action condition, and a determination that no further analysis is needed.

According to the *2014 CEQR Technical Manual*, the appropriate study area for a land use, zoning, and public policy analysis is related to the type and size of the project, as well as the location and context of the area that could be affected by the project. To assess the potential for project related impacts, the land use study area has been defined as the area located within a 400-foot radius of the proposed Affected Area. The 400-foot land use study area is generally bounded by the mid-block area between Conselyea Street and Skillman Avenue to the north, the mid-block area between Metropolitan Avenue and Devoe Street to the east, Ainslie Street to the south, and the mid-block area between Humboldt Street and Graham Avenue to the west (see EAS Figure 3). Various sources have been used to prepare a comprehensive analysis of land use, zoning, and public policy characteristics of the area, including field surveys, studies of the neighborhood, census data, and land use and zoning maps.

**2.1-3 - Existing Conditions**

Land Use

Existing land uses are described by development site within the Affected Area (as identified in Section 1.0, "Project Description"), below, as well as within the 400-foot land use study area.

*Affected Area: Development Site*

The Development Site is located 824-832 Metropolitan Avenue, Brooklyn, New York, approximately 7,500 sf in area, comprised of Brooklyn Block 2916, Lots 14 and 16 (see EAS Figure 4). The Development Site is bounded by Metropolitan Avenue to the north, Brooklyn Block 2916, Lot 8 to the west, Brooklyn Block 2916, Lots 4, 69, and 70 to the south, and Brooklyn Block 2916, Lot 17 to the east. The site has 75 feet of frontage along Metropolitan Avenue and a depth of 100 feet. Existing land use conditions at the individual lots comprising the Development Site are described as follows:

- Lot 14: The 5,000-sf undeveloped lot features a built FAR of 0.0 and is utilized for private vehicle storage; and

- Lot 16: The 2,500-sf lot is developed with a 2,316-gsf, three-story, three dwelling unit residential building, featuring a built FAR of 0.93. The building does not contain any affordable dwelling units.

*Affected Area: Potential Development Site*

Within the Affected Area, Lot 8 is considered a potential development site for the purposes of the CEQR analysis contained in this document. The 12,625-sf corner lot at 808 Metropolitan Avenue is developed with a gas station use, featuring an approximate twenty-foot canopy structure and 30-sf attendant booth, with multiple gas pumps. The site is not owned by the Applicant.

*Affected Area: Non-Development Site*

Within the Affected Area, Lot 17 is considered a non-development site for the purposes of the CEQR analysis contained in this document as the Proposed Action only applies to a small southwestern portion of this site (approximately 30 sf) in order to make that portion of this lot's zoning consistent with the rest of the site. The 2,500-sf lot is developed with a three-story, 2,136-gsf two-family residence, featuring a built FAR of 0.85 versus a maximum allowable residential FAR of 2.2.

*400-Foot Land Use Study Area*

The 400-Foot land use study area is characterized by primarily one- and two-family and multi-family residential uses interspersed with several commercial uses, two community facility uses to the northwest (i.e., the St. Francis of Paolo Church and School) and light industrial uses to the east (see EAS Figure 3). Metropolitan Avenue is both a retail corridor and local truck route within the study area. The area is well served by public transit, with the Graham and Grand Avenue L subway stops approximately 0.2-mile west and south of the Affected Area, respectively. Two small open space spaces, Memorial Gore (0.07-acre) and Orient Grove (0.18-acre) are located directly northwest and northeast of the Affected Area, respectively, with the larger Cooper Park (6.4 acres) located approximately 0.25-mile to the northeast, slightly outside of the study area. Combined, these three open spaces provide various active and passive recreational opportunities within the local neighborhood.

Zoning

Existing zoning conditions, including zoning districts, commercial overlays, special zoning districts, and historical zoning actions, at the Affected Area and within the land use study area, are discussed in detail below.

*Affected Area: Development Site*

The Development Site features two separate zoning districts and a commercial overlay. Lot 14 features two mapped zoning districts, including the R6B zoning district with C2-4 commercial overlay at a small, northeastern portion of the lot and the C8-2 zoning district at the remainder of the lot's area (see EAS Figure 2). However, the C8-2 zoning district governs the entire lot as the R6B / C2-4 district is at no point greater than 25 feet in width and therefore does not meet split lot zoning requirements. Lot 16 is split-zoned between the R6B zoning district with C2-4 commercial overlay in its northern half and the C8-2 zoning district in its southern half (see EAS Figure 2).

The R6B district permits residential and community facility uses to a FAR of 2.0 (which can be increased to 2.2 FAR for residential uses if the building participates in the Inclusionary Housing Program) and features Quality Housing Program regulations. Base building heights are required to be between 30 and 45 feet, and the maximum building height is 55 feet after a setback from the street (all of which assumes bonuses acquired from participation in the Inclusionary Housing Program). New multi-family residences in R6B districts must provide one off-street parking space for 50 percent of dwelling units. C2-4 overlays have a maximum commercial FAR of 2.0 when mapped in R6 districts, with commercial uses limited to the first floor when residences are located on upper floors. C2-4 commercial overlays permit a range of local retail and service uses, such as small-scale shops, offices and local repair services. The C2-4 commercial overlay district requires 1 parking spot per 1,000 sf of commercial space.

C8-2 districts allow commercial and community facility uses, including heavy commercial uses such as automobile repair. Residential uses are not permitted. Commercial uses are permitted up to 2.0 FAR and community facility uses are permitted up to 4.8 FAR. There is no height limit in a C8-2 district, with building heights governed by the sky exposure plane.

*Affected Area: Potential Development Site*

The portion of Lot 8 within the Affected Area is mapped completely within the C8-2 district (see EAS Figure 2), which governs the entirety of the lot's area. The small southern portion of the lot not included in the Affected Area is mapped as an R7A zoning district with a C2-4 commercial overlay (see EAS Figure 2); however, that district is 25 feet or less at any given point and thus does not meet the thresholds of split lot zoning.

*Affected Area: Non-Development Site*

The portion of Lot 17 within the Affected Area is mapped as the C8-2 zoning district, with the remainder of the lot (not situated within the Affected Area) is mapped as the R6B zoning district with a C2-4 commercial overlay (see EAS Figure 2). That zoning district governs the entirety of the site, as the C8-2 zoning district found at the site is equal to or less than 25 feet in width at any given point and therefore does not qualify as split lot zoning.

The Affected Area was rezoned on July 29, 2009, under the Greenpoint-Williamsburg contextual rezoning that rezoned all or portions of 175 blocks with the goals of preserving neighborhood scale and facilitating affordable housing development (C 090334 ZMK). As part of that action, the overlay along Metropolitan Avenue within the Affected Area was changed from C2-3 to C2-4. As a related action, a text amendment applied the Inclusionary Housing program to the nearby R7A district located just southwest of the Affected Area (N 090333 ZRK). No E-Designations were instituted at any of the lots comprising the Affected Area as part of the Greenpoint-Williamsburg contextual rezoning.

*400-Foot Land Use Study Area*

Existing zoning within 400 feet of the Affected Area consists of a C8-2 district adjacent to the Affected Area to the west and north, multiple R6B districts, including immediately west (with a C2-4 commercial overlay) and southeast of the Affected Area and at the northwest and southwest extents of the 400-foot vicinity, an R6A district at the northeast extent of the 400-foot vicinity, and two R7A districts in the southern central (with a C2-4 commercial overlay) and western central portions of the 400-foot vicinity (see EAS Figure 2).

The R6A zoning district permits residential and community facility uses up to FARs of 3.0, which can be increased to 3.6 FAR for residential uses if the proposed building participates in the Inclusionary Housing Program. Further, residential buildings in the R6A district are also subject to mandatory Quality Housing Program regulations. Assuming participation in the Inclusionary Housing Program requirements, base heights for residential buildings in the R6A zoning district are required to be between 40 and 65 feet, and the maximum building height is 85 feet (up to 8 stories) after a 10- or 15-foot setback from the street (for wide and narrow streets, respectively). Provision of one parking spot for 50 percent of dwelling units is required, with 15 percent dedicated for income restricted housing units (which is waived in Transit Zones).

The R7A zoning district permits residential and community facility uses to a FAR of 4.0, which can be increased to 4.6 FAR for residential uses if the proposed building participates in the Inclusionary Housing Program. Base heights are required to be between 40 and 75 feet, and the maximum building height is 85 feet after a 10- or 15-foot setback from the street, with a maximum building height of 95 feet allowed for inclusionary housing buildings. Special height regulations limit buildings located within 25 feet of an R6B district to a height of 65 feet. The R7A district requires one off-street parking spot for 50 percent of residential dwelling units (with a waiver for those development sites with an area of 10,000 sf or less).

Public Policies

*Affected Area*

The entirety of the Affected Area is situated within both an NYC Transit Zone and the NYC Food Retail Expansion to Support Health (FRESH) Zone for discretionary tax incentives. No parking is required for new income restricted housing units developed in zoning district within Transit Zones in which Use Group 2 residences are permitted without restriction. NYC FRESH Zones offer zoning and / or financial incentives to encourage the development and retention of grocery stores providing fresh food options in communities in need of such food infrastructure.

*400-Foot Land Use Study Area*

The entirety of the land use study area is situated within an NYC Transit Zone while the NYC FRESH Zone for discretionary tax incentives is found throughout the study area with the exception of its western and northwestern portions. Additionally, Inclusionary Housing Designated Areas (IHDAs) are mapped along Metropolitan Avenue and Bushwick Avenue in the western and southern portions of the land use study area, respectively. IHDAs are areas where zoning incentives (e.g., increased permitted residential development density, etc.) are offered to encourage the development of permanently affordable housing.

**2.1-4 - No-Action Condition**

As described in Section 1.0 "Project Description," absent the Proposed Action (i.e., the No-Action Condition), it is expected that the Affected Area, including the Development Site, would remain in its existing conditions.

Land Use

*Affected Area: Development Site*

No redevelopment is anticipated at the Development Site under the No-Action Scenario as Lot 16 is a relatively small lot (2,500 sf) that is split-zoned with the R6B and C8-2 zoning districts, making redevelopment pursuant to either or both of those zoning districts highly unlikely. While undeveloped, Lot 14 is zoned C8-2 which is a zoning district intended to bridge commercial and manufacturing uses and provide for automotive and other heaving commercial services that often require large amounts of land. Further, Lot 14 is relatively small (5,000 sf) and the surrounding area is generally characterized by residential uses with complementary commercial and retail uses. Further, development trends in the area are characterized by residential uses (evidenced by the redevelopment of 850 Metropolitan Avenue directly east of the Affected Area from a vacant light industrial to a multi-family residential use).

As such, the intended purpose of the district is outdated within the context of development in the surrounding area and redevelopment pursuant to existing zoning is unlikely.

*Affected Area: Potential Development Site*

While the Potential Development Site is underbuilt with regard to permitted maximum FAR (a built FAR of 0.01 versus a maximum allowable commercial FAR of 2.0), the existing gas station is a legal and conforming commercial use under C8-2 zoning. Therefore, under the No-Action Condition, it is anticipated the existing gas station use would continue to operate at the site.

*Affected Area: Non-Development Site*

Absent the Proposed Action, Lot 17 is anticipated to continue operating as a legal, conforming multi-family residence.

*400-Foot Land Use Study Area*

Several development projects were identified within the land use study area for the Proposed Project that would be completed by the projected 2022 build year, as identified and described below. Development data stated below was obtained from the NYC Department of Buildings (DOB) Building information Search (BIS), via the NYC Active Major Construction website (https://www1.nyc.gov/assets/buildings/html/nyc-active-major-construction.html, accessed September 16, 2019).

- *850 Metropolitan Avenue (Brooklyn Block 2916, Lot 18)*: a four-story, 32-unit multi-family residential condo building located just east of the Affected Area along Metropolitan Avenue. This project renovated and converted existing industrial building for residential uses, with Pursuant to information provided by the developer's website (https://milkfactorybk.com/building/, accessed September 16, 2019), occupation of this development is projected to begin in the Fall of 2019.

- *870 Metropolitan Avenue (Brooklyn Block2916, Lot 29):* a five-story, 22-unit multi-family residential building located east of the Affected Area near along Metropolitan Avenue at the eastern edge of the study area. Based on site observations undertaken in September 2019, this site is currently under construction and is expected to be completed by the 2022 build year for the Proposed Project.

- *378 Humboldt Street (Brooklyn Block 2892, Lot 1):* A two-story commercial building located at the northwest corner of the intersection of Maspeth Avenue and Humboldt Street, northwest of the Affected Area. Based on signage posted on the outside of the construction site (observed on September 13, 2019), this development has an anticipated completion date of October 2019.

Additionally, there is a Metropolitan Transportation Authority (MTA) substation and breaker house replacement and rehabilitation project located at the southeast corner of the intersection of Humboldt Street and Maspeth Avenue that is expected to be completed by December 2020.

Zoning

Under the No-Action condition, there are no known zoning changes that are anticipated at the Affected Area or within the land use study area. The No-Action condition would conform to the existing zoning in full. The Affected Area and land use study area would continue to be governed by their current existing zoning regulations as described above.

**Public Policy**

Under the No-Action condition, there are no known public policy changes that are anticipated to affect the Affected Area or land use study area. New development within at Affected Area and study area would be subject to those public policies identified above, including NYC FRESH Zones, Transit Zones, and IDHAs, as applicable.

**2.1-5 - With-Action Condition**

The With-Action Scenario includes two Zoning Map Amendments to rezone all or portions of Brooklyn Block 2916 Lots 8, 14, and 16 from C8-2 and R6B / C2-4 to R7A / C2-4 and a small southwestern portion of Brooklyn Block 2916 Lot 17 from C8-2 to R6B / C2-4. The proposed rezoning would permit the development of the Applicant-owned Development Site with a nine-story, 34,500 gsf Quality Housing Program mixed-use residential and commercial building, including 27,500 gsf of residential uses and 7,000 gsf of commercial retail uses (anticipated to be occupied by a local grocery store), featuring 40 residential dwelling units (based on an assumption that each unit would be the minimum required 680 sf), and a building height of 95 feet (including 15-foot setback after a base building height of 75 feet). The top height of the building's bulkhead would be 105 feet. A 30-foot rear yard would be provided and a one-story portion of the building containing mechanical rooms would extend to the rear lot line as a permitted obstruction. Additionally, the building would feature 7,000 sf of commercial retail space on the ground floor. The building would have a FAR of 4.6 based on 34,500 zsf on the 7,500-sf lot. For the purposes of a conservative analysis pursuant to CEQR, this RWCDS assumes that 20 percent of the residential floor area would be reserved as affordable to households with incomes at or below 80 percent of the AMI resulting in 8 affordable units. No off-street accessory parking would be required or provided.

Although no development is proposed on Brooklyn Block 2916, Lots 8 and 17 within the Affected Area, the following Potential Development Site is projected: a nine-story, 58,075 gsf mixed-use residential and commercial building with 45,450 gsf of residential floor area for 66 dwelling units (13 of which would be affordable as, pursuant to CEQR, an assumption that 20 percent of the residential floor area would be reserved as affordable to households with incomes at or below 80 percent of the AMI) and 12,625 gsf of ground floor commercial floor area could be developed on the approximate 12,625 sf development lot as a Potential Development Site. Approximately 27 accessory parking spaces would be provided for the residential use in a subsurface parking structure approximately 9,000 sf in size. The building would have a height of 95 feet and a FAR of 4.6 based on 58,075 zsf on the 12,625-sf development lot. The height to the top of the building's bulkhead would be 105 feet.

The Proposed Action would rezone a small southwestern portion of Lot 17 (30-sf) from C8-2 to R6B / C2-4 in order to make that portion of Lot 17's zoning consistent with the remainder of the Lot's zoning. The Proposed Action is therefore not expected to catalyze any redevelopment at Lot 17 as either a Projected or Potential Development Site.

Land Use

*Affected Area: Development Site*

Under the With-Action Condition, land uses at the development site would change from their existing / No-Action condition uses of undeveloped / private vehicle storage and a multi-family residential building to a mixed-use multi-family residential building with groundfloor commercial. This would represent an increase in residential density at the development site in terms of both area and population (from 2,316 gsf and three dwelling units in the No-Action Condition to 27,500 gsf and 40 dwelling units in the With-Action Condition) and an increase of 7,000 gsf of groundfloor commercial space. An increase of 8 affordable housing units would be realized (versus 0 in the No-Action Condition) and no off-street parking areas would be required or provided at the Development Site. The proposed land use at the Development Site would be consistent with existing land use character and trends of the surrounding area. As illustrated in EAS Figure 1 and discussed previously in this section, the surrounding neighborhood is residential in nature with numerous multi-family and mixed-use residential and commercial land uses. Further, the development is consistent with identified No-Action projects within the 400-Foot Land Use Study Area discussed above, which features multiple multi-family residential developments.

*Affected Area: Potential Development Site*

Under the Proposed Action, land use at the Potential Development Site could change from commercial gas station land use to a mixed-use multi-family residential with groundfloor commercial land use. This would introduce residential land uses at the site (resulting in increases of 45,450-gsf of residential floor area and 66 residential dwelling units) as well as 12,625 gsf of groundfloor commercial retail uses (representing an increase of 12,595-gsf over the No-Action condition at the site). Further, an increase of 13 affordable housing units would be realized. 27 off-street parking spaces would be provided in subsurface parking structure beneath this development site.

The proposed change in land use at the Development Site would be consistent with existing land use character and trends of the surrounding area. As illustrated in EAS Figure 1 and discussed previously in this section, the surrounding neighborhood is residential in nature with numerous multi-family and mixed-use residential and commercial land uses. Further, the development is consistent with identified No-Action projects within the 400-Foot Land Use Study Area discussed above, which features multiple multi-family residential developments.

*Affected Area: Non-Development Site*

Under the Proposed Action, land uses at this site would remain in their current condition (i.e., a multi-family residential building).

*400-Foot Land Use Study Area*

As previously discussed, the study area is characterized predominantly by residential uses interspersed with several commercial and community facility uses. Based on these observed conditions, the projected With-Action development at the Development Site and Potential Development Site would be consistent with the surrounding land uses and with recent development trends within the study area.

*With-Action Land Use Conclusions*

The Proposed Action would facilitate the redevelopment of the Applicant's Development Site, which is currently characterized as underutilized land, with a mixed-use residential and commercial development that is consistent with development trends. The development is consistent with the City's policies to encourage the development of new housing, especially affordable housing, in underutilized areas of the City. The Proposed Action would permit the redevelopment of the identified Potential Development Site in a similar manner.

Based on the above analyses, it has been determined that no potentially significant adverse impacts related to land use are expected to occur as a result of the Proposed Action. Therefore, further analysis of land use is not warranted.

Zoning

*Affected Area: All Development Sites*

The Proposed Action consists of several zoning actions at the Affected Area, including:

1. A Zoning Map Amendment from an existing C8-2 district and R6B district with a C2-4 commercial overlay to an R7A district with a C2-4 commercial overlay of properties bounded by Metropolitan Avenue to the north, Bushwick Avenue to the west, and residential properties to the south and east in the Greenpoint-Williamsburg neighborhood of Brooklyn, Community District 1. This would involve a rezoning of the Applicant's property, Brooklyn Block 2916, Lots 14 and 16 (the Development Site), and a single non-Applicant property, Brooklyn Block 2916, Lot 8 (the Potential Development Site); and

2. A Zoning Map Amendment from an existing C8-2 to a R6B district with a C2-4 commercial overlay at a small, southwestern portion of Brooklyn Block 2916, Lot 17 in order to make that portion of the lot's zoning consistent with the remainder of the lot's area; and

3. A Zoning Text Amendment to modify ZR §23-933, Appendix F to designate the newly mapped R7A district as a Mandatory Inclusionary Housing (MIH) designated area.

The proposed R7A zoning district with C2-4 commercial overlay is proposed for the Affected Area in order to develop residential uses which are currently not allowed under the current mix of C8-2 and R6B / C2-4 zoning districts currently found in the Affected Area, as the C8-2 zoning district does not permit residential uses. The proposed R7A rezoning would reinforce existing land use and zoning patterns in the surrounding area, including an existing mapped R7A zoning district located directly west and south of the Affected Area. The proposed increase in density would allow residential development on underutilized property in close proximity to public transportation, which aligns with the City's policy of promoting increased development in close proximity to transit stops.

The proposed Zoning Text Amendment to modify ZR Section 23-933, Appendix F is necessary in order to map the Affected Area as an MIH area. For the purposes of a conservative analysis pursuant the *2014 CEQR Technical Manual*, the With-Action Scenario for the Development Site assumes that 20 percent of the residential floor area would be reserved as affordable to households with incomes at or below 80 percent of the AMI, resulting in the development of 8 affordable units. Similarly, the With-Action

Scenario for the Potential Development Site yields 13 affordable units based on the same assumptions. With regard to the Non-Development Site, the Proposed Action would rezone a small portion of that site in order to make the site's entire zoning uniform (i.e., a R6B zoning district with C2-4 commercial overlay).

Table 2.1-1 below summarizes the major provisions of the No-Action and With-Action zoning districts as applicable to the Development Site and Potential Development Site.

**Table 2.1-1 – No-Action and With-Action Zoning Districts, Selected Provisions**

| | **Development Site** | | **Potential Development Site** | |
|---|---|---|---|---|
| | *Existing* | *Proposed* | *Existing* | *Proposed* |
| Zoning District | C8-2;<br>R6B w/ C2-4 overlay | R7A w/ C2-4 overlay | C8-2 | R7A w/ C2-4 overlay |
| Maximum FAR | C8-2 – 2.0 Com / 4.8 CF;<br>R6B – 2.2 Res / 2.0 CF | Res – 4.6;<br>Com – 2.0;<br>CF – 4.0 | Com – 2.0;<br>CF – 4.8 | Res – 4.6;<br>Com – 2.0;<br>CF – 4.0 |
| Maximum Development Potential (GSF) | Res – 3,300 GSF;<br>Com – 12,000 GSF;<br>CF – 31,800 GSF | Res – 34,500 GSF;<br>Com – 15,000 GSF;<br>CF – 30,000 GSF | Com – 25,250 GSF;<br>CF – 60,600 GSF; | Res – 58,075 GSF;<br>Com – 25,250 GSF;<br>CF – 50,500 GSF |
| Maximum Building Height | C8-2 – Sky Exposure Plane;<br>R6B – 55 feet | 95 feet | Sky Exposure Plane | 95 feet |
| Use Groups | C8-2 – 4-14, 16;<br>R6B – 1-4 | 1-9, 14 | 4-14, 16 | 1-9, 14 |

**Notes:** Res – Residential; Com - Commercial; CF – Community Facility

*400-Foot Land Use Study Area*

The Proposed Action would not result in any changes in zoning in the 400-foot radius project study area.

*With-Action Zoning Conclusions*

The proposed Zoning Map and Zoning Text Amendments would only apply to the Affected Area and would not affect lots beyond this area. The Applicant believes that the Proposed Action would not result in any significant impacts to zoning patterns in the area since the mapping of the proposed R7A with C2-4 commercial overlay zoning district in the Affected Area would result in development that would be compatible with the existing mixed neighborhood context while also providing enough floor area to develop affordable dwelling units on the Applicant-owned and non-Applicant-owned Sites. The Applicant believes the change in zoning would be appropriate for this area as there are multiple R7A zoning districts within the immediate vicinity of the Affected Area. The current C8-2 zoning district within the Affected Area is obsolete given residential development trends for the study area and the greater Williamsburg-Greenpoint area.

Based on the above analysis, it has been determined that no potentially significant adverse impacts related to zoning are expected to occur as a result of the Proposed Action. Therefore, further analysis of zoning is not warranted.

Public Policy

*Affected Area: Development Site and Potential Development Site*

Mayor Bill de Blasio has implemented a plan entitled "Housing New York: A Five Borough Ten Year Plan." In July 2018 as part of the Housing New York 2.0 Plan, the Mayor has made affordable housing a top priority of his administration and has committed the City to build or preserve nearly 300,000 affordable units by the year 2026, and help both tenants and small landlords preserve the quality and affordability of their homes.

As part of the Mayor's Housing New York plan, the City Council has approved a citywide zoning text amendment to authorize a Mandatory Inclusionary Housing (MIH) program (ULURP # 160051ZRY). The purpose of the MIH program is to promote neighborhood economic diversity in locations where land use actions create substantial new housing opportunities. The text amendment will have no effect until mapped through subsequent discretionary actions of the CPC, each of which will be subject to a public review process and separate environmental review. As with zoning actions generally, MIH Areas may be applied through DCP-initiated actions or as part of private applications, including certain zoning map amendments, text amendments, and Special Permits that create opportunities for significant new housing development. The MIH program requires (through zoning) that when CPC actions create significant new housing capacity in medium and high-density areas, either 25 or 30 percent of new housing would be permanently affordable. Under the proposal, the CPC and ultimately the City Council would apply at least one of these requirements to each MIH area:

- 25 percent of residential floor area must be for affordable housing units for residents with incomes averaging 60 percent Area Median Income (AMI) ($46,620 for a family of three) with at least 10% of the residential floor area affordable at or below 40% AMI; or

- 30 percent of residential floor area must be for affordable housing units for residents with incomes averaging 80 percent AMI ($62,150 for a family of three).

In addition to the options above, the City Council and the CPC could decide to apply one or both of the following options:

- A deep affordability option, where:

    - 20 percent of the total residential floor area must be for housing units for residents with incomes averaging 40 percent AMI ($31,080 per year for a family of three);

    - No direct subsidies could be used for these units except where needed to support more affordable housing; or

- An additional, workforce option for markets where moderate-income development is marginally feasible without subsidy. Under this option:
    - 30 percent of the residential floor area must be for housing units for residents with incomes averaging 115 percent AMI ($104,895/year for a family of three);

- No units could go to residents with incomes above 130 percent AMI ($101,010/year for a family of three);

- No direct subsidies could be used for these affordable housing units; and

- This option would not be available in Manhattan Community Districts 1 through 8, which extend south of 96th Street on the east side and south of 110th Street on the west side.

Requirements would apply to developments, enlargements and residential conversions of more than ten units. Developments between 11 and 25 units would have the optional alternative of making a payment into an affordable housing fund, to be used to support affordable housing within that Community District. As indicated, the Proposed Action include a Zoning Text Amendment to modify ZR Section 23-933, Appendix F to designate the newly mapped R7A district as an Inclusionary Housing designated area. For the purposes of a conservative analysis, the EAS assumes that 20 percent of the residential floor area would be reserved as affordable to households with incomes at or below 80 percent of the AMI resulting in 8 affordable units.

The With-Action Scenario analyzes a residential building with affordable housing on the Potential Development Site not owned by the Applicant, where future residential development would be feasible. For the purposes of a conservative analysis, the EAS assumes that 20 percent of the residential floor area would be reserved as affordable to households with incomes at or below 80 percent of the AMI resulting in 13 affordable units.

Dependent upon the configuration of the projected local grocery store use in the groundfloor use of the Development Site, NYC FRESH program incentives could be available. Groundfloor commercial uses at the Potential Development Site could receive the same benefits if a grocery store is proposed.

As both the Development Site and Potential Development Site are situated within a Transit Zone, parking requirements for income restricted housing units would be waived.

*400-Foot Land Use Study Area*

The Proposed Project would not have impact on any identified public policies within the 400-foot study area, including the NYC FRESH Program, Transit Zones, or IHDAs.

*With Action Public Policy Conclusions*

No impact to public policies would occur as a result of the Proposed Action. The Applicant believes that the Proposed Action would be an appropriate development in the Affected Area and would be a positive contribution to Brooklyn Community District 1 and to the surrounding neighborhood. The Proposed Project would meet the City's public policy goals related to MIH and Housing New York as explained above as well as similar State and national public policy goals related to the provision of affordable housing.

Based on the above analyses, it has been determined that no potentially significant adverse impacts related to public policy are expected to occur as a result of the Proposed Action. Therefore, further analysis of public policy is not warranted.

## 2.2 SHADOWS

A shadow is defined in the *2014 CEQR Technical Manual* as the condition that results when a building or other built structure blocks the sunlight that would otherwise directly reach a certain area, space, or feature. The purpose of this chapter is to assess whether new structures may cast shadows on sunlight sensitive publicly accessible resources or other resources of concern such as natural resources, and to assess the significance of their impact.

### 2.2-1 - Introduction

According to the *2014 CEQR Technical Manual*, a shadows assessment is required for projects that would result in new structures greater than 50 feet in height or located adjacent to, or across the street from, a sunlight-sensitive resource. Such resources include publicly-accessible open spaces, important sunlight-sensitive natural features, or historic resources with sun-sensitive features. A significant adverse shadow impact occurs when the incremental shadow added by 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 threatening the viability of vegetation or other resources.

As described in Section 1.0, "Project Description," the proposed action would result in two development sites. It is noted that this shadows analysis considered the With-Action RWCDS parameters for both development sites (as described below) in order to assess the maximum potential shadows impacts that could occur as a result of the proposed action.

- *Development Site:* construction of a nine-story, 105-foot (including a 95-foot building height with 10-foot bulkhead) mixed-use residential and commercial building, representing a 72-foot incremental height increase over the No-Action Condition.

- *Potential Development Site:* construction of a nine-story, 105-foot (including a 95-foot building height with 10-foot bulkhead) mixed-use residential and commercial building, representing a 75-foot incremental height increase over the No-Action Condition.

Based on the identified incremental height increases above, further assessment is warranted for both development sites.

### 2.2-2 - Methodology

In accordance with the *2014 CEQR Technical Manual*, a preliminary screening assessment is conducted to ascertain whether shadows resulting from a project could reach any sunlight-sensitive resource at any time of year. This preliminary screening assessment consists of three tiers of analysis:

- *Tier 1 Screening:* The first tier determines a radius around the proposed buildings representing the longest shadow that could be cast. The radius is calculated based on a factor of 4.3 times the proposed maximum building height. If there are sunlight-sensitive resources within the radius, the analysis proceeds to the second tier;

- *Tier 2 Screening:* The second-tier analysis 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. According to the *2014 CEQR*

*Technical Manual*, shadows cannot be cast within New York City within 108 degrees from True North;

- *Tier 3 Screening:* 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. For the Tier 3 screening, three-dimensional modeling software with the capacity to model shadows is used, and the maximum building envelope that could be achieved as a result of the proposed project is modeled and geo-located within the program. Terrain provided by the modeling software is also incorporated into the model to account for how changes in elevation throughout the study area can influence shadows that could be cast by the proposed project. The representative days are December 21 (winter solstice), June 21 (summer solstice), March 21 / September 21 (vernal/autumnal equinox), and May 6 / August 6 (halfway between summer solstice and the equinoxes). The modeling software is also used to approximate times that shadows cast from the proposed project could enter and exit a resource.

If the Tier 3 screening indicates that, in the absence of intervening buildings, shadows from the proposed project would reach a sunlight sensitive resource on any of the representative analysis days, a detailed shadow analysis could be warranted. Because existing buildings may already cast shadows on a sun-sensitive resource (or a future building could be expected to cast shadows), the proposed project may not result in new incremental shadows upon that resource. The detailed shadow analysis models a baseline condition (the No-Action Condition) that is compared to the future condition resulting from the proposed project (the With-Action Condition) to illustrate the shadows cast by existing or future buildings and distinguish the new incremental shadow cast by the project. Like in the Tier 3 analysis, the detailed analysis considers the maximum building envelope that could be achieved as a result of the proposed project.

**2.2-3 – Preliminary Shadows Screening Assessment**

Tiers 1 and 2 Screening Assessment

Figure 2.2-1 (appended to the end of this Section), illustrates the combined maximum shadow screening radius for both development sites. This combined maximum shadow screening radius is based on a maximum structure height of 105 feet for both sites (including 95-foot building heights with additional 10-foot bulkheads), resulting in individual maximum shadow screening radii of 451.5 feet (i.e., 105 feet multiplied by a factor of 4.3).

As shown in Figure 2.2-1, there are five sunlight-sensitive resources within the combined maximum shadow screening radius for the proposed project, including two open space resources and three separate Greenstreets facilities, as described below.

1. *Greenstreets, Humboldt Street (O1):* An approximate 0.01-acre Greenstreets facility owned and operated by the New York City (NYC) Department of Parks and Recreation (DPR), featuring basic landscaping for stormwater retention and infiltration. It is noted that this Greenstreet facility has been temporarily removed as part of an ongoing substation replacement and breaker house rehabilitation project in the area. It is expected the Greenstreet will be replaced in kind when the

this project ends (projected in the last quarter of 2020, before the project build year); therefore, this shadows analysis includes this resource.

2. *Memorial Gore (O2):* A 0.07-acre memorial triangle / plaza owned and operated by the New York City (NYC) Department of Parks and Recreation (DPR), featuring World War I memorial with associated landscaping.

3. *Greenstreets, Bushwick Avenue (O3):* An approximate 0.01-acre Greenstreets facility owned and operated by the NYC DPR, featuring basic landscaping for stormwater retention and infiltration.

4. *Greenstreets, Orient Avenue (O4):* An approximate 0.01-acre Greenstreets facility owned and operated by the NYC DPR, featuring basic landscaping for stormwater retention and infiltration.

5. *Orient Grove Community Garden (O5):* A 0.15-acre triangle / plaza utilized as a community garden, owned and operated by the NYC DPR under the GrowNYC program.

As indicated above, all these open space resources are considered sunlight sensitive. Further, none of these resources, either partially or wholly, fall within that area that cannot be shaded by the proposed project (i.e., within 108 degrees of True North). Therefore, based on the foregoing, the Tiers 1 and 2 shadows screenings could not rule out the potential for significant adverse shadow impacts to all five open space resources, all of which therefore warranted a Tier 3 analysis.

Tier 3 Screening Assessment

In accordance with the *2014 CEQR Technical Manual*, a Tier 3 screening assessment was performed because the Tier 1 and Tier 2 assessments identified multiple sunlight-sensitive resources within ±108 degrees of True North and within the area of the longest shadow that could be cast by all of the HPD development sites and their associated projected and potential development sites. The Tier 3 screening assessment was performed for the four representative days of the year set forth in the CEQR Technical Manual: December 21, the winter solstice and shortest day of the year; March 21 / September 21, the equinoxes; May 6 / August 6, the midpoints between the summer solstice and the equinoxes; and June 21, the summer solstice and the longest day of the year.

In accordance with the *2014 CEQR Technical Manual*, models of development site buildings representing the With-Action RWCDS maximum were developed in SketchUp three-dimensional modeling software. The models were geo-located and the surrounding terrain was imported into the models to account for differences in topography. As noted above, the Tier 3 shadow screening shows the shadows that could be cast as a result of the proposed projects but does not account for existing buildings which may already cast shadows on the identified open space resource. The Tier 3 analysis also does not account for shadow that would be expected in the No-Action condition from these development sites. Figures 2.2-2a to 2.2-2d (appended to the end of this section) illustrate the results of the Tier 3 analysis for both development sites.

Table 2.2-1 below identifies that Tier 3 shadow durations on all of the sunlight sensitive resources carried forward from the Tier 2 analysis as discussed above.

**Table 2.2-1 – Tier 3 Shadow Durations by Sunlight Sensitive Resource**

| | December 21 | | March 21 / September 21 | | May 6 / August 6 | | June 21 | |
|---|---|---|---|---|---|---|---|---|
| **Sunlight Sensitive Resource** | *Time Duration* | *Time Elapsed* | *Time Duration* | *Time Elapsed* | *Time Duration* | *Time Elapsed* | *Time Duration* | *Time Elapsed* |
| Greenstreets, Humboldt Street (O1) | None | N/A | 7:36 AM – 7:48 AM | 12 minutes | None | N/A | None | N/A |
| Memorial Gore (O2) | 8:51 AM – 9:29 AM | 38 minutes | 7:36 AM – 9:01 AM | 1 hour, 25 minutes | None | N/A | None | N/A |
| Greenstreets, Bushwick Avenue (O3) | 8:51 AM – 10:07 AM | 1 hour, 16 minutes | None | N/A | None | N/A | None | N/A |
| Greenstreets, Orient Avenue (O4) | 1:45 PM – 2:53 PM | 1 hour, 8 minutes | 1:58 PM – 4:29 PM | 2 hours, 21 minutes | None | N/A | None | N/A |
| Orient Grove (O5) | 2:47 PM – 2:53 PM | 6 minutes | 2:49 PM – 4:29 PM | 1 hour, 40 minutes | None | N/A | None | N/A |

A discussion of the findings of the Tier 3 screening analysis on a resource-by-resource basis is provided below.

*Greenstreets, Humboldt Street (O1)*

As illustrated in Figure 2.2-2b and indicated in Table 2.2-1, shadows from the Proposed Project on the March 21 / September 21 analysis day would fall on the southern half of this resource for a duration of 12 minutes, from 7:36 AM to 7:48 AM. Given this short duration, projected Tier 3 shadows are not expected to jeopardize the viability of its vegetation or the public's use and enjoyment of this resource as an urban landscaping aesthetic. Further, these shadows would not compromise the primary function of the Greenstreet as an area for stormwater infiltration and retention. As such, no significant adverse shadow impacts are anticipated and no further analysis is necessary.

As illustrated in Figures 2.2-2a, 2.2-2c, and 2.2-2d and indicated in Table 2.2-1, no Tier 3 shadows are expected to fall on this resource during the December 21, May 6 / August 6, or June 21 analysis periods. As such, no further analysis is necessary.

*Memorial Gore (O2)*

During the December 21 analysis day projected Tier 3 shadows from the Proposed Project would fall on an eastern portion of this resource from resource from 8:51 AM to 9:29 AM (a 38-minute duration). However, these shadows are projected during the winter season, when vegetation would be dead or dormant and visitation, if any, would be at its lowest. Coupled with a relatively short duration, these projected Tier 3 shadows are not expected to jeopardize the viability of vegetation at or the public's use and enjoyment of this resource. As such, significant adverse shadow impacts are not anticipated and no further analysis is necessary.

Tier 3 shadows are projected to fall on this resource on the March 21 / September 21 analysis day from 7:36 AM to 9:01 AM for a total duration of 1 hour, 25 minutes (see Table 2.2-1, above). However, these shadows would only fall on a miniscule southern portion of this resource at any given time (see Figure 2.2-2b), such that a narrow, rectangular area no larger than 200 square feet (less than seven percent of the total area of this resource) would be covered by projected shadowing at any one time. Thus, these shadows are not anticipated to jeopardize the viability of vegetation at or the public's use and enjoyment of this resource. As such, no significant adverse shadow impacts are anticipated and no further analysis is warranted.

As illustrated on Figures 2.2-2c and 2.2-2d and indicated in Table 2.2-1, projected Tier 3 shadows from the Proposed Project would not fall on this resource during either the May 6 / August 6 or June 21 analysis days. As such, no further analysis is necessary.

*Greenstreets, Bushwick Avenue (O3)*

During the December 21 analysis period projected Tier 3 shadows would fall on this resource from 8:51 AM to 10:07 AM for a duration of 1 hour, 16 minutes, covering large portions to the entirety of this resource over this time (see Table 2.2-1 above and Figure 2.2-2b). Based on the duration and coverage, a detailed analysis is warranted for this analysis day.

As indicated in Table 2.2-1 above and Figures 2.2-2b through 2.2-2d, no Tier 3 shadows would fall on this resource on the March 21 / September 21, May 6 / August 6, or June 21 analysis days. As such, no further analysis is necessary.

*Greenstreets, Orient Avenue (O4)*

As indicated in Table 2.2-1 above and illustrated in Figure 2.2-2a, projected Tier 3 shadows fall on this resource from 1:45 PM to 2:53 PM (a 1-hour, 8-minute duration) during the December 21 analysis day. Further, during the March 21 / September 21 analysis period projected Tier 3 shadows would fall on the southern half of this resource from 1:58 PM to 4:29 PM for a 2-hour, 21-minute duration (see Figure 2.2-2b and Table 2.2-1, above). Given this projected length of duration and extent of coverage during these analysis days, further analysis is warranted.

As indicated in Table 2.2-1 and illustrated in Figures 2.2-2c and 2.2-2d, no Tier 3 shadows are projected to fall on this resource during either the May 6 / August 6 or June 21 analysis periods. As such, no further analysis is necessary.

*Orient Grove Community Garden (O5)*

Tier 3 shadows are projected to fall on this resource for a duration of 1 hour, 40 minutes (from 2:49 PM to 4:29 PM – see Table 2.2-1, above) along the southern boundary of this resource during the March 21 / September 21 analysis day (see Figure 2.2-2b). Based on the length of duration and extent of coverage, further analysis is warranted.

During the December 21 analysis day projected Tier 3 shadows would fall on a miniscule western portion of this resource (which features garden planting) for a duration of 6 minutes, from 2:47 PM to 2:53 PM (see Figure 2.2-2a and Table 2.2-1). As these shadows would fall during the winter months outside of the growing season (between March and October, per the *2014 CEQR Technical Manual*) they would not jeopardize the viability of vegetation in this area. Further, based on the combination of their short duration (less than 10 minutes) and extremely small shadow coverage, these shadows would not compromise the public's use and enjoyment of the resource. As such, no significant adverse shadow impacts are anticipated an no further analysis is necessary.

As indicated in Table 2.2-1 and illustrated in Figures 2.2-2c and 2.2-2d, no Tier 3 shadows are projected to fall on this resource during either the May 6 / August 6 or June 21 analysis periods. As such, no further analysis is necessary.

Based on the foregoing, the following resources of concern were identified with corresponding analysis days:

- Greenstreets, Bushwick Avenue (O3): December 21
- Greenstreets, Orient Avenue (O4): December 21 and March 21 / September 21; and
- Orient Grove (O5): March 21 / September 21

A detailed shadows analysis for these resources of concern is provided below.

**2.2-4 – Detailed Shadows Screening Assessment**

For the detailed analysis, the 3d model used in the Tier 3 assessment was used to compare No-Action Condition shadow conditions at the identified resources of concern generated by the No-Action Scenario surrounding built environment (including the No-Action Condition at both development sites) versus the proposed With-Action RWCDS development at each development site to determine the new incremental shadow on these resources created by the maximum zoning envelope development scenarios. Table 2.2-2 below shows entry and exit times and total durations of new incremental shadows on these identified resources of concern projected from the With-Action RWCDS.

**Table 2.2-2 – Detailed Analysis New Incremental Shadow Durations on Resources of Concern**

| | December 21 | | March 21 / September 21 | | May 6 / August 6 | | June 21 | |
|---|---|---|---|---|---|---|---|---|
| **Sunlight Sensitive Resource** | *Time Duration* | *Time Elapsed* | *Time Duration* | *Time Elapsed* | *Time Duration* | *Time Elapsed* | *Time Duration* | *Time Elapsed* |
| Greenstreets, Bushwick Avenue (O3) | 8:51 AM – 10:07 AM | 1 hour, 16 minutes | N/A | N/A | N/A | N/A | N/A | N/A |
| Greenstreets, Orient Avenue (O4) | No new incremental Shadows | No new incremental Shadows | 1:58 PM – 4:29 PM | 2 hours, 21 minutes | N/A | N/A | N/A | N/A |
| Orient Grove (O5) | N/A | N/A | 2:49 PM – 4:29 PM | 1 hour, 40 minutes | N/A | N/A | N/A | N/A |

Figures 2.2-3 through 2.2-6b (appended to the end of this document) provide representative illustrations of new incremental shadows on the Greenstreets, Bushwick Avenue (O3), Greenstreets, Orient Avenue (O4) and the Orient Grove Community Garden (O5), respectively.

A discussion of the findings of the detailed shadow analysis on a resource-by-resource basis is provided below.

<u>Greenstreets, Bushwick Avenue (O3)</u>

Based on the data in Table 2.2-2 above and illustrated in Figure 2.2-3, new incremental shadows would fall on this Greenstreets facilities from 8:51 AM to 10:07 AM (1 hour, 16 minutes). While these new incremental shadows would cover portions to the entirety of this resource for over an hour, significant adverse shadow impacts are not anticipated. These new incremental shadows would fall during the winter months (i.e., outside of the growing season, specified by the *2014 CEQR Technical Manual* as March through October), when vegetation at this resource would dead or dormant. Further, these incremental shadows would not impair the primary function of this Greenstreets resource, as an area for stormwater

infiltration and retention. As such, no significant adverse shadow impacts are anticipated and no further analysis is necessary.

Greenstreets, Orient Avenue (O4)

Based on detailed analysis 3d modeling (see Figure 2.2-4) and as indicated in Table 2.2-2 above, no new incremental shadows would fall this Greenstreets resource during the December 21 analysis day as a result of the Proposed Action. All portions of this resource that could receive new incremental shadows would already be covered by No-Action Condition shadows, such that no significant adverse shadow impacts would result. As such, no further analysis is warranted.

As indicated in Table 2.2-2 above and illustrated in Figures 2.2-5a through 2.2-5c, new incremental shadows would begin to cover a small southern portion of this Greenstreet at the beginning of the identified duration (i.e., 1:58 PM), with half or more of the resource shadowed from 3:45 PM to 4:29 PM (i.e., the end of the analysis day). As such, large relative portions of this resource would remain sunlit for the majority of the new incremental shadow duration. Further, based on the same 3d model discussed above, it was found that this Greenstreets facility would remain entirely sunlit for the entirety of the March 21 / September 21 analysis day preceding the onset of new incremental shadows (i.e., from 7:36 AM to 1:57 PM, a duration of 6 hours, 21 minutes). Pursuant to the *2014 CEQR Technical Manual*, the minimum amount of sunlight required to maintain the viability of vegetation during the growing season (i.e., from March to October) is four to six hours. As such, minimum sunlighting requirements on this resource during this analysis day would be exceeded under the With-Action RWCDS. Further, these shadows would not compromise the primary function of this resource for stormwater infiltration and retention. Therefore, the proposed project is not expected to result in significant adverse shadow impacts on this resource during this analysis day, and no further analysis is warranted.

Orient Grove (O5)

Orient Grove would receive new incremental shadows along its southern perimeter during the March 21 / September 21 analysis day from 2:49 PM to 4:29 PM (a 1-hour, 40-minute duration), as illustrated in Figures 2.2-6a and 2.2-6b and indicated in Table 2.2-2 above. As indicated in those figures, large portions of both the area that is eventually covered at the end of the duration and the entirety of the community garden itself would remain sunlit for the majority of the identified duration. Further, based on the same aforementioned 3d modeling software, it was found that the area projected to be shadowed would receive long durations of direct sunlight prior to the onset of new incremental shadows, from 7:36 AM to 2:48 PM (a duration of 7 hours, 12 minutes), such that minimum sunlighting requirements would be exceeded during this analysis day and the viability of vegetation would be maintained (and, by association, the public's use and enjoyment of the resource as a community garden). Therefore, the proposed project is not expected to result in significant adverse shadow impacts on this resource during this analysis day, and no further analysis is warranted.

**2.2-5 – Conclusions**

New incremental shadows generated from the With-Action RWCDS have the potential to reach five identified sunlight sensitive resources, including three separate Greenstreets facilities, one landscaped memorial, and a community garden. All of these resources were situated outside 108 degrees of true north within the maximum shadow screening radius for the proposed project, such that a Tier 3 analysis was necessary. The Tier 3 analysis found that projected shadows from the proposed project would not fall

on any of these resources during either of the May 6 / August 6 or June 21 analysis days and those shadows that fell on the December 21 and March 21 / September 21 analysis days were largely inconsequential with regard to the viability of the vegetation at those resources or the public's use and enjoyment of said resource, with the exception of the Greenstreets, Orient Avenue and Orient Grove Community Garden resources during the March 21 / September 21 analysis days. A detailed analysis for both of the resources on that analysis days revealed that despite new incremental shadows from the With-Action RWCDS for relatively long durations on the March 21 / September 21 analysis days, it was found that the entirety of these resources would exceed the minimum amount of direct sunlight to maintain the viability of vegetation.

Overall, the proposed project is not anticipated to create significant adverse shadow impacts at any of the identified sunlight sensitive open space resources, as the viability of vegetation at these resources or the public's use and enjoyment of them would not be jeopardized.

**Figure 2.2-1 – Tiers 1 and 2 Shadow Screening Assessment**

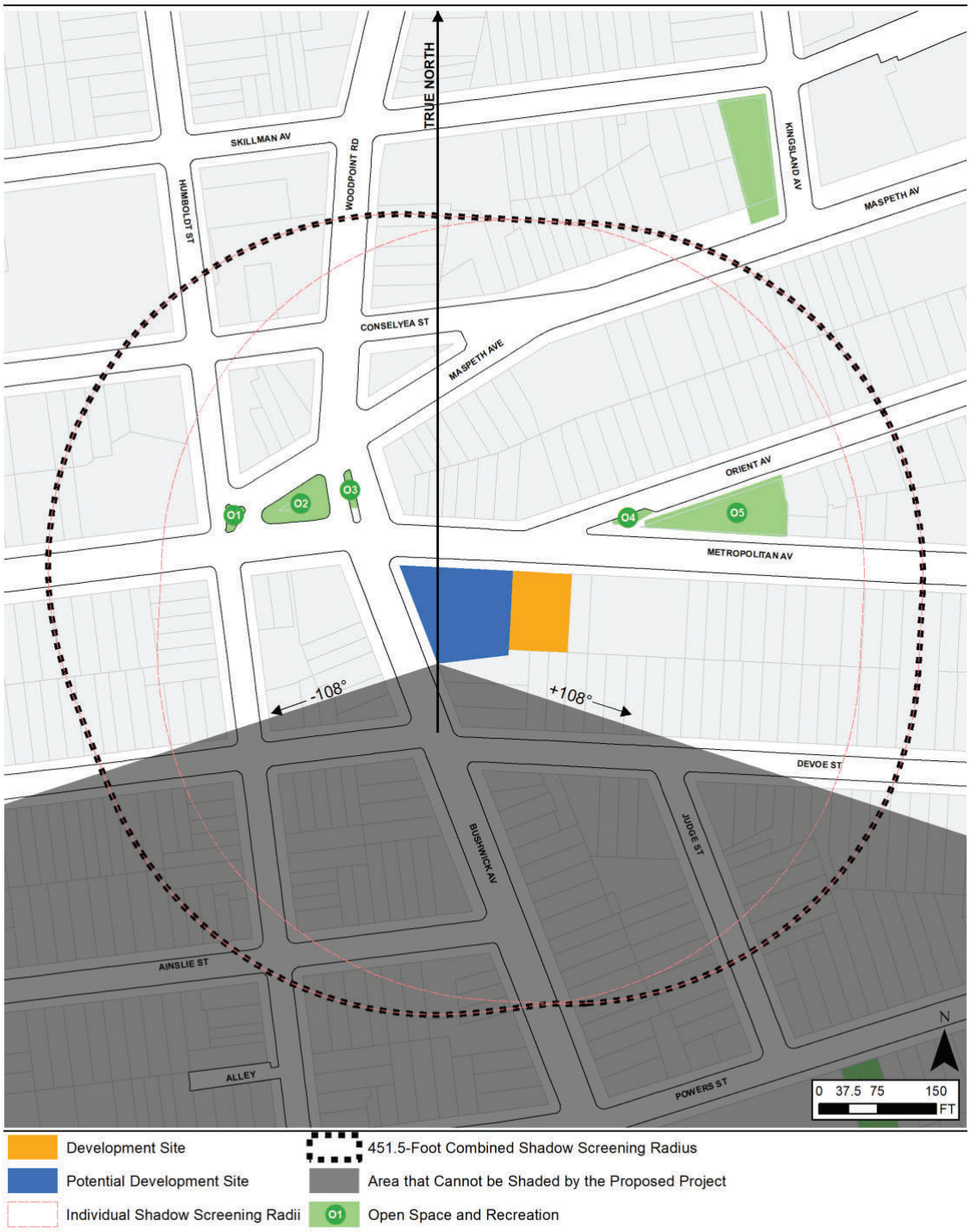


**Figure 2.2-2a – Tier 3 Shadow Screening Assessment, December 21 Analysis Day**

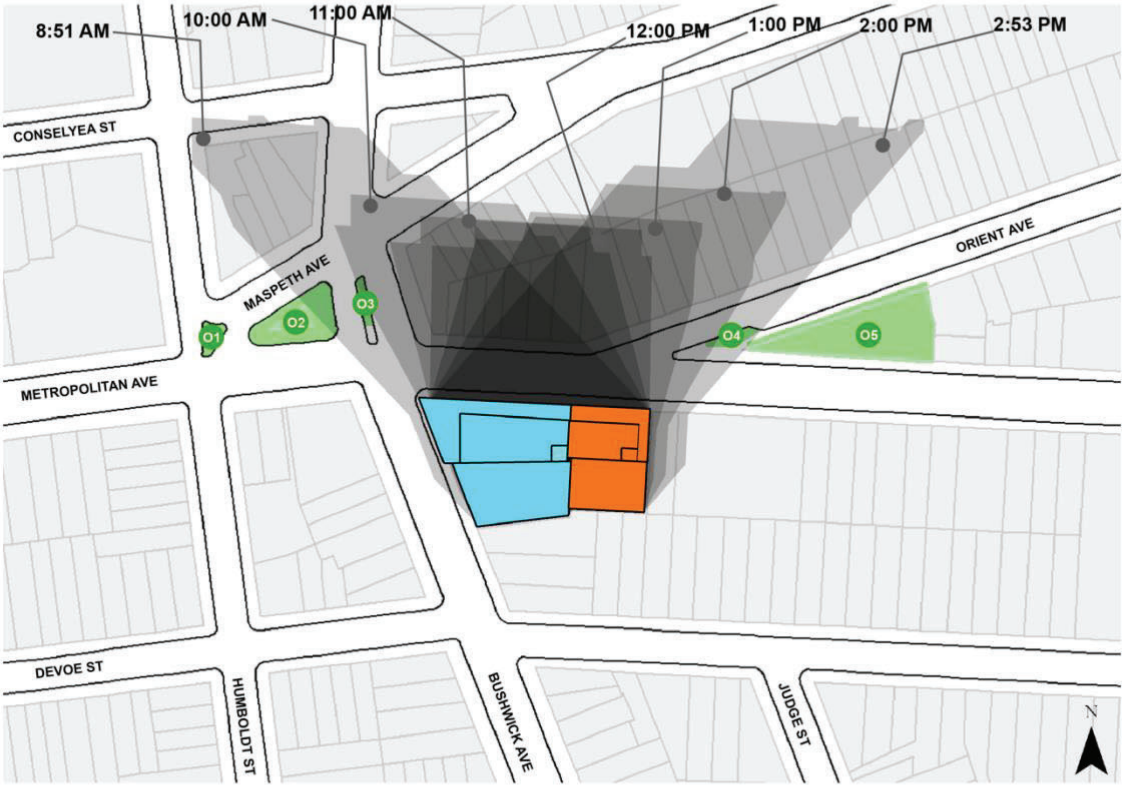


**Figure 2.2-2b – Tier 3 Shadow Screening Assessment, March 21 / September 21 Analysis Day**




Development Site Massing
Potential Development Site Massing
Projected Tier 3 Shadow
O1 Open Space and Recreation

**Figure 2.2-2c – Tier 3 Shadow Screening Assessment, May 6 / August 6 Analysis Day**



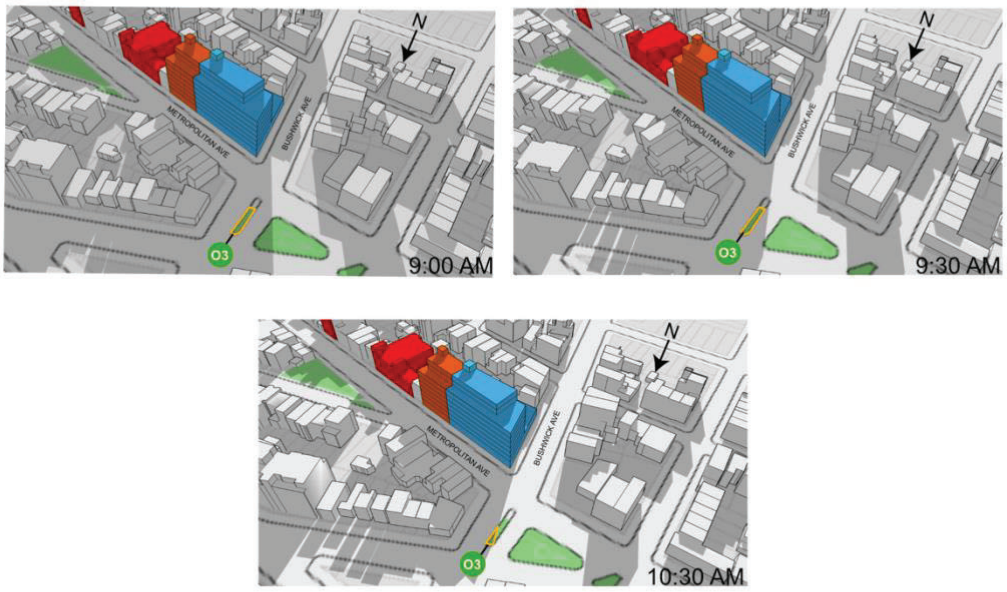

Development Site Massing
Potential Development Site Massing
Projected Tier 3 Shadow
O1 Open Space and Recreation

**Figure 2.2-2d – Tier 3 Shadow Screening Assessment, June 21 Analysis Day**



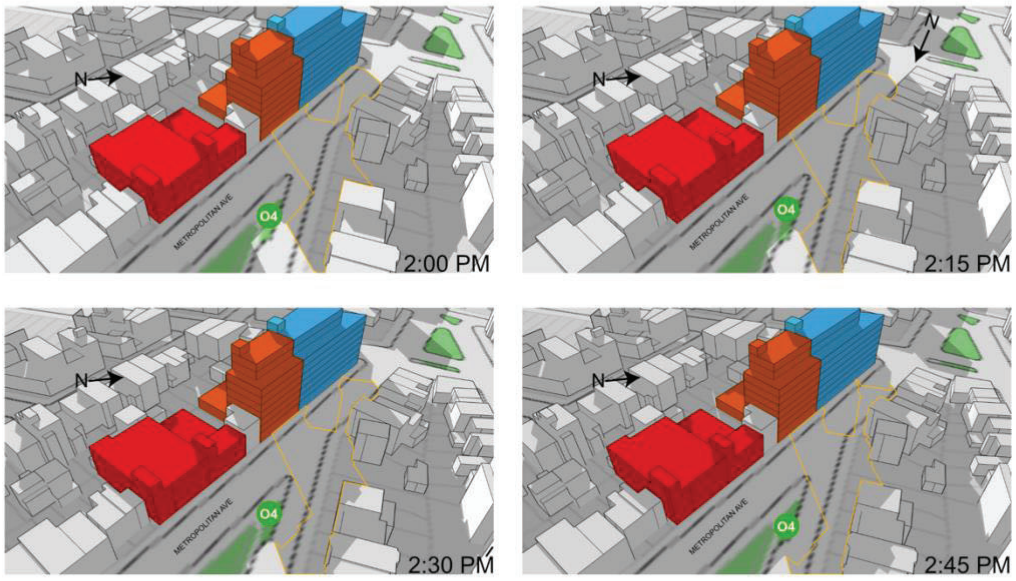

Development Site Massing
Potential Development Site Massing
Projected Tier 3 Shadow
O1 Open Space and Recreation

**Figure 2.2-3 – Detailed Shadows Analysis, Greenstreet – Bushwick Avenue, December 21 Analysis Day**




Development Site
Potential Development Site
Projected Shadowing
New Incremental Shadow
O1 Open Space and Recreation

**Figure 2.2-4 – Detailed Shadows Analysis, Greenstreet – Orient Avenue, December 21 Analysis Day**



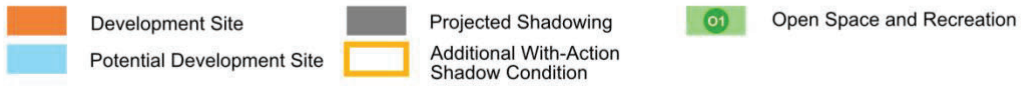
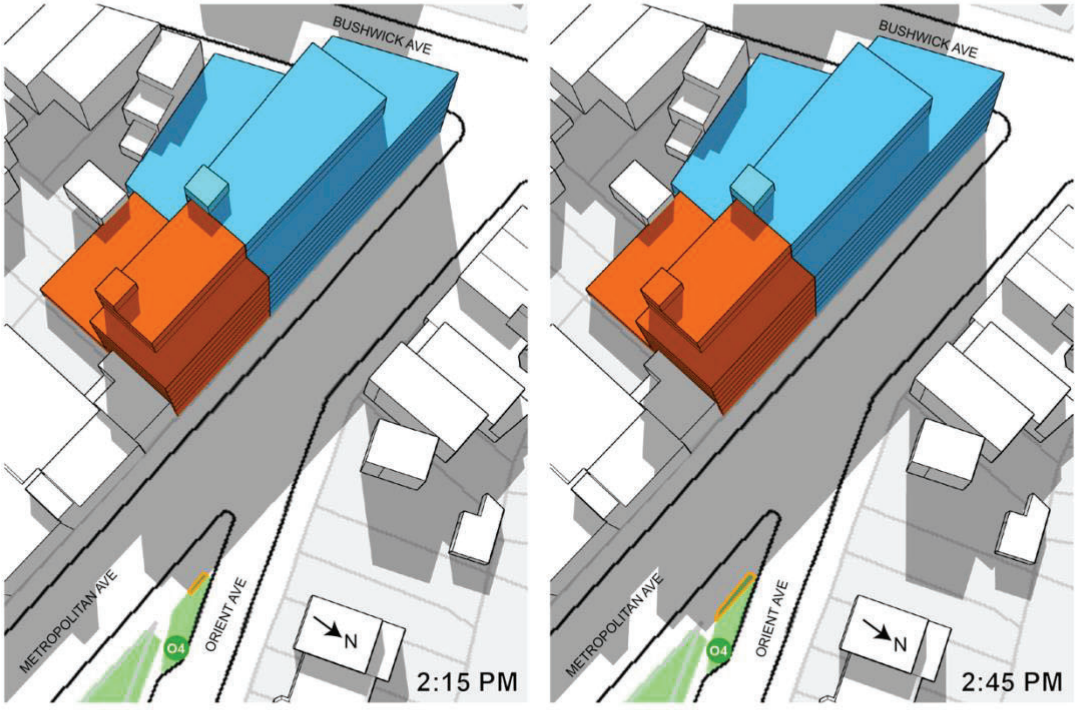
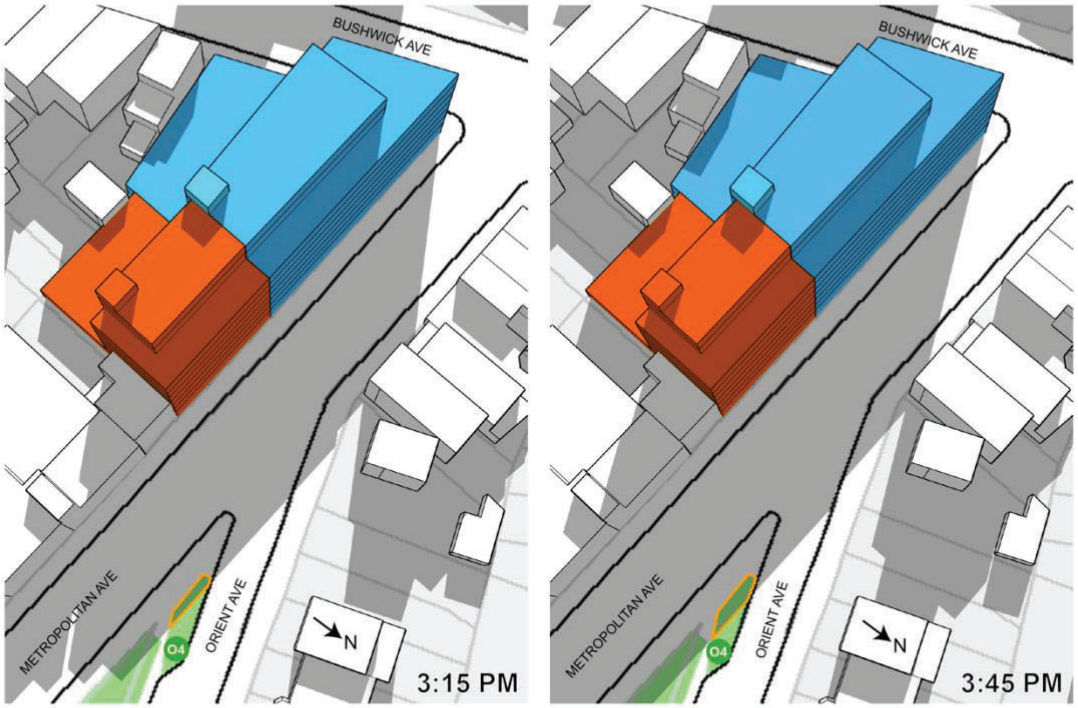



**Figure 2.2-5a – Detailed Shadows Analysis, Greenstreet – Orient Avenue, March 21 / September 21 Analysis Day**



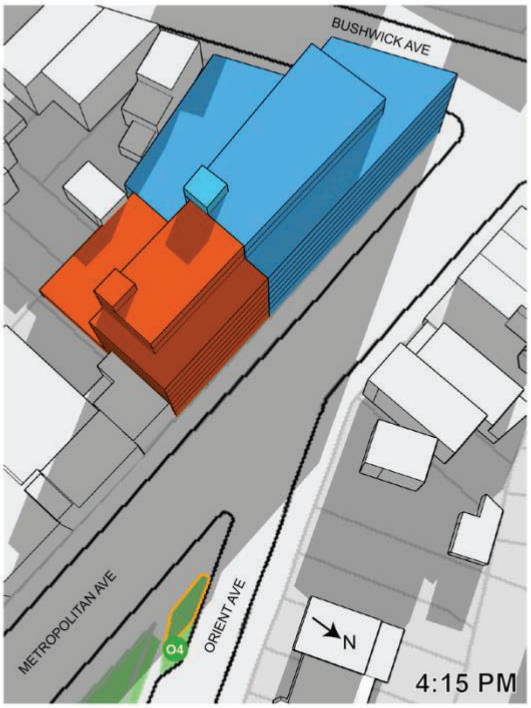

Development Site
Potential Development Site
Projected Shadowing
New Incremental Shadow
O1 Open Space and Recreation

**Figure 2.2-5b – Detailed Shadows Analysis, Greenstreet – Orient Avenue, March 21 / September 21 Analysis Day**



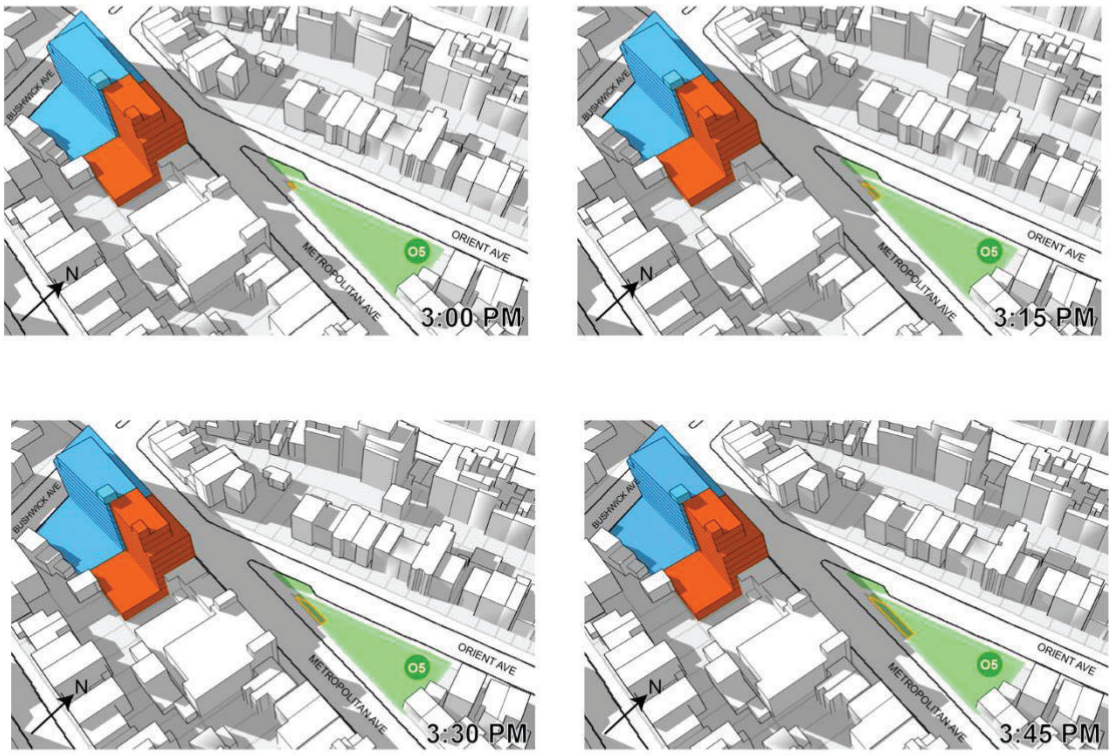

Development Site
Potential Development Site
Projected Shadowing
New Incremental Shadow
O1 Open Space and Recreation

**Figure 2.2-5c – Detailed Shadows Analysis, Greenstreet – Orient Avenue, March 21 / September 21 Analysis Day**



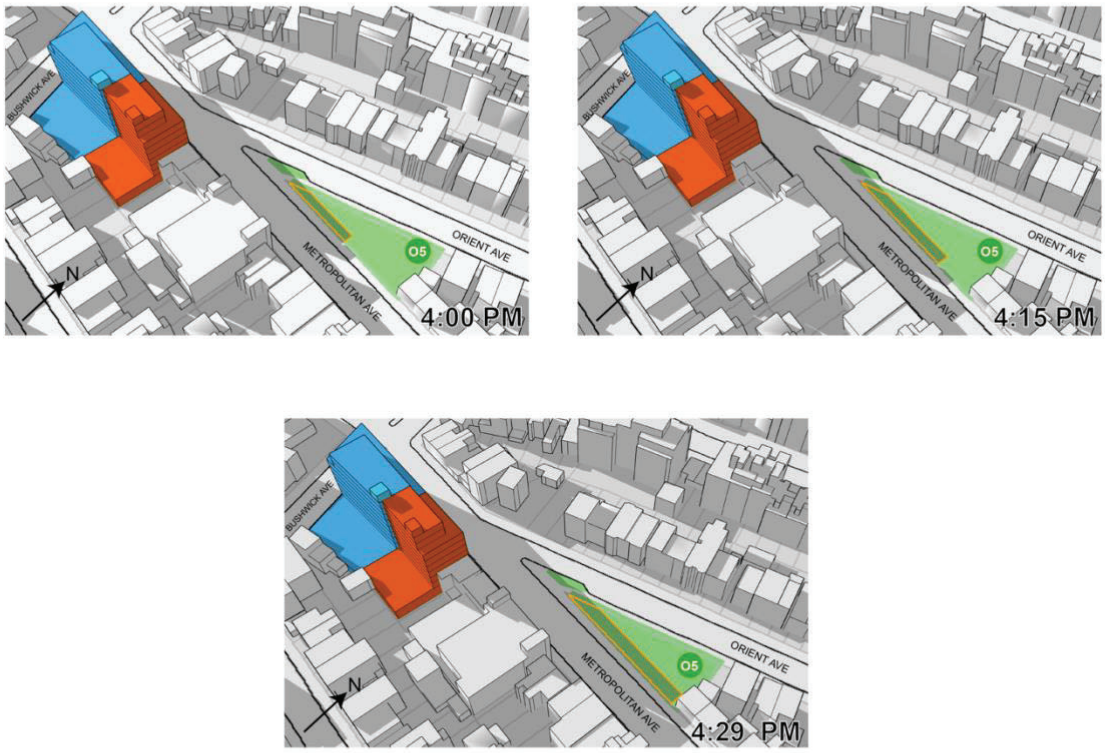

Development Site
Potential Development Site
Projected Shadowing
New Incremental Shadow
Q1
Open Space and Recreation

**Figure 2.2-6a – Detailed Shadows Analysis, Orient Grove, March 21 / September 21 Analysis Day**




Development Site
Potential Development Site
Projected Shadowing
New Incremental Shadow
O1 Open Space and Recreation

**Figure 2.2-6b – Detailed Shadows Analysis, Orient Grove, March 21 / September 21 Analysis Day**



## 2.3 HISTORIC AND CULTURAL RESOURCES

The *2014 CEQR Technical Manual* identifies historic 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 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 (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 discussed in the Project Description, the Applicant is seeking a Zoning Map Amendment that would rezone a part of the northeastern portion of Brooklyn Block 2916, including four contiguous tax lots, Lots 8, 14, 16, and p/o 17, bounded by Metropolitan Avenue to the north and Bushwick Avenue to west, to a R7A district (see Section 1.0, "Project Description" for a complete discussion of the project geographies and details). A Zoning Text Amendment to modify ZR Section 23-933, Appendix F to designate the newly mapped R7A district as a Mandatory Inclusionary Housing (MIH) designated area is also proposed.

The Affected Area and the 400-foot study radius project study area are not a Federal, State, or New York City designated Historic District and do not contain any individually designated historic resources. As such, a historic architectural analysis is not warranted for the Proposed Actions.

Based on coordination with the NYC LPC after a review of documents and data, a Phase 1A Archaeological Survey was required as part of the environmental assessment review contained herein. In October 2020 Chrysalis Archaeological Consultants, Inc., issued a Phase 1A Documentary Study and Archaeological Assessment for 808-832 Metropolitan Avenue, Brooklyn, Kings County, New York, Block 2916, Lots, 8, 14, 16, and 17 (see the H**istoric and Cultural Resources Appendix** for a copy of the full document). The principle conclusions of this study are listed as follows, on a site-by-site basis:

- **Applicant's Development Site (Lots 14 and 16)**

  There exists moderate to high potential for the recovery of mid- to late-nineteenth century resources associated with the working class residents of the properties. Therefore, it is recommended that Pgase 1B testing be indertaken in areas of the property that are likely to contain history rear yard resources.

- **Potential Development Site 1 (Lot 8, not Applicant-Controlled)**

  Per coordination between the 824 Metropolitan Avenue Owner, LLC and DCP, the lot has been redeveloped twice as a gas station and the entirety of the area is disturbed. Therefore, no archaeological work is recommended should this site be redeveloped in the future.

- **Lot 17 (Non-Development Site, not Applicant-Controlled)**

  There exists a moderate potential for the recovery of mid- to late-nineteenth century resources, though historic maps do not depict any rear yard structures or features. Although no further archaeological work can be recommended for the currentproject, as it is outside the contract of the Applicant, any future project that will impact this lot should be evaluated for their proposed impact(s).

In a letter dated November 18, 2020, NYC LPC indicated that it concurred with the findings of the Phase 1A Archaeological Study (see the **Historic and Cultural Resources Appendix**). As such, the Applicant has initiated scoping for a Phase 1B archaeological study at Lots 14 and 16 to ensure that archaeological resources, if any, at this site are appropriately preserved and / or recovered, as necessary.

Additionally, a Restrictive Declaration will be implemented at the Applicant's Development Site for archaeological resources, stipulating the necessity of a Phase 1B archaeological study at said before any development activities can commence (see the **Historic and Cultural Resources Appendix** for a draft copy of this document).

Based on the foregoing the Proposed Actions are not anticipated to create significant adverse historc and cultural impacts, and no further study is necessary.

## 2.4 URBAN DESIGN AND VISUAL RESOURCES

An urban design assessment pursuant to the *2014 CEQR Technical Manual* considers whether and how a project may change the experience of a pedestrian in the study area. The assessment focuses on the components of a proposed project that may have the potential to alter the arrangement, appearance, and functionality of the built environment.

### 2.4-1 - Introduction

An assessment of urban design and visual resources is needed when a project may have effects on any of the elements that contribute to the pedestrian experience of public space. A preliminary assessment is appropriate when there is the potential for a pedestrian to observe, from the street level, a physical alteration beyond that allowed by existing zoning, including the following:

1. Projects that permit the modification of yard, height, and setback requirements; and

2. Projects that result in an increase in built floor area beyond what would be allowed 'as-of-right' or in the future without the Proposed Action.

As described in Section 1.0, "Project Description," the Applicant is requesting the following zoning actions:

1. A Zoning Map Amendment from an existing C8-2 district and R6B district with a C2-4 commercial overlay to an R7A district with a C2-4 commercial overlay of properties bounded by Metropolitan Avenue to the north, Bushwick Avenue to the west, and residential properties to the south and east in the Greenpoint-Williamsburg neighborhood of Brooklyn, Community District 1. This would involve a rezoning of the Applicant's property, Brooklyn Block 2916, Lots 14 and 16 (the Development Site), and a single non-Applicant property, Brooklyn Block 2916, Lot 8 (the Potential Development Site); and

2. A Zoning Map Amendment from an existing C8-2 to a R6B district with a C2-4 commercial overlay at a small, southwestern portion of Brooklyn Block 2916, Lot 17 in order to make that portion of the lot's zoning consistent with the remainder of the lot's area; and

3. A Zoning Text Amendment to modify ZR §23-933, Appendix F to designate the newly mapped R7A district as a Mandatory Inclusionary Housing (MIH) designated area.

As indicated in the aforementioned Project Description, under the With-Action Condition the Applicant's Development Site could be developed with a new nine-story, 105-foot (95-foot building height with 10-foot rooftop bulkhead), 34,500-gsf mixed-use residential and commercial building at a FAR of 4.6. The With-Action Condition also considers a potential development site adjacent to the west, projected with a new nine-story, 105-foot (95-foot building height with 10-foot rooftop bulkhead), 58,075-gsf mixed-use residential and commercial building at a FAR of 4.6.

Based on the foregoing, a preliminary urban design and visual resources screening assessment was conducted.

**2.4-2 - Methodology**

Pursuant to the *2014 CEQR Technical Manual* guidelines, the preliminary urban design and visual resources assessment analyzes a 400-foot radius study area where the Proposed Action would be most likely to influence the built environment. The following preliminary urban design and visual resources assessment follows these guidelines and provides a characterization of existing conditions, a description of urban design under the future No-Action and With-Action conditions, and an analysis determining the extent to which physical changes resulting from the Proposed Action would alter the pedestrian experience and visual resources.

Pursuant to the *2014 CEQR Technical Manual*, the appropriate study area for an urban design and visual resources analysis is within a 400-foot radius of the proposed Affected Area. The 400-foot urban design and visual resources study area is generally bounded by the mid-block area between Conselyea Street and Skillman Avenue to the north, the mid-block area between Metropolitan Avenue and Devoe Street to the east, Ainslie Street to the south, and the mid-block area between Humboldt Street and Graham Avenue to the west (see Figure 2.4-1, appended to the end of this section).

**2.4-3 – Preliminary Assessment**

<u>Existing Conditions</u>

*Affected Area*

The Affected Area included Brooklyn Block 2916, p/o Lot 8, Lots 14 and 16, and p/o Lot 17, the existing development conditions for which are described below on by development site:

- Development Site (Applicant's Site)
    - *Lot 14* – a 5,000-sf lot currently undeveloped and utilized for private vehicle storage (with an estimated maximum capacity for 30 vehicles), featuring a 0.0 built FAR (versus a permitted 2.0 commercial FAR under the prevailing C8-2 zoning district). See Figure 2.4-1 and Photograph No. 1 for a representative view of this lot.
    - *Lot 16* - 2,500-sf lot developed with a three-story, multi-family residence approximately 2,316 gsf in size containing three residential dwelling units (with a built FAR of 0.93 versus a maximum allowable residential FAR of 2.2). See Figure 2.4-1 and Photograph No. 2 for a representative view of this lot.
- Potential Development Site
    - *Lot 8* – a 12,625-sf lot developed with a gas station use, including an approximate 30-square-foot (-sf) attendant station with retail, multiple gas pumps, a car canopy, and accessory parking, featuring a built FAR of 0.01 (versus a maximum permitted commercial FAR of 2.0 under the prevailing C8-2 zoning district). See Figure 2.4-1 and Photograph No. 3 for a representative view of this lot.

- Non-Development Site

    - *Lot 17* - a 2,500-sf lot developed with a three-story, 2,136 gsf two-family residence, and is also underbuilt, featuring a built FAR of 0.85 versus a maximum allowable residential FAR of 2.2. It is noted that Lot 17 is a non-development site not considered for analysis in this section as the Proposed Action only rezones a small, southwestern portion of the lot in order to make the entirety of the lot's zoning consistent. See Figure 2.4-1, Photograph No. 4 for a representative view of this lot.

*400-Foot Urban Design Study Area*

The study area is generally bisected east-west by Metropolitan Avenue and north-south by Bushwick Avenue / Woodpoint Road. Metropolitan Avenue features one lane of traffic in each direction and is a local truck route, while Bushwick Avenue features two lanes of traffic in each direction south of Metropolitan Avenue and transitions into Woodpoint Road north of Metropolitan Avenue with one lane of traffic in each direction. Older (constructed 1950 or earlier) two-to-four story residential and mixed-use residential and groundfloor commercial buildings on smaller lots (2,000 to 5,000 sf) with built FARs generally ranging from 0.4 to 2.47 are the predominant building typology throughout the study area (see Figure 2.4-1, Photograph Nos. 5 through 13 for representative views of these structures). There are several larger residential developments as well, notably a recently completed, eight-story, 4.07 FAR mixed-use residential and groundfloor commercial building at 371 Humboldt Street (see Figure 2.4-1, Photograph No. 6), located in the western portion of the study area on the north side of Metropolitan Avenue.

The built environment deviates somewhat from this typology along Metropolitan Avenue, which features several automobile related uses (both active and vacant) with lower building heights and coverages with open areas for vehicle parking and storage (see Figure 2.4-1 and Photograph Nos. 3, 14, and 17). Further, two small open space resources are situated along the northside of Metropolitan Avenue, including Memorial Gore towards the center of the study area (see Photograph 2.4-1 and Photograph No. 15) and the Orent Grove Community Garden ((see Photograph 2.4-1 and Photograph No. 16).

The street network within the study area is a generally representative of the New York City street grid, with adequate sidewalk and crosswalk infrastructure present throughout. There is a slight deviation from the street grid towards the center of the study area, where several streets intersect to create several smaller than typical blocks, notably where Maspeth Avenue intersects with both Humboldt Street and Woodpoint Road. Further, there is an active NYC Metropolitan Transportation Agency (MTA) capital improvement project at the northeast corner of the intersection of Humboldt Street and Metropolitan Avenue (see Figure 2.4-1 and Photograph No. 18) that has closed Maspeth Avenue between Humboldt Street and Woodpoint Road as well as rerouting pedestrian traffic in this area along Metropolitan Avenue and Humboldt Street.

The two aforementioned open space resources constitute the only two visual resources within the urban design study area. The Memorial Gore is a 0.07-acre memorial triangle / plaza owned and operated by the New York City (NYC) Department of Parks and Recreation (DPR), featuring World War I memorial with associated landscaping. The Orient Grove Community Garden is 0.15-acre triangle / plaza utilized as a community garden, owned and operated by the NYC DPR under the GrowNYC program. Both of these resources are visible from the Development Site and Affected Area and vice versa (see Figure 2.4-1 and Photograph Nos. 15 and 16 for photographs of these resources).

No other visual resources, including public parks, publicly accessible waterfront, and/or historic landmarks are found within the study area.

No-Action Condition

As described in Section 1.0, "Project Description," absent the Proposed Action (the No-Action condition), both the Development Site and Potential Development Site would remain in their existing conditions. However, there are several ongoing development projects (projected to be completed by the projected project build year) that would contribute to the urban design character of the study area once completed. These projects include:

- *850 Metropolitan Avenue (Brooklyn Block 2916, Lot 18)*: a four-story, 32-unit multi-family residential condo building located just east of the Affected Area along Metropolitan Avenue. This project renovated and converted existing industrial building for residential uses, with Pursuant to information provided by the developer's website (https://milkfactorybk.com/building/, accessed September 16, 2019), occupation of this development is projected to begin in the Fall of 2019.

- *870 Metropolitan Avenue (Brooklyn Block 2916, Lot 29):* a five-story, 22-unit multi-family residential building located east of the Affected Area near along Metropolitan Avenue at the eastern edge of the study area.

- *378 Humboldt Street (Brooklyn Block 2892, Lot 1):* A two-story commercial building located at the northwest corner of the intersection of Maspeth Avenue and Humboldt Street, northwest of the Affected Area. Based on signage posted on the outside of the construction site (observed on September 13, 2019), this development has an anticipated completion date of October 2019.

Additionally, there is a Metropolitan Transportation Authority (MTA) substation and breaker house replacement and rehabilitation project located at the southeast corner of the intersection of Humboldt Street and Maspeth Avenue that is expected to be completed by December 2020.

As described, these projects would reflect and reinforce the urban design character of the urban design study area. No impacts to urban design or visual resources are expected under the No-Action Condition.

With-Action Condition

As described in Section 1.0, "Project Description," in the With-Action Condition, the Proposed Action would rezone the Development Site and Potential Development Site as R7A with a C2-4 commercial overlay as well as map this rezoned area as a MIH district in order to facilitate the development of a new mixed-use residential and groundfloor commercial building. These actions would permit the development of a 34,500 gsf building at the 7,500-sf Development Site, (a built FAR of 4.6) and would have a total building height of 95 feet (with a total structure height of 105 feet when including rooftop bulkheads).

The Proposed Action would allow for greater residential building bulk and height on the Development Site than is currently allowed by the current C8-2 zoning district and R6B zoning district with C2-4 commercial overlay. A maximum building height of 95 feet is permitted, exceeding the maximum permissible height of 55 feet under the R6B district (building height under C8-2 districts is governed by sky exposure planes).

The Proposed Action would also permit a FAR at the Development Site of up to 4.6, versus 2.2 and 2.0 under the R6B and C8-2 zoning districts, respectively. While permissible development densities and heights would increase at the Development Site and within the Affected Area, they would not be out of character for the study area. As shown in EAS Figure 2, significant portions of the study area are situated within the R7A zoning district, such that development of similar size and scale to the Development Site With-Action Scenario are permissible. Based on tax parcel data obtained from the NYC Department of City Planning Bytes of the Big Apple website, [1] of the 221 tax parcels within the urban design study area, 39 (approximately 18 percent) are subject the area and bulk regulations of the R7A zoning district. The aforementioned building at 371 Humboldt Street within the urban design study area reflects development consistent with the R7A zoning district, with a building height of 80 feet (not including rooftop bulkheads) and a built FAR of 4.07, per NYC Department of Building Records.[2]

Further, the R7A zoning district is a contextual zoning district. Contextual zoning districts regulates the height and bulk of new buildings, their setback from the street line, and their width along the street frontage, to produce buildings that are consistent with existing neighborhood character. As such, new development at the Development Site and within the Affected Area as a result of the Proposed Action would be developed in a manner consistent with the existing built character of the area.

Under the With-Action Condition, views of the Memorial Gore and Orient Grove Community Garden from the Development Site and Affected Area would not change under the Proposed Action, such that no impact would occur. Views of the Affected Area from these resources would be activated by a new multi-family residential and commercial buildings.

Based on the foregoing, the Proposed Action would not result in any significant adverse impacts to urban design or visual resources within the study area.

[1] https://www1.nyc.gov/site/planning/data-maps/open-data/dwn-pluto-mappluto.page#mappluto, accessed September 16, 2019
[2] http://a810-bisweb.nyc.gov/bisweb/PropertyProfileOverviewServlet?boro=3&houseno=371&street=Humboldt+Street&go2=+GO+&requestid=0, accessed September 18, 2019

**Figure 2.4-1 – Urban Design Study Area Aerial Imagery and Photograph Location Map**




824 Metropolitan Avenue Rezoning

Figure 2.4-1 - Urban Design Aerial Photograph Location Key

**Photograph No. 1 – View of Development Site, Lot 14**



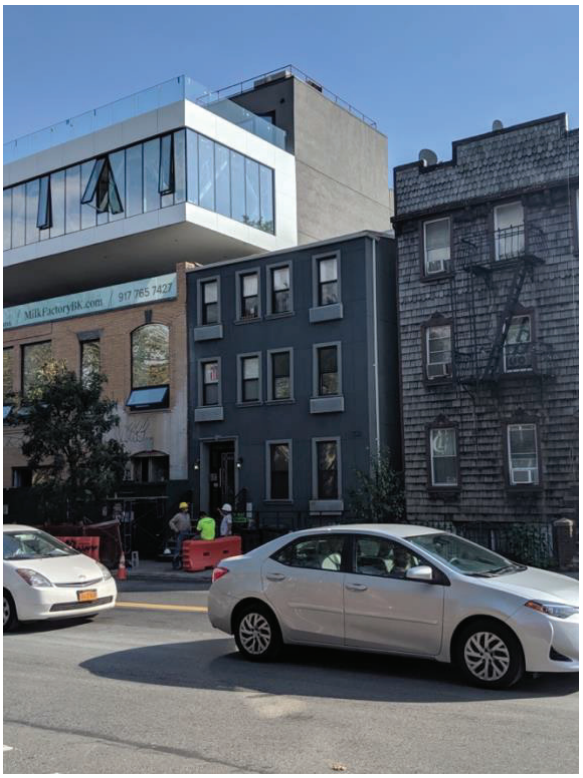
**Photograph No. 2 – View of Development Site, Lot 16**



**Photograph No. 3 – View of Potential Development Site, Lot 8**



**Photograph No. 4 – View of Non-Development Site, Lot 17**



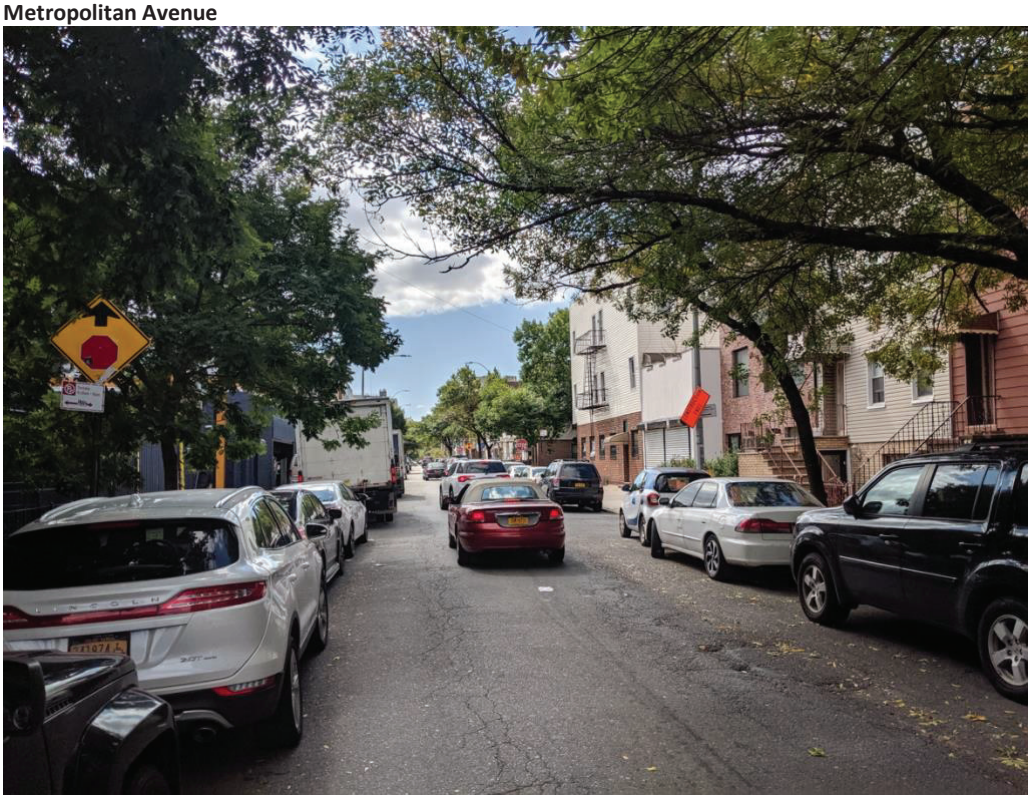
**Photograph No. 5 – Representative View of Residential Development in the Study Area, Orient Avenue**




**Photograph No. 6 – Representative View of Residential Development in the Study Area, Metropolitan Avenue west of Humboldt Street**



**Photograph No. 7 – Representative View of Residential Development in the Study Area, Humboldt Street south of Metropolitan Avenue**



**Photograph No. 8 – Representative View of Residential Development in the Study Area, Devoe Street Looking East**



**Photograph No. 9 – Representative View of Residential Development in the Study Area, Bushwick Avenue Looking South**




**Photograph No. 10 – Representative View of Residential Development in the Study Area, Conselyea Street Looking East**



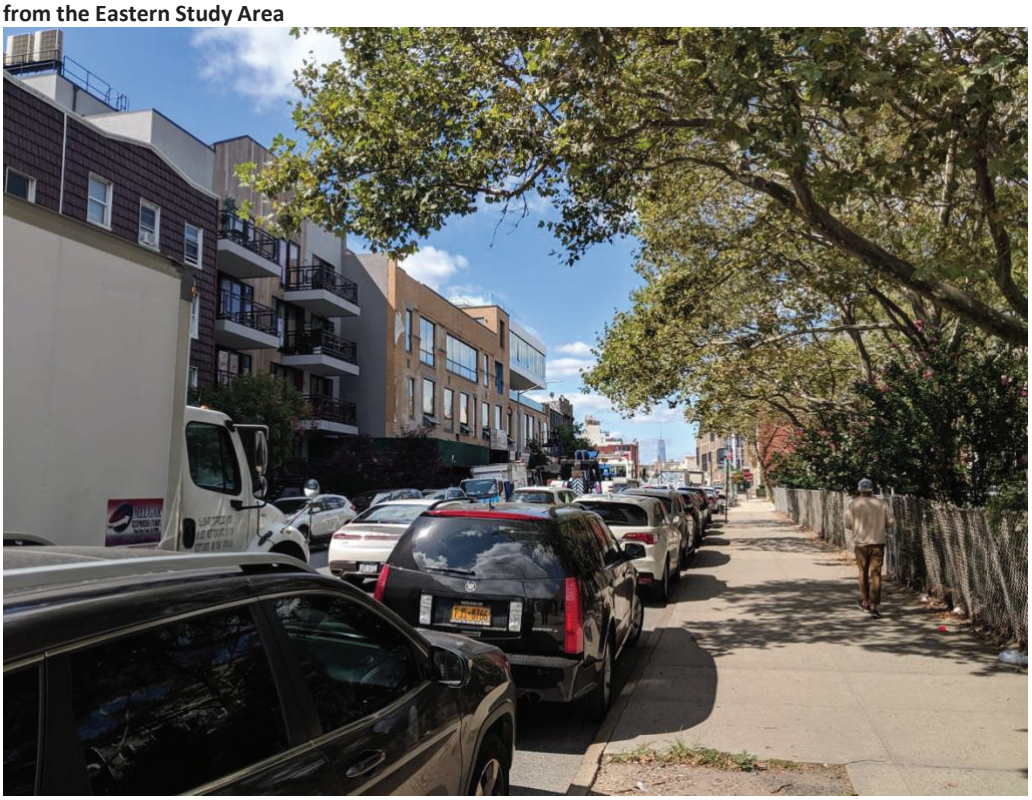
**Photograph No. 11 – Representative View of Residential Development in the Study Area, Conselyea Street Looking West**



**Photograph No. 12 – Representative View of Residential Development in the Study Area, Humboldt Street South of Conselyea Street**



**Photograph No. 13 – Representative View of Residential Development in the Study Area, Metropolitan Avenue looking West from the Eastern Study Area**



**Photograph No.14 – View of Commercial Development Along Northern Metropolitan Avenue**



**Photograph No. 15 – View of Memorial Gore**



**Photograph No.16 – View of the Orient Grove Community Garden**



**Photograph No. 17 – View of Vacant Automobile Uses Along Metropolitan Avenue**



**Photograph No. 18 – View of MTA Substation and Breaker House Replacement / Rehabilitation Project**



## 2.5 HAZARDOUS MATERIALS

### 2.5-1 – Introduction

Environmental Studies Corp. has performed a Phase I Environmental Site Assessment (ESA) of the subject property located at 824-832 Metropolitan Avenue, in the Borough of Brooklyn, New York City, New York. This Phase I ESA was prepared in accordance with the latest ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM Designation E 1527-13).

### 2.5-2 – Methodology

The Standard Practice E 1527-13 defines good commercial and customary practice for conducting an ESA of a parcel of commercial real estate with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and petroleum products. As such, the Practice is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on CERCLA liability (referred to as landowner liability protections or LLPs); that is, the practice that constitutes all appropriate inquiries into the previous ownership and uses of the property consistent with good commercial and customary practice.

The goal of an ESA is to identify, to the extent feasible in accordance with ASTM E 1527-13, *Recognized Environmental Conditions (RECs)* in connection with the property. The term *Recognized Environmental Condition* means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not *Recognized Environmental Conditions*. The term *de minimis* condition means a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. The presence or likely presence of hazardous substances or petroleum products at a site includes any form, such as solid or liquid at the surface or subsurface, and vapor in the subsurface.

The Practice also defines two additional *RECs*; *Controlled Recognized Environmental Conditions* and *Historical Recognized Environmental Conditions*. The term *Controlled Recognized Environmental Conditions* means a *Recognized Environmental Condition* resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action 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 (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).

The term *Historical Recognized Environmental Condition* means 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 (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).

*Recognized Environmental Conditions* are identified through a review of pertinent records for the project site and nearby properties, a site reconnaissance and interviews. The records review includes a review of *Standard Historical Sources* of information to determine the history of the property. Such sources include historical aerial photographs, fire insurance maps such as those published by the Sanborn Map Company, reverse telephone directories, building department records such as Certificates of Occupancy, building and demolition permits, etc., property tax records, recorded land title records, previous environmental reports and others. The records review also includes regulatory agency lists and databases of documented hazardous waste sites, spill incidents, registered storage tanks and others.

The non-invasive site reconnaissance is performed to identify potential sources of contamination at the project site and in the immediate vicinity of the site. Such potential sources of contamination include operations involving the storage or use of hazardous substances or petroleum products, the presence of petroleum storage tanks, drainage structures, chemical/oil staining, dead or dying vegetation and others. Interviews are conducted, whenever possible, with site owners, operators, tenants, local government officials, and others with knowledge of the site and information regarding potential RECs at a property. Finally, several ASTM "Non-Scope" items including asbestos-containing materials, lead-based paints, and radon are also discussed.

The following summarizes the findings, conclusions, and recommendations of the Phase I ESA.

**2.5-3 – Environmental Site Assessment**

Site Description

The subject property is located on the south side of Metropolitan Avenue, between Bushwick Avenue and Olive Street, in the Borough of Brooklyn, New York City, New York. The property appears on the USGS 7.5 Minute Series Topographic Brooklyn, New York Quadrangle.

The subject property consists of two adjoining tax lots with a total combined area of approximately 7,500 square feet. Lot 14 is a 5,000-square foot, asphalt-paved parcel that is surrounded by a chain link fence with a locking gate along Metropolitan Avenue. The lot is used for parking and storage by Crossfire Sound Productions. Crossfire Sound Productions is an event services company providing sound, lighting, stages, video and other services for special events such as concerts, fashion shows and corporate events. At the time of the site visit, the lot contained two steel shipping containers used for general storage, three box trucks, two vans, a car and a pickup truck. There were not any operations involving the storage or use of hazardous substances or petroleum products observed on Lot 14.

Lot 16 is a 2,500 square foot, rectangular lot. The north side of the lot contains a 3-story (plus basement), wood-frame apartment building with four units. Heat for the building is provided by a gas-fired boiler located in the basement. Hot water is provided by a gas-fired hot water heater, also located in the basement. The south side of the lot is a landscaped rear yard, decorated with ornamental plants and shrubs, walkways and seating areas.

Current Operations / Hazardous Substances

The operations at the subject property consist of residential apartments and parking/general storage. There were not any operations involving the storage or use of hazardous substances or petroleum products observed at the site. In addition, there were not any indications of the past storage or use of

hazardous substances or petroleum products noted, such as chemical/oil-stained surfaces, discarded drums or chemical containers, dead or dying vegetations, etc.

Site History

Research into the history of the project site shows that Lot 14 contained two 2-story dwellings, a retail store, and a small, 1-story building occupied by a tailor, from at least 1907 to 1961, at which time all of these structures were demolished. There were not any past businesses or operations identified on Lot 14 prior to 1961 which typically involve the storage or use of hazardous substances or petroleum products. The identified uses of the lot from 1961 to the present include used automobile sales, parking, and contractor/general storage. According to a 2015 Phase I ESA of the project site, construction debris and several empty and partially full drums were present on the site. Given that the project site was previously developed, and that construction debris was formerly present at the site, it is likely that the property contains historical urban fill materials. In addition, it is possible that Lot 14 may have been impacted by any spills, leaks or discharges of hazardous substances or petroleum products from contractor storage operations, or from any auto repairs/maintenance activities performed during the time the lot contained used car sales operations.

The 3-story (plus basement) wood frame apartment building on Lot 16 was constructed sometime between 1888 and 1907, and has been continuously used as an apartment building since that time. Prior to the construction of this building, Lot 16 was occupied by a 2-story residential dwelling. There were not any past businesses or operations that involve the storage or use of hazardous substances or petroleum products identified on Lot 16 in the information reviewed for this report.

Environmental Liens and Activity and Use Limitations

There were not any indications of Environmental Liens or Activity and Use Limitations found on file for the project site in the New York City Department of Finance records reviewed. A search of land title records did not identify any Environmental Liens or Activity and Use Limitations at the site. There are any Environmental Liens or Activity and Use Limitations identified at the project site in the EDR database report.

Drainage Structures

Typical lavatory drainage structures such as sinks and toilets are present in the subject building. In addition, two small storm drains were observed in the front of the building, and two small storm drains were present in the rear yard. The drainage destination of these structures is not known; however, it is likely that they discharge to the municipal sewer system. No chemical/oil staining was observed around any of the drainage structures at the site. No additional drainage structures were observed at the property during the site visit.

Petroleum Storage Tanks

A concrete-block vault was observed in the boiler room in the basement of the subject building, with pipes protruding from the top of the vault. It is suspected that this vault contains an out-of-service, fuel oil aboveground storage tank (AST). Based on the size of the vault, the estimated capacity of the suspected tank is less than 1,000 gallons. There was not any oil staining, petroleum odors or other indications of past spills or leaks observed around this vault. Out-of-service petroleum storage tanks are required to be

properly closed or removed in accordance with New York State Department of Environmental Conservation (NYSDEC) and New York City Fire Department (FDNY) requirements.

There were not any other ASTs, or indications of the presence of underground storage tanks (USTs), such as tank fill ports, vent lines, associated mechanical equipment, etc., observed at the subject property during the site visit. The property does not appear in the NYSDEC Petroleum Bulk Storage (PBS) database, which lists all registered facilities with a total combined petroleum storage capacity in excess of 1,100 gallons.

According to New York City Department of Buildings (NYCDOB) records, an Oil Burner Application was filed for Lot 14 in 1949, which indicates that one or more of the former buildings on the lot had an oil-fired heating system. Any fuel oil storage tanks that were not removed from Lot 14 at the time the buildings were demolished may remain at the project site. Any fuel oil tank discovered during re-development of the project site should be properly removed and disposed of in accordance with all applicable NYSDEC and FDNY requirements.

Asbestos, Lead-Based Paints, and PCBs

Given the age of the subject building (constructed sometime between 1888 and 1907), it is possible that it contains asbestos building materials and lead-based paints. Potential asbestos-containing materials in the building include floor tiles, roofing materials, surfacing materials, and others.

Surrounding Land Uses

The development site is adjoined to the west by an active Speedway gasoline filling station at 810 Metropolitan Avenue. In addition, there is a recently-closed gasoline filling station located at 2-10 Bushwick Avenue, approximately 200 feet west of the subject property. There are five spill incidents identified at 810 Metropolitan Avenue, and 5 spill incidents at 2-10 Bushwick Avenue. All of these spill incidents have been closed by the NYSDEC. However, each of these sites had a spill incident which required the remediation of petroleum impacted soil and groundwater prior to regulatory closure. In addition, in February of 2019, a spill was reported to the NYSDEC when oil was discovered seeping into the subway tunnel located below Bushwick Avenue, at the intersection of Metropolitan Avenue. This spill location is less than 200 feet from the project site. The investigation of this spill is currently on-going and the spill incident has not been closed by the NYSDEC.

A review of Sanborn historical maps shows that land uses in the immediate area of the subject property have been a mix of residential uses, commercial/retail businesses, light industrial uses, and auto-related uses (e.g., filling stations, parking lots, repair garages) since at least the 1930s. These maps show that the adjacent property at 810 Metropolitan Avenue has contained a gasoline filling station since 1980, and that a filling station operated at 2-10 Bushwick Avenue as early as 1933. The 1951 through Sanborn 1977 maps show a gasoline filling station at 5 Bushwick Avenue, approximately 150 feet northwest of the project site, and the 1933 through 1968 maps show a filling station at 352-354 Humboldt Street, approximately 250 feet southwest of the subject property.

Given that there have historically been four gasoline filling stations located within less than 300 feet of the project site, two of which operated as early as 1933, and the identified spill incidents in the immediate vicinity of the project site, it is possible that the groundwater in the vicinity of the subject property has been impacted by these potential sources of contamination.

Regulatory Agency Records Review

The development site does not appear in any of the Federal or State environmental databases reviewed, including the USEPA's Superfund, CERCLIS or ERNS databases, the RCRA Hazardous Waste Treatment/Storage/Disposal Facilities list, or the NYSDEC's Spill Logs database, Solid Waste Facilities database, Petroleum Bulk Storage database, Brownfield site database, Voluntary Cleanup Program list or the Registry of Inactive Hazardous Waste Disposal Sites.

Phase I ESA Findings

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of 824-832 Metropolitan Avenue, Brooklyn, N.Y., the property. Any exceptions to or deletions from this standard are described in section A of this report. This assessment has revealed no evidence of *Historical Recognized Environmental Conditions* or *Controlled Recognized Environmental Conditions* in connection with the property. This assessment has revealed no evidence of *Recognized Environmental Conditions* in connection with the property, with the following exceptions:

- The possible presence of historical urban fill materials, and the potential for contamination from past contractor's/general storage and/or used automobile sales operations on Lot 14 of the project site, including the potential for a vapor encroachment condition to future buildings on the lot;

- The potential for one or more fuel oil storage tanks at the project site which have not been properly closed or removed in accordance with NYSDEC and FDNY requirements; and

- The possibility of impacts to the project site from potential sources of contamination in the immediate vicinity of the subject property, including the potential for a vapor encroachment condition to existing or future buildings at the site.

**2.5-4 – Conclusions**

Projected Development Site

As existing development conditions at the Projected Development Site, including an occupied three-story (with basement) residential building at Lot 16 and large shipping / storage containers at Lot 14, prevents the necessary full spectrum of soil, soil vapor and groundwater testing required under DEP testing guidelines an "E" designation for hazardous materials will be placed on the zoning map pursuant to Section 11-15 of the New York City Zoning Resolution for the Projected Development Site in lieu of a Phase II workplan.

The "E" designation will ensure that testing and mitigation will be provided as necessary before any future development and/or soil disturbance on the property. The Applicant will be directed to coordinate further hazardous materials assessments through the Mayor's Office of Environmental Remediation.

Therefore, in order to avoid any potential impacts associated with hazardous materials, an (E) designation was assigned for hazardous materials (E-618) on the following property:

**Brooklyn Block 2916, Lots 14 & 16**

The text for the (E) designations related to hazardous materials is 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.**

With this (E) designation in place, no significant adverse impacts related to hazardous materials are expected, and no further analysis is warranted. Therefore, there is no potential for the Proposed Actions to result in significant adverse impacts related to hazardous materials on the Applicant's Development Site.

Potential Development Site

As existing development conditions at the Potential Development Site (not Applicant-owned or controlled), including a gas station and associated buildings / infrastructure, prevents the necessary full spectrum of soil, soil vapor and groundwater testing required under DEP testing guidelines an "E" designation for hazardous materials will be placed on the zoning map pursuant to Section 11-15 of the New York City Zoning Resolution for the Projected Development Site in lieu of a Phase II workplan.

The "E" designation will ensure that testing and mitigation will be provided as necessary before any future development and/or soil disturbance on this property. The Applicant should be directed to coordinate further hazardous materials assessments through the Mayor's Office of Environmental Remediation.

Therefore, in order to avoid any potential impacts associated with hazardous materials, an (E) designation was assigned for hazardous materials (E-618) on the following property:

**Brooklyn Block 2916, Lot 8**

The text for the (E) designations related to hazardous materials is 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.**

With this (E) designation in place, no significant adverse impacts related to hazardous materials are expected, and no further analysis is warranted. Therefore, there is no potential for the Proposed Actions to result in significant adverse impacts related to hazardous materials on the Applicant’s Development Site.

## 2.6 TRANSPORTATION

### 2.6-1 – Introduction

A screening analysis was conducted to determine if the Proposed Project would require detailed analyses to identify possible significant adverse transportation impacts.

### 2.6-2 – The With-Action Condition

The transportation screening analysis, preformed for the Proposed Actions, is based on the difference between the No-Action and With-Action Conditions for the Applicant's Development Site. The With-Action Condition includes the development of a total of 40 dwelling units (27,500 gsf of residential floor area), and 7,000 gsf of local retail space, and no accessory parking spaces. The No-Action Condition includes a total of 3 dwelling units (2,316 gsf of residential floor area), and no accessory parking spaces. As such, the No-Action to With-Action Condition increments include a net increase of 37 dwelling units (equating a net increase of 25,184 gsf of residential floor area) and a net increase of 7,000 gsf of local retail space, with no increase in accessory parking spaces (see Table 2.6-1, below).

**Table 2.6-1 – Increment between the No-Action and With-Action Conditions**

| | Existing/No-Action Condition | With-Action Condition | Increment |
|---|---|---|---|
| **Applicant's Development Site (Lots 14 and 16)** | | | |
| Residential and Commercial Use GSF | | | |
| *Residential* | 2,316 | 27,500 | +25,184 |
| *Commercial* | 0 | 7,000 | +7,000 |
| *TOTAL:* | 2,316 | 34,500 | +32,184 |
| Residential Dwelling Units | | | |
| *Market Rate Dwelling Units* | 3 | 32 | +29 |
| *Affordable Dwelling Units* | 0 | 8 | +8 |
| *TOTAL:* | 3 | 40 | +37 |
| Accessory Parking (Count) | 0 | 0 | 0 |

### 2.6-3 – Weighted Average Screening Analysis

This level of development would not exceed the minimum development density potentially requiring a transportation analysis as shown in Table 16-1 of the Transportation Chapter of the *2014 CEQR Technical Manual*. The applicable minimum development density for the location of the Applicant's Development Site in Zone 2 is 200 new residential dwelling units, 10,000 additional gross square feet of commercial office space, or 85 new off-street accessory parking spaces.

Therefore, based on the *2014 CEQR Technical Manual*, Table 16-1, Zone 2 threshold criteria the weighted average is calculated below, and the result is less than 1. As such, no further analysis regarding significant adverse transportation impacts

Weighted Average Screening Analysis:

37/200 (Dwelling Units) +7,000/15,000 (Local Retail gsf) = +0.185+0.467=0.652 <1

## 2.7 AIR QUALITY

### 2.1-1 - Introduction

Ambient air quality describes pollutant levels in the surrounding environment to which the public has access. To assess potential health hazards due to ambient air quality, the impact of air pollutants emitted by motor vehicles (mobile source) and by fixed facilities (stationary source) are analyzed, where the effects of both the proposed project on ambient air quality and the ambient air quality effect on the proposed project are considered. The analysis framework, as mandated by the State Environmental Review Act, followed the *New York City Environmental Quality Review 2014 Technical Manual*.

Project Description

The Affected Area, consisting of Brooklyn Block 2916, p/o Lot 8, Lots 14, 16, and p/o Lot 17, is located in Community District 1 in the Greenpoint-Williamsburg neighborhood of Brooklyn. Block 2916 is bounded by Metropolitan Avenue to the north, Olive Street to the east, Devoe Street to the south, and Bushwick Avenue to the west. The project Build Year is 2022.

The proposed rezoning would allow for development on two sites as further discussed below:

The Applicant's Development Site (or Projected Development Site 1, Block 2916, Lots 14 and 16) is identified as the Development Site. The With-Action Reasonable Worst-Case Development Scenario (RWCDS) would permit development of a nine-story, 95-foot high building, approximately 34,500 gross square feet (gsf) Quality Housing Program mixed-use residential and commercial building, including 27,500 gsf of residential uses and 7,000 gsf of commercial retail uses. No accessory off-street parking would be required.

The adjacent Lot (Block 2916, Lot 8) is identified as Potential Development Site 1. The Proposed Action would facilitate a mixed-use, predominantly residential, nine-story, 95 feet high, building. The RWCDS building would contain 58,075 gsf of floor area, of which 45,450 gsf are residential floor area and 12,625 gsf are commercial ground floor area. Approximately 27 accessory parking spaces would be provided for the residential use in a subsurface parking structure approximately 9,000 sf in size.

Regarding the proposed rezoning of p/o Lot 17 from C8-2 to R6B / C2-4, this only applies to a small southwestern corner of the lot (i.e., approximately 30 sf) and is being undertaken in order to make the zoning at that portion of the lot consistent with the remainder of lot's zoning.

Air Pollutants and Applicable Standards and Guidelines

*National Air Quality Standards*

The U.S. Environmental Protection Agency (EPA) has identified six pollutants, known as criteria pollutants which are being of concern nationwide, and established threshold concentrations based upon adverse effect on human health. As required by the Clean Air Act, National Ambient Air Quality Standards (NAAQS) have been established for the criteria pollutants by EPA, and New York State has adopted the NAAQS as the State ambient air quality standards. The pollutants for which a detailed analysis was conducted, together with their health-related averaging periods, are presented in Table 2.7-1.

*New York State Standards*

As mentioned, New York State has adopted the national standard, NAAQS. The NYS also set annual $SO_2$ standard. In addition, the New York State Department of Environmental Conservation (NYSDEC) has established guidelines for maximum allowable concentration of "noncriteria pollutants," which are potentially toxic or carcinogenic pollutants. The maximum allowable guidelines set a maximum 1-hour and annual averaging time concentrations and are published in the DAR-1 AGC/SGC Table, where AGC/SGC refers to Annual and Short-term Guideline Concentrations. The most recent DAR-1 guidelines were created on August 10, 2016. NYSDEC also regulates pollutants that produce discomfort due to odors, where significant discomfort is evaluated on quantity, characteristic or duration.

*NYC Guidelines*

In addition to the NAAQS, the *CEQR Technical Manual* requires that projects subject to CEQR apply a $PM_{2.5}$ and CO 8-hour averaging time significant impact criteria (based on concentration increments). The *de minimis* criteria are more stringent than the NAAQS and the state standards, as the criteria set a maximum increase of pollutant concentration that is below the national standard. The following criteria are used for determination of significant adverse $PM_{2.5}$ incremental impacts for projects subject to CEQR:

- 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; or
- Predicted annual average $PM_{2.5}$ concentration increments greater than 0.1 $\mu g/m^3$ at ground level on a neighborhood scale (i.e., the annual increase in concentration representing the average over an area of approximately 1 square kilometer, centered on the location where the maximum ground-level impact is predicted for stationary sources; or for mobile sources, at a distance from a roadway corridor similar to the minimum distance defined for locating neighborhood scale monitoring stations); or
- Predicted annual average $PM_{2.5}$ concentration increments greater than 0.3 $\mu g/m^3$ at any receptor location for stationary sources.

Per the *CEQR Technical Manual*, CO significant impact concentration is:

- 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.

*Background Concentrations*

Background concentrations of the criteria pollutants for which a detailed analysis was conducted were obtained from the NYSDEC's 2018 annual report at the nearest monitoring station(s). Table 2.7-1 shows the background concentrations and the NAAQS.

**Table 2.7-1 - The NAAQS and 2018 Background Concentrations at the Nearest NYSDEC Monitoring Stations**

| Pollutant | Averaging Period | National and State Standards | Background Concentration | Monitoring Station |
|---|---|---|---|---|
| $NO_2$ | 1-Hour | 188 µg/m$^3$ | 105.7 µg/m$^3$ | Queens College 2 |
| | Annual | 100 µg/m$^3$ | 27.2 µg/m$^3$ | |
| $PM_{2.5}$ | 24-Hour | 35 µg/m$^3$ | 17.2 µg/m$^3$ | JHS 126 |
| | Average | 12 µg/m$^3$ | 7.7 µg/m$^3$ | |
| $SO_2$ | 1-Hour | 196 µg/m3 | 14.8 µg/m3 | Queens College 2 |
| | Annual [(1)] | 80 µg/m3 | 1.1 µg/m3 | |

**Notes:** 1 6 CRR-NY 257-2.3 for annual $SO_2$ standard: "During any 12 consecutive months, the annual average of the 24-hour average concentrations shall not exceed 0.03 ppm."

*$NO_2$ NAAQS*

Nitrogen oxide (NOx) emissions from combustion consist predominantly of nitric oxide (NO) at the source. The NOx in these emissions are then gradually converted to $NO_2$, which is the pollutant of concern, in the atmosphere (in the presence of ozone and sunlight as these emissions travel downwind of a source). For determining compliance with the 1-hour standard, the EPA has developed a three-tiered modeling approach: Tier 1, the most conservative approach, assumes a full (100%) conversion of NOx to $NO_2$; Tier 2 applies a conservative ambient NOx/$NO_2$ ratio of 80% to the NOx estimated concentrations; and Tier 3, which is the most precise approach, accounts for the chemical transformation of NO emitted from the stack to $NO_2$ within the source plume using hourly ozone background concentrations.

**2.7-2 – Mobile Source Analysis**

Introduction

Projects may result in significant mobile source impacts when they create mobile sources of pollutants, change traffic pattern, or add new uses near mobile sources of pollutants. Per CEQR guidelines, a detailed analysis is conducted to predict whether the Proposed Action could potentially have a significant adverse air quality impact if certain threshold criteria are met or exceeded, while proposed projects that do not meet or exceed the threshold criteria are not expected to have a mobile source impact (screen out). Projects that require a detailed analysis, model the CO and PM concentrations—the mobile source pollutants of concern—and compare the modeled concentrations with the applicable air quality standard(s).

Mobile Source Screen

*Project-Generated Traffic*

Screening analyses for the project's peak hour auto traffic and peak hour heavy-duty diesel vehicle (HDDVs) traffic were conducted. Per the *CEQR Technical Manual*, a detailed analysis for carbon monoxide (CO) is required if the generate peak hour auto traffic or diversion of existing peak hour traffic would result in an increment of 170 auto trips (in this area of the city). A detailed analysis for particles with an aerodynamic diameter of less than or equal to 2.5 micrometers (PM2.5) is required if the generate peak

hour HDDVs traffic or its equivalent in vehicular emissions, depending on the type of road, would be met or exceeded.

The Proposed Actions would not exceed the *CEQR Technical Manual Table 16-1* threshold criterions. As such, the project-generated peak hour auto traffic would not exceed 170 net vehicles trips at any given hour at any intersection during any peak hour.

The $PM_{2.5}$ equivalent truck calculation in vehicular emission screen depends on the type of road. Metropolitan Avenue and Bushwick Avenue are classified as principal arterial roadways.[3] The *CEQR Technical Manual* threshold criterions for arterial roadway is 23 HDDVs. The NYC DCP online CEQR App was used to predict the project-generated traffic, where the CEQR App output is based on the *CEQR Technical Manual* planning factors. The HDDVs screen does not apply to passenger cars; however, the HDDVs screen assumed that all autos (passenger cars and passenger trucks combined) are LDGT1 class vehicles. The worst-case project-generated traffic would result in an increment of 10 autos and no trucks. The worst-case traffic as HDDVs or its equivalent in vehicular emissions would result in a maximum of 0.4 equivalent trucks. As such, the Proposed Actions PM2.5 equivalent truck calculation in vehicular emission does not exceed the HDDVs screening threshold criterion. **Table 2.7-2** shows the project-generated traffic calculated with the CEQR App and the *CEQR Technical Manual* Equivalent Truck Calculations.

**Table 2.7-2 - Project-Generated Traffic and CEQR Technical Manual Equivalent Truck Calculations**

| Peak-Hour Period | Truck Per Hour | Auto Per Hour | Equivalent Truck | Pass / Fail |
|---|---|---|---|---|
| AM | 0 | 10 | 0.4 | Pass |
| MD | 0 | 4 | 0.2 | Pass |
| PM | 0 | 10 | 0.4 | Pass |
| Saturday | 0 | 10 | 0.4 | Pass |

As seen in **Table 2.7-2**, the Proposed Actions $PM_{2.5}$ equivalent truck calculation in vehicular emission does not exceed the HDDVs screening threshold criterion.

*Parking Garage*

Based on CEQR guidelines, the maximum capacity of a parking garage is evaluated against a threshold criterion to predict whether the potential impacts associated with mobile source emissions are significant. The threshold criteria level, per CEQR guidelines, is 85 new off-street parking spaces. If the threshold is met or exceeded, a detailed analysis is warranted.
The proposed project would result in a net decrease of 27 new off-street parking spaces. Therefore, no detailed air quality analysis is required, and no significant mobile source air quality impacts are expected from vehicular emission generated at the proposed project's off-street parking facility.

[3] https://gis3.dot.ny.gov/html5viewer/?viewer=FC

**2.7-3 – Project HVAC Systems Analysis**

Introduction

Per the *CEQR Technical Manual*, the HVAC analysis considers the potential for emissions from the HVAC system(s) of the proposed project to significantly impact existing land uses (project-on-existing), and the potential of the proposed project to significantly impact each other (project-on-project).

Buildings' HVAC systems are defined as stationary sources in the *CEQR Technical Manual*. Based on CEQR guidelines, a preliminary screening analysis is to be conducted as a first step to predict whether the heat and hot water system boiler emissions would result in a significant impact. This CEQR screening procedure is applicable to buildings that are not less than 30 feet from the nearest building of similar or greater height. Otherwise, a detailed dispersion analysis is required.

Screening Analysis

As outlined in the *CEQR Technical Manual,* the potential for stationary source emissions from heat and hot water systems to have a significant adverse impact on nearby receptors depends on the type of fuel that would be used, the building's residential or non-residential use, the square footage of the development that would be served by the system, the height of the building served by the HVAC system, and the distance to the nearest building whose height is at least as great as the building served by the HVAC system. The *CEQR Technical Manual* provides a screening analysis based on these factors, which was utilized to determine the potential for significant impacts from the projected building's HVAC system(s).

According to 15 RCNY 2-15, no new boiler or burner installations may use No. 6 or No. 4 fuel oils. Therefore, the highest-emitting fuel that could be used is No. 2 fuel oil. As such, fuel Oil No. 2 was assumed to be the type of fuel used in the Projected/Potential Development Sites boilers, and the analysis assumed that the boilers heat capacities would resemble that of residential use buildings.

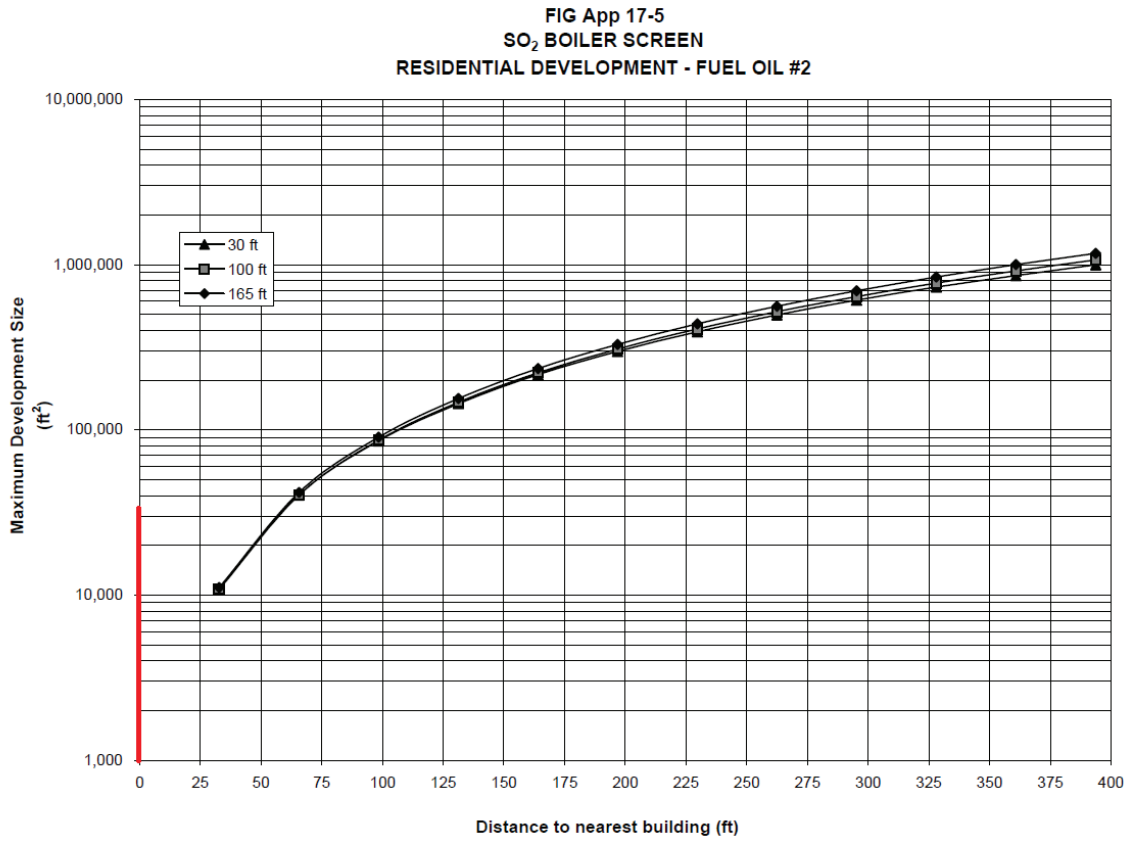
The CEQR nomographs depicted on Figure 17-5 of the CEQR Technical Manual Appendices was used for the screening analysis. This stationary source screen is a generic screen that considers the type of fuel used and the residential or nonresidential use of the building. This nomograph depict the size of the development versus distance below which the potential impact can occur and provides a conservative estimate of the threshold distance. If the actual distance between a stack and the affected building is greater than the threshold distance for a building size, then that building passes the screening analysis (and no adverse significant impact is predicted). However, if the actual distance is less than the threshold distance for a building, then there is a potential for an adverse significant impact and a detailed analysis would be required. The following screening analysis were conducted:

- *Project-on-project scenario*: The Projected/Potential Development Sites, which are adjacent, on each other. Projected Development Site 1, as a 34,500 gsf residential building, is adjacent to Potential Development Site 1 as a 58,075 gsf residential building. Both these RWCDS would be 95 feet high. Figures 2.7-1 and 2.7-2 (using Figure 17-5 of the CEQR Technical Manual Appendices) show the project-on-project screening analyses:

- *Project-on-existing*: Screening analysis is only applicable to a single smokestack. However, for purpose of a cumulative analysis, emissions from multiple stacks could be combined in a single

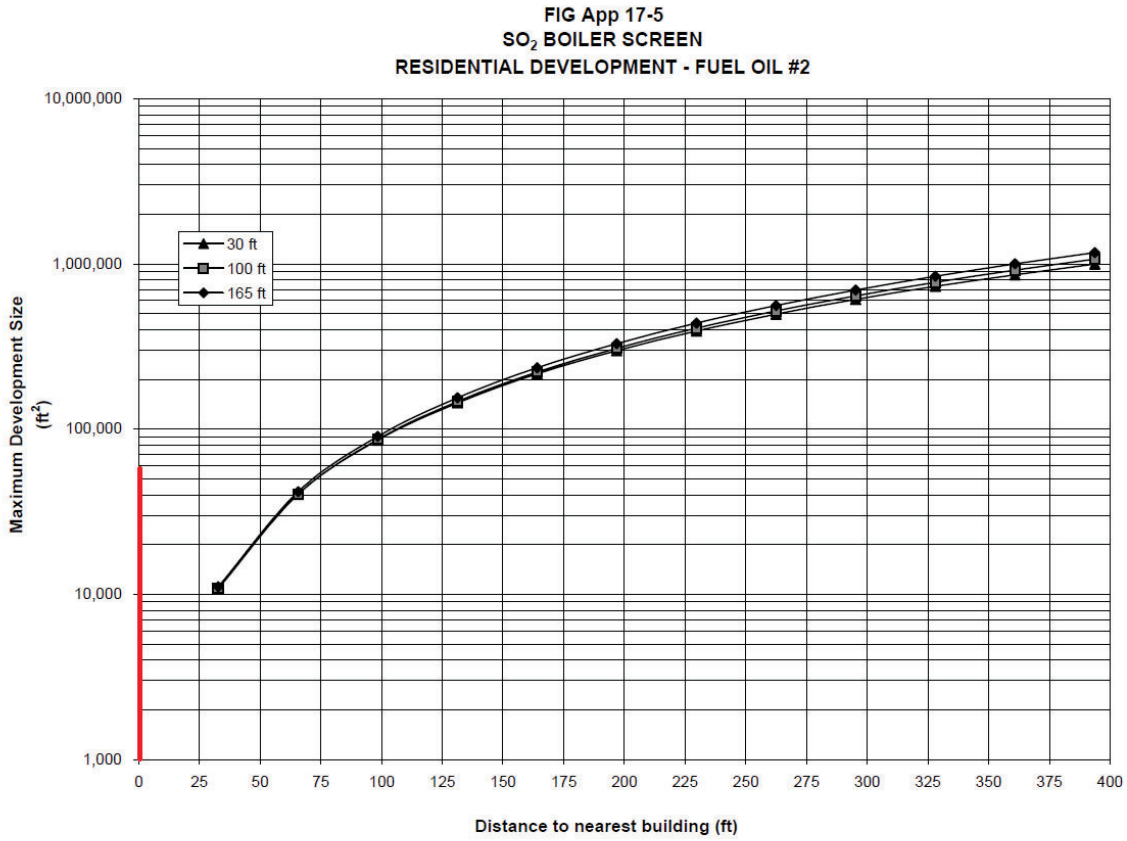
stack situated as close as possible to a receiving building. The nearest building of similar or greater height is the 108-foot tall building located at 75 Bushwick Avenue (Block 2922, Lot 3), and 638 feet south of the Affected Area. As this building is more than 400 feet from the Affected Area, a distance of 400 feet was assumed, as the CEQR Technical Manual requires. For this screening analysis, Projected Development Site 1 and Potential Development Site 1 were assumed as a single residential building, 95 feet high, containing 92,575 gsf of floor area. Fuel Oil No. 2 would be the type of fuel used in the building's HVAC system. A distance of 400 feet between the source and receiving building was considered as there is no building 95 feet of higher within 400 feet of the Affected Area. Figures 2.7-3 (using Figure 17-5 of the CEQR Technical Manual Appendices) shows the project-on-existing screening analysis.

**Figure 2.7-1 - Projected Development Site 1 on the Potential Development Site 1 – HVAC Screen Nomograph**



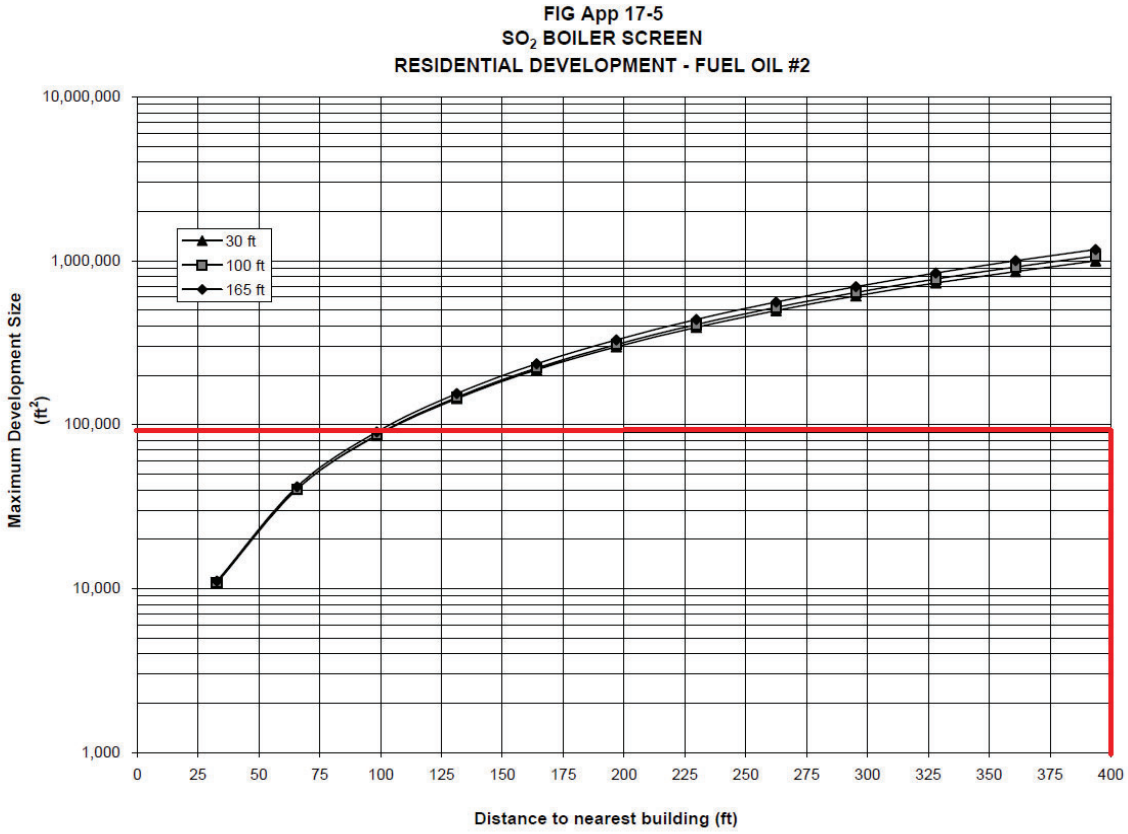

As seen in **Figure 2.7-1** (using Figure 17-5 of the *CEQR Technical Manual Appendices*), Projected Development Site 1 on Potential Development Site 1 failed the screening analysis (screening analysis is not applicable to buildings that are less than 30 feet from the nearest building of similar or greater height). Therefore, a detailed analysis was required.

**Figure 2.7-2 - Potential Development Site 1 on Projected Development Site 1 - HVAC Screen Nomograph**




As seen in **Figure 2.7-2** (using Figure 17-5 of the CEQR Technical Manual Appendices), Potential Development Site 1 on Projected Development Site 1 failed the screening analysis (screening analysis is not applicable to buildings that are less than 30 feet from the nearest building of similar or greater height). Therefore, a detailed analysis was required.

**Figure 2.7-3 - Cumulative Project-on-Existing - HVAC Screen Nomograph**




As seen in **Figure 2.7-3** (using Figure 17-5 of the CEQR Technical Manual Appendices), the project-on-existing passed the screening analysis. Therefore, no impact was predicted to existing land uses that are at least 95 feet or higher from the proposed project's HVAC systems; hence, no further analysis was required for the RWCDS buildings potential impact on existing land uses.

Detailed Analysis

*Methodology*

Two scenarios of dispersion modeling analyses were conducted to predict the potential for significant impacts of the Development Sites' HVAC stacks emissions associated with the project-on-project scenario: (i) The potential for impact of Projected Development Site 1 on Potential Development Site 1; and (ii) the potential for impact of Potential Development Site 1 on the Projected Development Site 1.

These analyses were conducted using the EPA's AERMOD modeling system version 18081 dispersion model. In accordance with CEQR guidance, these analyses were conducted assuming stack tip downwash, urban dispersion surface roughness, elimination of calms, and with and without downwash effect on plume dispersion. All analyses specified flat terrain and population of 2,000,000. All analyses were conducted using the latest five consecutive years of meteorological data (2014-2018). Surface data was obtained from La Guardia Airport, upper air data was obtained from Brookhaven station, New York. The meteorology data, processed by Lakes Environmental Software, was processed using AERMET version

18081, AERMINUTE version 15272, and AERSURFACE version 13016. No data filling was conducted as the raw data quality was more than sufficient for the modeling purposes (99.47 percent of raw data). These meteorological data provide hour-by-hour wind speeds and directions, stability states, and temperature inversion elevations over the 5-year period. Meteorological data were combined to develop a 5-year set of meteorological conditions, which was used for the AERMOD modeling runs and Anemometer height of 9.4 meters was specified per Lakes Environmental Software Inc.

The pollutants of concern of oil #2 fueled boilers are $SO_2$, $PM_{2.5}$, and $NO_2$. The Development Sites' boilers' energy intensities were calculated from the annual fuel usage and the developments' gross floor area corresponding to residential usage. Pertinent values were obtained from the *CEQR Technical Manual Appendices*, the assumption that all fuel would be consumed during the 100-day (or 2,400 hour) heating season, and emission factors from the EPA's AP-42 manual for external combustion sources. **Table 2.7-3** shows the calculated emission rates, both short-term and annual.

**Table 2.7-3 - The Development Sites Short-term and Annual Emission Rates**

| Site ID | Fuel | Boiler Energy Intensity (MMBtu/hr) | Pollutant | Averaging Time | Emission Rate (g/s) |
|---|---|---|---|---|---|
| **Projected Development Site 1** | Oil No. 2 | 0.9 | $NO_2$ | 1-hour | 1.56E-02 |
| | | | | Annual | 4.29E-03 |
| | | | $PM_{2.5}$ | 24-hour | 1.67E-03 |
| | | | | Annual | 4.57E-04 |
| | | | $SO_2$ | 1-hour | 1.67E-04 |
| | | | | Annual | 4.57E-05 |
| **Potential Development Site 1** | Oil No. 2 | 1.5 | $NO_2$ | 1-hour | 2.63E-02 |
| | | | | Annual | 7.22E-03 |
| | | | $PM_{2.5}$ | 24-hour | 2.81E-03 |
| | | | | Annual | 7.69E-04 |
| | | | $SO_2$ | 1-hour | 2.81E-04 |
| | | | | Annual | 7.69E-05 |

The diameter of the stack and the exhaust' exit velocity of the boiler with energy intensity less than 1-million Btu (Projected Development Site 1) were assumed to be 0.0 feet and 0.001 meter per second, respectively, based on values obtained from the *CEQR Technical Manual*. The Potential Development Site 1 boiler stack diameter was estimated based on values obtained from the New York City Department of Environmental Protection (DEP) "CA Permit" database for the corresponding boiler sizes (i.e., rated heat input or million Btu per hour).[4] The fuel dry volume of combustion components per unit of heat content was used to calculate the Potential Development Site 1 stack exit velocity. Both stacks exit temperatures were assumed to be 423oK, which is appropriate for boilers. The boilers stacks were placed 3 feet above the roofs and as close as possible to the receiving building(s); hence, a stack set back distance was specified if exceedance of a threshold concentration standard was predicted.

The AERMOD models of the Projected Development Site 1 impact on the Potential Development Site 1 specified a stack set back distance of 25 feet from the receiving building. The Potential Development Site

[4] DEP "CA Permit" database obtained from the New York City Department of City Planning

1 impact on the Projected Development Site 1 specified a stack set back distance of 55 feet from the receiving building. These stacks set back distances were specified in the E Designation language.

All Development Site RWCDS buildings were modeled as buildings that cover all their lot areas and rise to their maximum allowable height. Buildings in the surrounding area were accounted for in the downwash effect on plums dispersions (BPIP) scenarios. Receptors on the receiving building were placed all around the receiving building envelope, at 10 feet horizontal increments and on all floor levels. Ground floor receptors were placed at a height of 6 feet above grade. Second floor receptors were placed at a height of 21 feet, assuming a 15 feet high ground floor level. Receptors on the third to the top floors of the receiving building were placed 6 feet above each floor level, assuming 10 feet high floor levels.

The 1-hour NO2 models were run with the calculated emission rates and 8th highest output concentration, and a Tier 2 approach of ambient $NOx/NO_2$ ratio of 80% to the NOx estimated concentrations was applied to predict the Potential Development Site 1 concentration. All other AERMOD models specified generic emissions of 1 gram per second and maximum (1st highest) output concentrations.

*Results of Dispersion Analysis*

As previously mentioned, each pollutant averaging time was modeled twice—with building wake effect enabled/disabled. The predicted concentration is the highest concentration of these. The NO2 and 1-hour SO2 modeled concentrations were added to the background concentrations and results evaluated with the NAAQS. Annual SO2 impact concentrations were added to the background concentrations and results evaluated with the NYS standard. The PM2.5 modeled concentrations were compared with the de minimis criteria concentrations increments. Result of the HVAC project-on-project dispersion analyses are shown in **Table 2.7-4**.

**Table 2.7-4 - The Project-on-Project HVAC Dispersion Analysis Results**

| Pollutant and Averaging Time | Modeled Concentration ($\mu g/m^3$) | Background Concentration ($\mu g/m^3$) | Evaluated Concentration ($\mu g/m^3$) | Threshold Concentration ($\mu g/m^3$) | Threshold Standard |
|---|---|---|---|---|---|
| **Projected Development Site 1 – on – Potential Development Site 1 (1)** | | | | | |
| **1-hour $NO_2$** | 74.6 (2) | 105.7 | **180.2** | **188** | **NAAQS** |
| **Annual $NO_2$** | 1.0 | 27.25 | **28.2** | **100** | **NAAQS** |
| **24-hour $PM_{2.5}$** | 3.08 | N.A. | **3.08** | **8.90** | ***de* minimis** |
| **Annual $PM_{2.5}$** | 0.11 | N.A. | **0.106** | **0.3** | ***de* minimis** |
| **1-hour $SO_2$** | 1.50 | 14.8 | **16.3** | **196** | **NAAQS** |
| **Annual $SO_2$** | 0.01 | 1.1 | **1.10** | **80** | **NAAQS** |
| **Potential Development Site 1 – on – Projected Development Site 1 (1)** | | | | | |
| **1-hour $NO_2$** | 80.2 | 105.7 | **186** | **188** | **NAAQS** |
| **Annual $NO_2$** | 1.1 | 27.2 | **28.4** | **100** | **NAAQS** |
| **24-hour $PM_{2.5}$** | 3.55 | N.A. | **3.55** | **8.90** | ***de* minimis** |
| **Annual $PM_{2.5}$** | 0.12 | N.A. | **0.12** | **0.3** | ***de* minimis** |
| **1-hour $SO_2$** | 1.0 | 14.8 | **16** | **196** | **NAAQS** |
| **Annual $SO_2$** | 0.01 | 1.1 | **1.1** | **80** | **NAAQS** |

(1) Results predicted with a stack set back distance from the lot line facing.
(2) Tier 2 approach used.

As seen in **Table 2.7-4**, no significant adverse air quality impacts were predicted for the project-on-project scenario; the $NO_2$ and $SO_2$ predicted concentrations are within the NAAQS and the $PM_{2.5}$ predicted concentrations do not exceed the *de minimis*. As previously mentioned, stacks restrictions were required.

Therefore, with (E) Designations in place, the emissions of the Development Sites' HVAC systems would not pose a significant adverse impact to other buildings in the area.

**E-618**

**Block 2916, Lot 14 and 16 (Projected Development Site 1):** ***Any new residential/commercial development on the above-referenced property must ensure that the heating, ventilating, air conditioning (HVAC), and hot water system(s) stack is located at the building's highest tier and at least 98 feet above grade, and is at least 25 feet from the western lot line facing Bushwick Avenue to avoid any potential significant adverse air quality impacts.***

**Block 2916, Lot 18 (Potential Development Site 1):** ***Any new residential/commercial development on the above-referenced property must ensure that the heating, ventilating, air conditioning (HVAC), and hot water system(s) stack is located at the building's highest tier and at least 98 feet above grade, and is at least 55 feet from the eastern lot line facing Olive Street to avoid any potential significant adverse air quality impacts.***

**2.7-4 – Industrial Source**

As outlined in the *CEQR Technical Manual*, projects that would introduce new uses near industrial sources may result in potentially significant adverse air quality impacts. The study area considers industrial sources within 400 feet of the Development Sites. Industrial sources are identified as commercial, industrial, or processing facilities that are likely to have New York City Department of Environmental Protection (DEP) processing type permits. However, some facilities operate with no DEP permit.

The facility located at 234 Skillman Avenue (Block 2893, Lot 7502) has two DEP processing permits, PR008417 and PB019615, for emergency engine generator. Emergency power engine generators are exempt sources. Therefore, no analysis was required.

No other facility in the study area has a processing type permit. In addition, the land survey study identified no likely processing facility, such as an auto body facility (the Wing Auto Shop, located at 383 Humboldt avenue (Block 2760, Lot 24) was identified as an auto mechanic based on a phone call to the facility) or woodworking facility, in the study area. Therefore, the proposed project would not be affected by industrial source emissions and no further analysis for air toxics was warranted.

**2.7-5 – Major / Large Source**

Major emission sources are identified as those sources located at Title V facilities that require Prevention of Significant Deterioration permits. Large emission sources are identified as sources located at facilities which require a State facility permit, such as solid waste or medical waste incinerators, asphalt and concrete plants, or large printing facilities. Odor producing facilities are considered major sources for the purpose of the air quality analysis. Odor producing facilities are operations that have the potential to cause discomfort, such as: solid waste management facilities, water pollution control plants (i.e., sewage treatment plants), and incinerators.

No major or large source was identified within 1,000 feet of the proposed project.[5,6] Therefore, no analysis was required, and no significant adverse air quality impacts are expected from these types of sources.

**2.7-6 - Conclusions**

Based on this analysis, conditions associated with the proposed project would not result in any violations of the ambient air quality standards. Therefore, the action would not result in any potentially significant adverse stationary or mobile source air quality impacts, and further assessment is not warranted.

[5] Per database published on http://www.dec.ny.gov/chemical/32249.html, and compiled on May, 2019
[6] https://gisservices.dec.ny.gov/gis/dil/

## 2.8 NOISE

### 2.8-1 – Introduction

Environmental Studies Corp. (ESC) conducted noise monitoring on Wednesday, October 10th, 2019 in support of a Zoning Map Amendment to facilitate a Quality Housing Program mixed-use residential and commercial building. The Affected Area encompasses a part of the northeastern portion of Brooklyn Block 2916, including four contiguous tax lots, p/o Lot 8, Lots 14 and 16, and p/o 17m bounded by the centerline of Metropolitan Avenue to the north, the centerline of Bushwick Avenue to the west, the northern boundary of the existing R7A zoning district and the rear lot line of those lots fronting on Devoe Street to the south, and the remainder of Lot 17 not included in the proposed zoning map and text amendments to the east

Metropolitan Avenue is a two-way street with one moving east-bound lane and one moving west-bound lane with curbside parking. Bushwick Avenue is a two-way street with one moving north-bound lane and one moving south-bound lane with curbside parking. Local intersections are controlled by traffic signals and stop signs.

The Proposed Action would allow noise-sensitive residential development in an area where such use is not permitted under existing zoning, as well as allowing commercial development. Therefore, an assessment of the potential for adverse effects on project occupants from ambient noise is warranted. The projected development would not create a significant stationary noise generator. Additionally, project-generated traffic would not double vehicular traffic on nearby roadways, and therefore would not result in a perceptible increase in vehicular noise. Therefore, this noise assessment is limited to an assessment of ambient noise that could adversely affect occupants of the development. The predominant noise source at the Affected Area is vehicular traffic on surrounding streets.

### 2.8-2 – Framework of Noise Analysis

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

Because the human ear can detect such a wide range of sound pressures, sound pressure is converted to sound pressure level (SPL), which is measured in units called decibels (dB). The decibel is a relative measure of the sound pressure with respect to a standardized reference quantity. Because the dB scale is logarithmic, a relative increase of 10 dB represents a sound pressure that is 10 times higher. However, humans do not perceive a 10-dB increase as 10 times louder. Instead, they perceive it as twice as loud.

Sound is often measured and described in terms of its overall energy, taking all frequencies into account. However, the human hearing process is not the same at all frequencies. Humans are less sensitive to low frequencies (less than 250 Hz) than mid-frequencies (500 Hz to 1,000 Hz) and are most sensitive to frequencies in the 1,000- to 5,000-Hz range. Therefore, noise measurements are often adjusted, or weighted, as a function of frequency to account for human perception and sensitivities. The most common frequency weightings used are the A- and C-weightings. These weight scales were developed to allow sound level meters, which use filter networks to approximate the characteristic of the human

hearing mechanism, to simulate the frequency sensitivity of human hearing. The A-weighting is the most commonly used for environmental measurements, and sound levels measured using this weighting are denoted as dBA. The letter "A" indicates that the sound has been filtered to reduce the strength of very low and very high frequency sounds, much as the human ear does. C-weighting gives nearly equal emphasis to sounds of most frequencies. Mid-range frequencies approximate the actual (unweighted) sound level, while the very low and very high frequency bands are significantly affected by C-weighting.

**Table 2.8-1: Noise Levels of Common Sources**

| Sound Source | SPL (dB(A)) |
|---|---|
| **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 |
| **Isolated Broadcast Studio** | 20 |
| **Audiometric (Hearing Testing) Booth** | 10 |
| **Threshold of Hearing** | 0 |
| ***Notes: A change in 3dB(A) is a just noticeable change in SPL. A change in 10 dB(A)Is perceived as a doubling or halving in SPL.*** | |
| *Source: 2014 CEQR Technical Manual* | |

The following is typical of human response to relative changes in noise level:

- 3-dBA change is the threshold of change detectable by the human ear;
- 5-dBA change is readily noticeable; and
- 10-dBA change is perceived as a doubling or halving of the noise level.

The SPL that humans experience typically varies from moment to moment. Therefore, various descriptors are used to evaluate noise levels over time. Some typical descriptors are defined below.

- $L_{eq}$ is the continuous equivalent sound level. The sound energy from the fluctuating SPLs is averaged over time to create a single number to describe the mean energy, or intensity, level. High noise levels during a measurement period will have a greater effect on the $L_{eq}$ than low noise levels. $L_{eq}$ has an advantage over other descriptors because $L_{eq}$ values from various noise sources can be added and subtracted to determine cumulative noise levels.

- Lmax is the highest SPL measured during a given period of time. It is useful in evaluating Leqs for time periods that have an especially wide range of noise levels.

- $L_{eq(24)}$ is the continuous equivalent sound level over a 24-hour time period.

The sound level exceeded during a given percentage of a measurement period is the percentile-exceeded sound level ($L_X$). Examples include $L_{10}$, $L_{50}$, and $L_{90}$. $L_{10}$ is the A-weighted sound level that is exceeded 10% of the measurement period.

The decrease in sound level caused by the distance from any single noise source normally follows the inverse square law (i.e., the SPL changes in inverse proportion to the square of the distance from the sound source). In a large open area with no obstructive or reflective surfaces, it is a general rule that at distances greater than 50 feet, the SPL from a point source of noise drops off at a rate of 6 dB with each doubling of distance away from the source. For "line" sources, such as vehicles on a street, the SPL drops off at a rate of 3 dBA with each doubling of the distance from the source. Sound energy is absorbed in the air as a function of temperature, humidity, and the frequency of the sound. This attenuation can be up to 2 dB over 1,000 feet. The drop-off rate also will vary with both terrain conditions and the presence of obstructions in the sound propagation path.

**2.8-3 – Noise Standards and Guidelines**

In 1983, the New York City Department of Environmental Protection (NYCDEP) adopted the City Environmental Quality Review (CEQR) noise exposure guidelines for exterior noise levels. As shown in Table 2.8-2 below, noise standards classify noise exposure into four categories based on noise level limits and land use, for vehicular traffic, rail, and aircraft noise sources: Acceptable, Marginally Acceptable, Marginally Unacceptable and Clearly Unacceptable, Table 19-3 of the *2014 CEQR Technical Manual* (Table 2.8-3 below) defines attenuation requirements for buildings based on exterior noise exposure levels. Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 45 dBA ($L_{10}$ *or Ldn, depending on the source*) or below.

**Table 2.8-2: 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 | | Ldn < 60 dBA | | Ldn < 60 dBA | | Ldn < 75 dBA |
| 2. Hospital, Nursing Home | | $L_{10} \leq 55$ dBA | | 55<$L_{10}$≤65 dBA | | 65<$L_{10}$≤80 dBA | | $L_{10}$>80dBA | |
| 3. Residence, residential hotel or motel | 7 am to 10 pm | $L_{10} \leq 65$dBA | | 65<$L_{10}$≤70 dBA | | 70<$L_{10}$≤80 dBA | | $L_{10}$>80dBA | |
| | 10 pm to 7 am | $L_{10} \leq 55$dBA | | 55<$L_{10}$≤70 dBA | | 70<$L_{10}$≤80 dBA | | $L_{10}$>80dBA | |
| 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 nursing 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 2.8-3 - CEQR TM: Attenuation Values to Achieve Acceptable Interior Noise Levels**

| | Marginally Unacceptable | | | | Clearly Unacceptable |
|---|---|---|---|---|---|
| Noise Level with Proposed Project | 70 < $L_{10}$ ≤ 73 | 73 < $L_{10}$ ≤ 76 | 76 < $L_{10}$ ≤ 78 | 78 < $L_{10}$ ≤ 80 | 80 < $L_{10}$ |
| Attenuation[1] | (i) 28 dB(A) | (ii) 31 dB(A) | (iii) 33 dB(A) | (iv) 35 dB(A) | 36 + ($L_{10}$ - 80)$^2$ dB(A) |

**Source:** New York City of Environmental Protection

**Notes:**

1 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

2 and hence an alternate means of ventilation.

## 2.8-4 – Measurement Location and Equipment

Because the predominant noise sources in the area of the proposed project consist of vehicular traffic, noise monitoring was conducted during peak weekday vehicular travel periods (AM, Midday, PM) on a typical midweek day. Pursuant to the *2014 CEQR Technical Manual* Methodology, measurements were conducted for a 20-minute period during each of the peak periods at each monitoring location at the

Project Area: Location One (1) was at the frontage of the Affected Area along Metropolitan Avenue; Location Two (2) was at the frontage of the Affected Area along Bushwick Avenue. The noise monitoring locations are shown in Figure 2.8-1 and Photograph Nos. 2.8-1 and2.8-2 (both figures and photographs are appended to the end of this section).

Noise monitoring was conducted using a using Type 1 Casella CEL-633 sound level meter with wind screen. The monitor was placed on a tripod at a height of approximately four feet above the ground, away from any other noise-reflective surfaces. The monitor was calibrated prior to and following each monitoring session. Periods of peak vehicular traffic around the Project Area constitute a worst-case condition for noise. Noise meter calibration certification and back up data are provided in the Noise Appendix.

**2.8-4 – Measurement Conditions**

Monitoring was conducted during typical midweek conditions, on Thursday, October 10th, 2019. The weather was dry and wind speeds were moderate during all monitoring periods. The sound meter was calibrated before and after each monitoring session.

**2.8-5 – Existing Conditions**

Based on the noise measurements, the predominant source of noise is vehicular traffic.

**Tables 2.8-4 and 2.8-5** below contains the results for the measurements taken at the Affected Area:

**Table 2.8-4 – Noise Levels at Monitoring Location 1, Wednesday October 10, 2019**

| Time | 7:51 am – 8:11 am | 12:22 pm – 12:42 pm | 4:50 pm – 5:10 pm |
|---|---|---|---|
| $L_{max}$ | 96.0 | 91.6 | 91.4 |
| $L_{10}$ | **76.0** | **78.0** | **79.0** |
| $L_{eq}$ | **74.3** | **74.7** | **75.8** |
| $L_{50}$ | 65.5 | 70.0 | 71.0 |
| $L_{90}$ | 57.0 | 63.0 | 63.0 |
| $L_{min}$ | 52.5 | 57.1 | 56.7 |

**Note(s): Bold** denotes $L_{10}$ or $L_{eq}$ noise level exceedances, according to Table 19-2 of the CEQR Technical Manual

**Table 2.8-5 – Noise Levels at Monitoring Location 2, Wednesday October 10, 2019**

| Time | 7:30 am – 7:50 am | 12:00 pm – 12:21 pm | 4:30 pm – 4:50 pm |
|---|---|---|---|
| $L_{max}$ | 92.1 | 95.0 | 87.9 |
| $L_{10}$ | **78.5** | **79.5** | **76.5** |
| $L_{eq}$ | **75.9** | **76.4** | **72.7** |
| $L_{50}$ | 70.5 | 70.5 | 67.0 |
| $L_{90}$ | 62.0 | 61.0 | 58.5 |
| $L_{min}$ | 54.6 | 54.8 | 54.8 |

**Note(s): Bold** denotes $L_{10}$ or $L_{eq}$ noise level exceedances, according to Table 19-2 of the CEQR Technical Manual

**Tables 2.8-6 and 2.8-7** below contains the traffic counts and vehicle classifications during each monitoring period for 20 minutes:

**Table 2.8-6 – Traffic Volumes and Vehicle Classifications at Monitoring Location 1, Wednesday October 10, 2019**

| Vehicle Type | 7:51 am – 8:11 am | 12:22 pm – 12:42 pm | 4:50 pm – 5:10 pm |
|---|---|---|---|
| **Car/ Taxi** | 74 | 57 | 116 |
| **Van/Light Truck/SUV** | 121 | 84 | 129 |
| **Medium Truck** | 32 | 17 | 19 |
| **Heavy Truck** | 14 | 9 | 1 |
| **Bus** | 8 | 2 | 2 |
| **Train** | 0 | 0 | 0 |

**Table 2.8-7 – Traffic Volumes and Vehicle Classifications at Monitoring Location 2, Wednesday October 10, 2019**

| Vehicle Type | 7:30 am – 7:50 am | 12:00 pm – 12:21 pm | 4:30 pm – 4:50 pm |
|---|---|---|---|
| **Car/ Taxi** | 89 | 63 | 109 |
| **Van/Light Truck/SUV** | 106 | 92 | 137 |
| **Medium Truck** | 30 | 11 | 16 |
| **Heavy Truck** | 22 | 4 | 2 |
| **Bus** | 3 | 0 | 3 |
| **Train** | 0 | 0 | 0 |

### 2.8-6 – Determination of Impacts/Building Attenuation Requirements

The 2014 *CEQR Technical Manual* Table 19-2 contains noise exposure guidelines. For a residential use such as would occur under the proposed action, an $L_{10}$ of between 65 and 70 dB(A) is identified as marginally acceptable general external exposure. An $L_{10}$ of between 70 and 80 dB(A) is identified as marginally unacceptable general external exposure. The highest recorded $L_{10}$ at Location One (1) of the Affected Area was 79.0 dB(A) during the PM monitoring period. The highest recorded $L_{10}$ at Location Two (2) of the Affected Area was 79.5 dB(A) during the midday monitoring period.

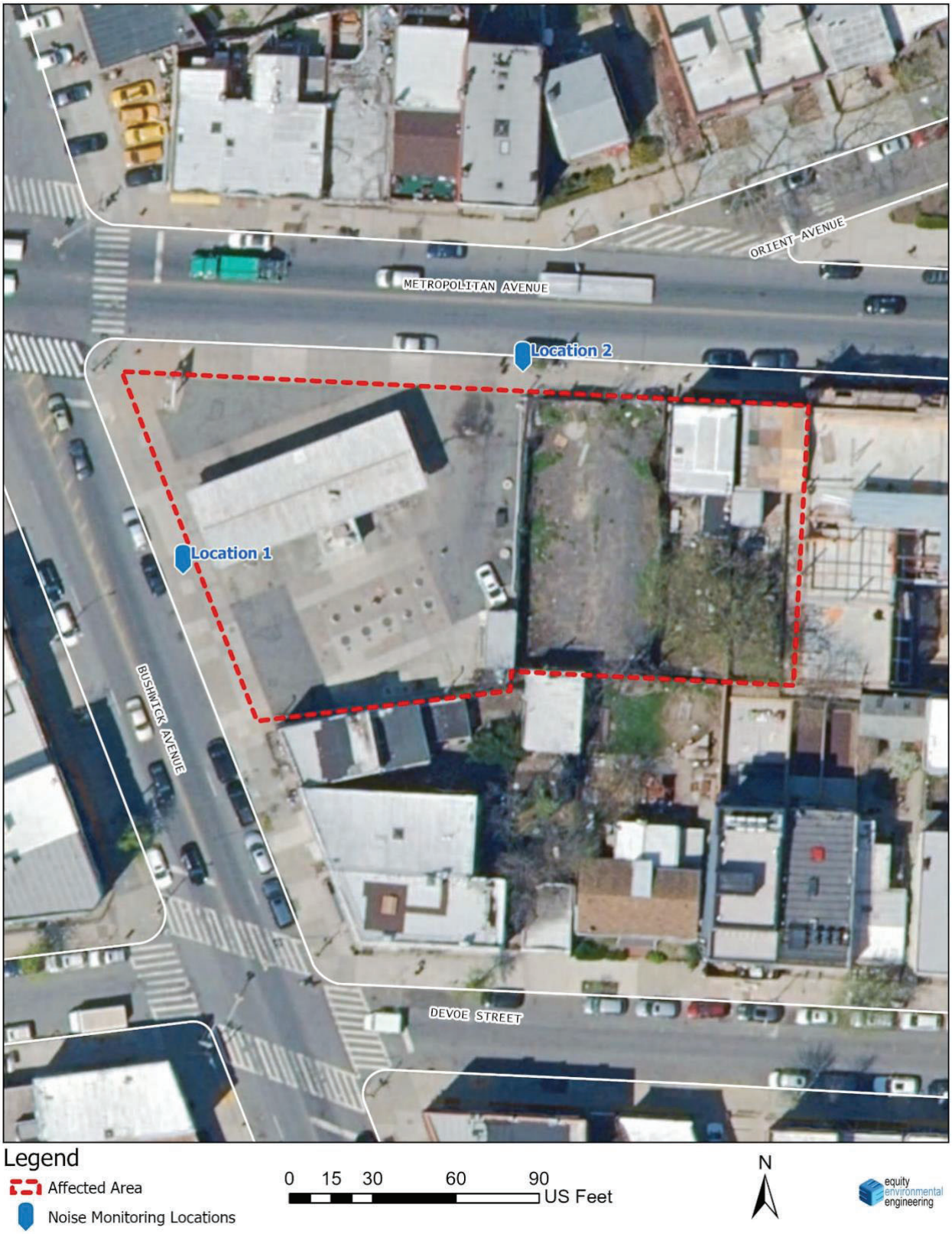
Based on the results of the noise monitoring, a 35 dB(A) window-wall attenuation would be required for all building facades. To avoid any potential impacts associated with noise, the Proposed Action will place an (E) designation for noise (E-618), the text of which would read as follows:

> ***Block 2916, Lots 14 and 16 (Projected Development Site):*** *To ensure an acceptable interior noise environment, future residential uses must provide a closed-window condition with a minimum of 35 dBA window/wall attenuation on all facades to maintain an interior noise level not greater than 45 dBA for residential uses. To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.*
>
> ***Block 2916, Lot 8 (Potential Development Site):*** *To ensure an acceptable interior noise environment, future residential/commercial office uses must provide a closed-window condition with a minimum of 35 dBA window/wall attenuation on all facades to maintain an interior noise level not greater than 45 dBA for residential uses or not greater than 50 dBA for commercial office*

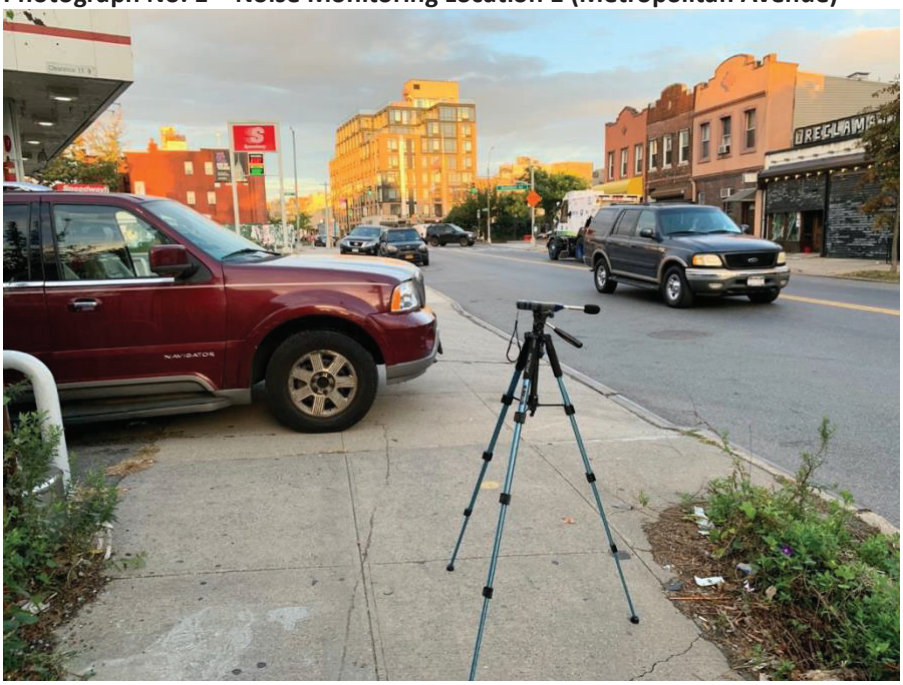
*uses. To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.*

The Applicant will record the above-referenced (E) designation related to noise with the Mayor's Office of Environmental Remediation (OER) prior to the City Planning Commission's approval of the Proposed Actions. With the implementation of this (E) designation, no significant adverse impacts related to noise would occur. Therefore, the Proposed Actions would not result in any potentially significant adverse stationary or mobile source noise impacts, and further assessment is not warranted.

**Figure 19-1 – Noise Monitoring Location Map**

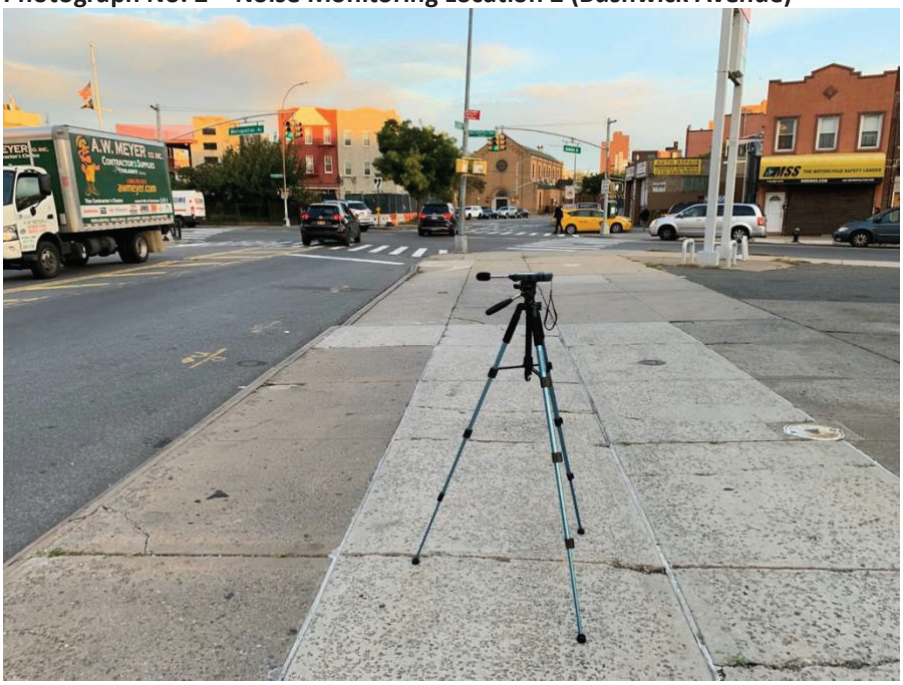


**Photograph No. 1 – Noise Monitoring Location 1 (Metropolitan Avenue)**



**deve**

**Photograph No. 2 – Noise Monitoring Location 2 (Bushwick Avenue)**



# APPENDICES

# HISTORIC AND CULTURAL RESOURCE APPENDIX

NYC 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:** 824 METROPOLITAN AVENUE
**Date Received:** 9/12/2019

---

**Properties with no Architectural significance and Archaeological significance:**
1) 808 METROPOLITAN AVENUE, BBL: 3029160008, ARCHEOLOGY FINDINGS: HISTORIC POTENTIAL
2) 824 METROPOLITAN AVENUE, BBL: 3029160014, ARCHEOLOGY FINDINGS: HISTORIC POTENTIAL
3) 832 METROPOLITAN AVENUE, BBL: 3029160016, ARCHEOLOGY FINDINGS: HISTORIC POTENTIAL
4) 834 METROPOLITAN AVENUE, BBL: 3029160017, ARCHEOLOGY FINDINGS: HISTORIC POTENTIAL

**Comments:** LPC review of archaeological sensitivity models and historic maps indicates that there is potential for the recovery of remains from 19th Century occupation on the project site. Accordingly, the Commission recommends that an archaeological documentary study be performed for this site to clarify these initial findings and provide the threshold for the next level of review, if such review is necessary (see CEQR Technical Manual 2014).

Gina Santucci 9/20/2019

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

**File Name:** 34508_FSO_DNP_09162019.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

# ARCHAEOLOGY REVIEW

**Project number:** 20DCP110K (DEPARTMENT OF CITY PLANNING)
**Project:** 824 METROPOLITAN AVENUE
**Date Received:** 11/18/2020

**Comments:** as indicated below. Properties that are individually LPC designated or in LPC historic districts require permits from the LPC Preservation department. Properties that are S/NR listed or S/NR eligible require consultation with SHPO if there are State or Federal permits or funding required as part of the action.

**This document only contains Archaeological review findings. If your request also requires Architecture review, the findings from that review will come in a separate document.**

---

**Comments:** The LPC is in receipt of the revised, "Phase IA Documentary Study and Archaeological Assessment for 808 – 832 Metropolitan Avenue, Brooklyn, Kings County, New York, Block 2916, Lots 8, 14, 16 and 17," prepared by Chrysalis Archaeological Consultants and dated October 2020.

The LPC notes that the findings of the report have been changed. The Commission concurs that Block 2916 Lots 14 and 16 have the potential to contain potentially significant archaeological resources and that archaeological testing should be completed as a next step as per the Guidelines for Archaeological Work in New York City. We further concur that Lot 17 also has potential but understand it is not part of this action and we concur that Lot 8 does not have archaeological sensitivity as a result of previous disturbance. Please submit a bound copy of the report to the LPC.



11/25/2020

SIGNATURE DATE
Amanda Sutphin, Director of Archaeology

**File Name:** 34508_FSO_ALS_11252020.docx

# Phase IA Documentary Study and Archaeological Assessment for 808 – 832 Metropolitan Avenue, Brooklyn, Kings County, New York, Block 2916, Lots 8, 14, 16 and 17



*Prepared for*
824 Metropolitan Avenue Owner, LLC

*Prepared by*
Alyssa Loorya, Ph.D., R.P.A.
and
Elissa Rutigliano
Chrysalis Archaeological Consultants, Inc.

September 2020

# Phase IA Documentary Study and Archaeological Assessment for 808 – 832 Metropolitan Avenue, Brooklyn, Kings County, New York, Block 2916, Lots 8, 14, 16 and 17

*Prepared for*
824 Metropolitan Avenue Owner, LLC

*Prepared by*
Alyssa Loorya, Ph.D., R.P.A.
and
Elissa Rutigliano
Chrysalis Archaeological Consultants, Inc

September 2020

## TABLE OF CONTENTS


I. INTRODUCTION 1

PROJECT DESCRIPTION 3
Development Site 4
Potential Development Site 4
Non-Development Site 4

II. SYNTHESIS OF PREVIOUS WORK 6

III. CONTEXT AND RESEARCH DESIGN 11

HISTORIC ENVIRONMENTAL CONTEXT 11
CURRENT CONDITIONS 11
Development Site 12
Potential Development Site 12
Non-Development Site 12
RESEARCH DESIGN 16

IV. PROJECT METHODS 17

V. DOCUMENTARY RESEARCH RESULTS 17

PRE-HISTORY 17
CONTACT PERIOD 20
HISTORIC PERIOD 20
Bushwick 24
Historic Land Use of the APE 28
Lot Specific Histories 36

VI. CONCLUSIONS 59

VII. RECOMMENDATIONS 65

VIII. REFERENCES 66

LIST OF MAPS, TABLES, FIGURES and IMAGES

Map 1: Brooklyn Quadrangle, United States Geological Survey 2019. ..... 2
Map 2: Present-day street map of the project area (OASIS 2020). ..... 3
Map 3: Site location map distinguishing the Project Area and APE (OASIS 2020). ..... 5
Map 4: *Map of The Country Thirty Miles Round the City of New York*. John H. Eddy. 1811 ..... 15
Map 5: Project Area highlighted with the Development Site (APE), Potential Development Site and non-Development Site (OASIS 2020). ..... 16
Map 6: *Indian Villages, Paths, Ponds and Places in Kings County*. Kelly 1946. ..... 19
Map 7: *Map of the counties of New York, Queens, Kings and Richmond*. David H. Burr 1829. . 23
Map 8: *An atlas of the State of New York, containing a map of the State and of the several counties*. David H. Burr 1832. ..... 27
Map 9:*Plan of the city of Brooklyn, L.I.* William Perris 1855. ..... 34
Map 10: *Higginson's Insurance Maps of the City of Brooklyn L.I.* Brooklyn, Vol. 4, Double Page Plate No. 84. J. H. Higginson 1868. ..... 35
Map 11: *Map of the City of Williamsburg and town of Bushwick, including Greenpoint with part of the City of Brooklyn*. Thomas W. Field 1852. ..... 53
Map 12: *Detailed Estate and Old Farm Line Atlas of the City of Brooklyn. Part of Ward 18. Brooklyn*. Vol. 2, Plate D. G.M. Hopkins & Co. 1880. ..... 54
Map 13: *Robinson's atlas of the city of Brooklyn, New York: embracing all territory within its corporate limits, from official records, private plans and actual surveys*. Part of Wards 15, 17 & 18. Brooklyn, N.Y. Plate 14. New York: E. Robinson & Co. 1886. ..... 55
Map 14: *Atlas of the Brooklyn borough of the City of New York*. Part of Wards 16 & 18. Land Map Section, No. 10. Vol. 1, Double Page Plate No. 36. E. B. Hyde & Co. 1898. ..... 56
Map 15: *Atlas of the borough of Brooklyn, City of New York*. Part of Ward 18, Section 10. Brooklyn, Vol. 3, Double Page Plate No. 19. E. Belcher Hyde 1904. ..... 57
Map 16: *Atlas of the Borough of Brooklyn, City of New York*. Part of Sections 9 & 10. Vol. 1, Plate 14. G.W. Bromley & Co. 1908. ..... 58
Map 17: *Sidney's map of twelve miles around New-York*. Sidney 1849. ..... 60
Map 18: Project Area zoom of *Higginson's Insurance Maps of the City of Brooklyn L.I.* Vol. 4, Double Page Plate No. 84. J. H. Higginson 1868. ..... 61
Map 19: *Map of the City of Brooklyn: being the former cities of Brooklyn & Williamsburgh and the town of Bushwick, as consolidated January 1st, 1855 by an act of the legislature of the State of New York*. Sheet 7 M. Dripps 1869. ..... 62
Map 20: *Atlas of the entire city of Brooklyn, complete in one volume; from actual surveys and official records*. Part of Wards 15, 16 & 18. City of Brooklyn. Plate 27. Geo. W. Bromley 1880. ..... 63
Map 21: *Atlas of the borough of Brooklyn, city of New York*. Part of Wards 16 & 18, Section 10. Brooklyn, Vol. 1, 2nd Part, Double Page Plate No. 36. E. B. Hyde & Co. 1916. ..... 64

Table 01: Archaeological Reports within a .5-mile radius of the project area. ..... 8
Table 02: National Register Assessments within .5 miles of the Project Area..... 9
Table 3: Designated New York City Landmarks within .5 miles of the Project Area. ..... 10
Table 4: Deed Conveyances, 1700 – 1846..... 32
Table 5: Historic Addresses for Metropolitan Avenue Block 2916 Lots 14, 16, 8 and 17..... 33
Table 6: Property owners – Lot 14, Block 2916 (824-830 Metropolitan Avenue)..... 40
Table 7: Property owners – Lot 16, Block 2916 (832 Metropolitan Avenue)..... 41
Table 8: Property owners – Lot 8, Block 2916 (808 Metropolitan Avenue)..... 50
Table 9: Property owners – Lot 17, Block 2916 (834 Metropolitan Avenue)..... 52

Figure 1: Lot 8 Areas of Disturbance. ..... 49

Image 1: 824-830 Metropolitan Avenue (Block 2916, Lots 14 and 16) facing south. ..... 13
Image 2: Block 2916, Lot 8 - corner of Metropolitan and Bushwick Avenues facing east..... 13
Image 3: 824-830 Metropolitan Avenue (Block 2916, Lots 14 and 16) facing southeast. ..... 14
Image 4: 1940s Tax Photo Block 2916, Lot 14. ..... 38
Image 5: 1940s Tax Photo Block 2916, Lot 14, alternate view..... 39
Image 6: 1940s Tax Photo Block 2916, Lot 16. ..... 39
Image 7: 1940s tax photo Block 2916, Lot 8 – 808 Metropolitan Avenue. ..... 46
Image 8: 1940s tax photo Block 2916, Lot 11 - 818 Metropolitan Avenue. ..... 47
Image 9: 1940s tax photo Block 2916, Lot 12 – 820-822 Metropolitan Avenue. ..... 48

Appendix A: Administrative Record……A1
Appendix B: Contractor Record……B2
Appendix C: Census Records……C1
Appendix D: Chrysalis Information……..D1

## I. INTRODUCTION

Chrysalis Archaeological Consultants, Inc (Chrysalis) was retained by 824 Metropolitan Avenue Owner, LLC to undertake a Phase IA Documentary Research for the 824 Metropolitan Avenue project. The request for a documentary study was triggered by a rezoning application for the properties located at 824 - 832 (Block 2916 Lots 14 and 16). The rezoning application also included Lots 8 and 17 on Block 2916. The project area lies at the intersection of Metropolitan Avenue and Bushwick Avenue in the East Williamsburg section of Brooklyn (Kings County), New York (Maps 1 and 2).

824 Metropolitan Avenue Owner, LLC (Applicant) submitted the rezoning application and *Phase I Environmental Site Assessment, 824-832 Metropolitan Avenue Block 2916 Lot #'S 14 & 16, Brooklyn, N.Y.11211* in 2019 (Environmental Studies Corporation 2019) as part of the City Environmental Quality Review Act (CEQR). During this review the City of New York – Landmarks Preservation Commission (NYC LPC) identified 808, 824, 832 and 834 Metropolitan Avenue (Block 2916 Lots 8, 14, 16 and 17), the 4 lots cited in the rezoning application, as having potential historic sensitivity (NYC LPC September 20, 2019).

NYC LPC noted that the "review of archaeological sensitivity models and historic maps indicates that there is potential for the recovery of remains from 19th Century occupation on the project site. Accordingly, the Commission recommends that an archaeological documentary study be performed for this site to clarify these initial findings and provide the threshold for the next level of review, if such review is necessary" (NYC LPC October 23, 2019). See Appendix A: Administrative Record for details of the NYC LPC coordination.

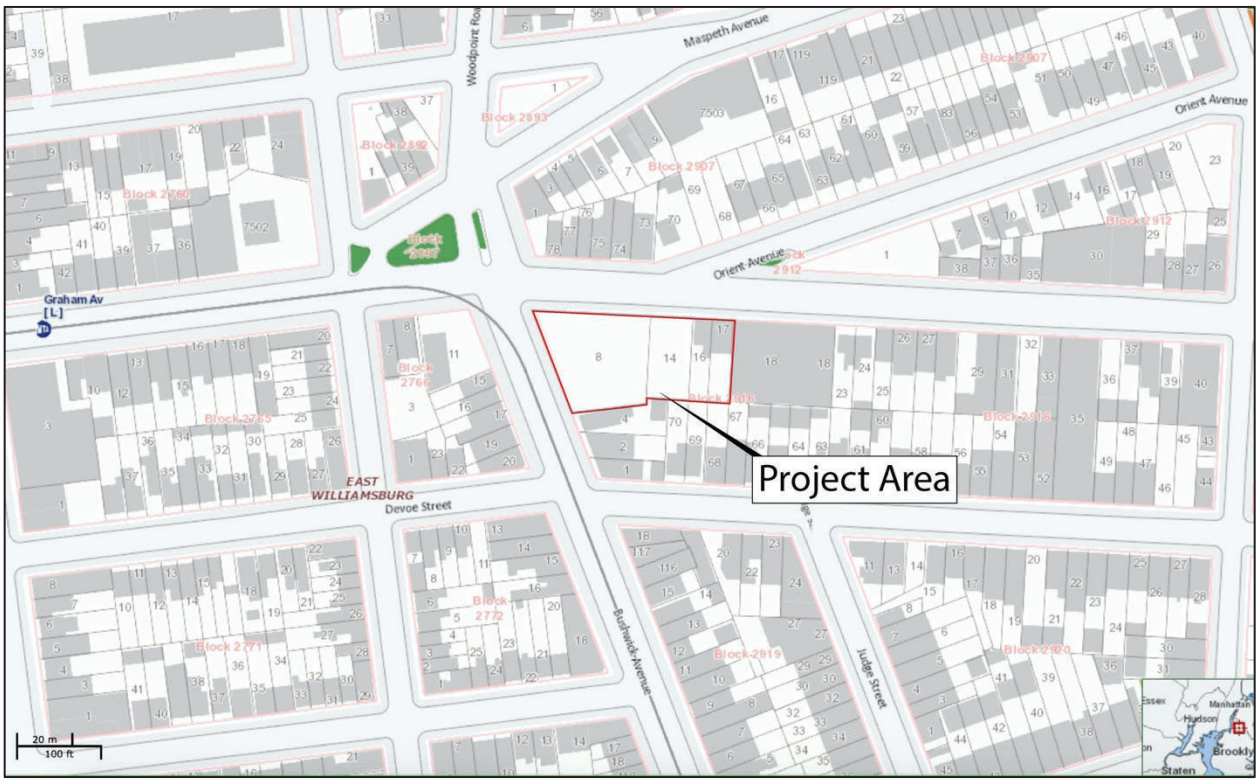
The purpose of this Documentary Study is to determine if the project area contains the potential to uncover significant cultural resources.

All work for this study was conducted in accordance with the NYC LPC's Guidelines for Archaeological Work in New York City (NYC LPC 2018) and the New York State Office of Parks, Recreation and Historic Preservation (NY SHPO) guidelines (New York Archaeological Council [NYAC] 1994; 2000; 2002), which are subsequent to the National Historic Preservation Act (NHPA) of 1966, as amended, the Advisory Council on Historic Preservation's "Protection of Historic and Cultural Properties" (36 CFR 800), the New York State Historic Preservation Act (SHPA), the (New York) State Environmental Quality Review Act (SEQRA), the (New York) City Environmental Quality Review Act (CEQRA).

Alyssa Loorya, Ph.D., R.P.A., and Elissa Rutigliano authored this report on behalf of Chrysalis. Appendix D list information from Chrysalis Archaeology.



Map 1: Brooklyn Quadrangle, United States Geological Survey 2019.



Map 2: Present-day street map of the project area (OASIS 2020).

## PROJECT DESCRIPTION

The proposed project identified in the re-zoning application is the development of Block 2916 Lots 14 and 16, two contiguous lots along Metropolitan Avenue. The rezoning application also includes, Lot 8 as a potential development site. Lot 17 is also identified in the rezoning application but is designated as a non-development site. It is noted that only a portion of Lot 17 is identified for re-zoning. For the purposes of this study all four lots are considered to be part of the Project Area as all four lots were identified and cited by NYC LPC in their review (NYC LPC September 20, 2019 and October 23, 2019). Lots 14 and 16 are considered to be the Area of Potential Effect (APE) within the larger Project Area as these are the only lots slated for development by the Applicant (824 Metropolitan Avenue Owner, LLC 2019).

The proposed rezoning would permit the redevelopment of Block 2916 Lots 14 and 16 (Development Site) located in the East Williamsburg neighborhood of Brooklyn on currently underutilized land. The Applicant seeks to develop the property with residential housing consistent with the standards of the Quality Housing Program as well as the Mandatory Inclusionary Housing Program zoning regulations. The inclusion of affordable units in the development is consistent with the expressed desires of the City's current mayoral administration to substantially increase the amount of affordable housing throughout the City. Additionally, there is a high demand for affordable housing in this neighborhood of Brooklyn, as well as the entire borough (824 Metropolitan Avenue LLC 2019).

The Project Area identified in the re-zoning application occupies part of the northwestern end of Block 2916, and includes four contiguous tax lots: Lot 8, Lots 14 and 16, and Lot 17 (Map 2). As noted above only Lots 14 and 16 are being proposed for development. Map 3 distinguishes the APE (the Development Site) from the larger Project Area – inclusive of the Development Site, the Potential Development Site and the Non-Development Site. Appendix B lists the information provided by the Contractor for this study.

### *DEVELOPMENT SITE*

The 7,500 square-foot (sf) Development Site is comprised of Lot 14 (5,000 sf at 824 Metropolitan Avenue) and Lot 16 (2,500 sf at 832 Metropolitan Avenue). Lot 14 is currently undeveloped and fenced. Lot 16 contains a three floor multi-family residential building.

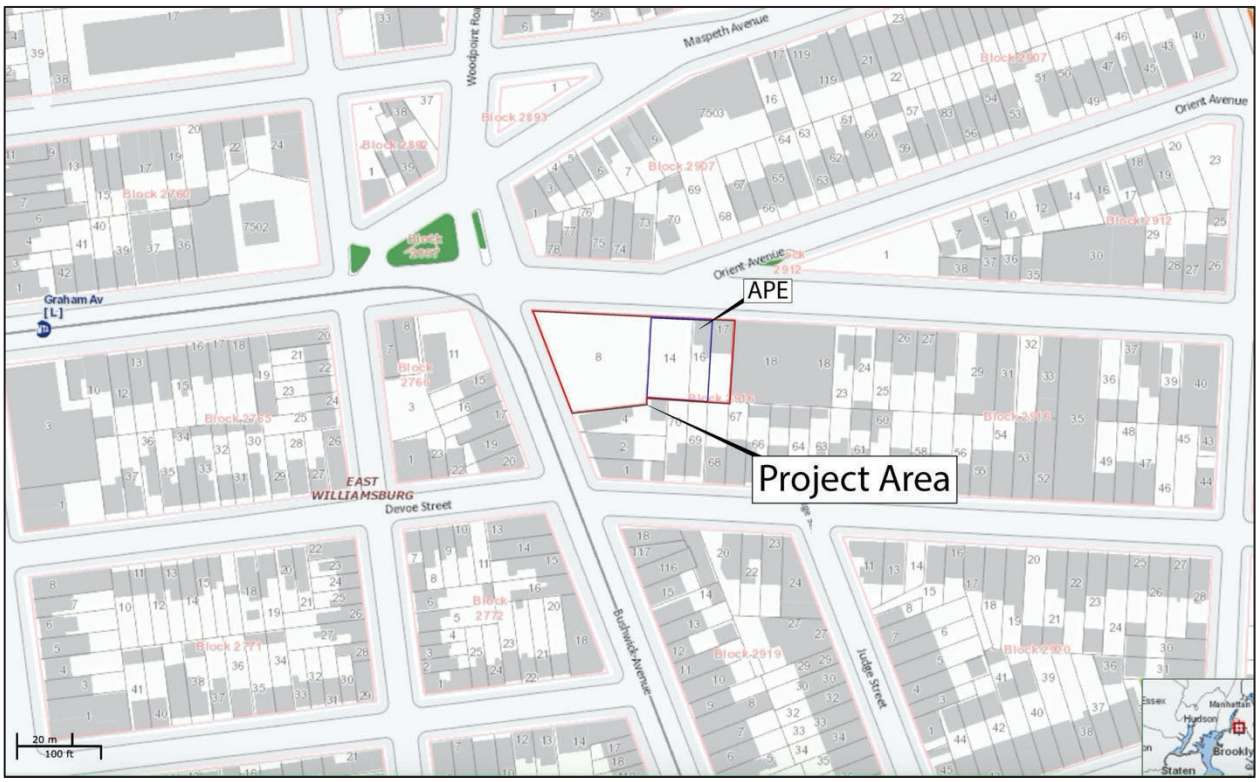
The Applicant proposes to develop an eight-story, Quality Housing Program mixed-used residential and commercial building. The residential component would include approximately 36 dwelling units, with 11 of the proposed dwelling units developed as affordable units pursuant to Mandatory Inclusionary Housing. The commercial component would occupy the ground floor of the proposed building. The building would reach a maximum height of 85 feet. The building would feature a 35-foot rear yard setback after the first floor, with a permitted rear yard obstruction on the first floor for building mechanical systems. In addition, it is anticipated that the overall depth of excavation for the site will be no greater than ten (10) feet (824 Metropolitan Avenue LLC 2019).

### *POTENTIAL DEVELOPMENT SITE*

Lot 8 (808 Metropolitan Avenue) is a potential development site. It is not owned by the Applicant and there are no current plans to develop this lot. The 12,625-sf corner lot is currently occupied by an active gas station.

### *NON-DEVELOPMENT SITE*

A portion of Lot 17 (a lot not owned by the Applicant) is also part of the rezoning application. Lot 17 is expected to remain in its existing condition and is considered a Non-Development Site.



Map 3: Site location map distinguishing the Project Area and APE (OASIS 2020).

## PROJECT INFORMATION

| | |
|---|---|
| Project Name | 824 Metropolitan Avenue Rezoning |
| Street Address | 824 Metropolitan Avenue |
| Borough/Block/Lot | Brooklyn/2916/14, 16, 8 and 17 |
| LPC PUID (If Yet Assigned) | P2018K0031 |
| Applicant Name | 824 Metropolitan Avenue Owner, LLC |
| Principal Investigator | Alyssa Loorya, Ph.D., R.P.A. |

## II. SYNTHESIS OF PREVIOUS WORK

Multiple Cultural Resource Management (CRM) studies have documented the history of Bushwick and the Eastern District in Kings County. A survey of previous studies relevant to and within .5 miles of the project site that are on file with the Cultural Resource Information System (CRIS) maintained by NY SHPO and the City of New York – Landmarks Preservation Commission (NYC LPC) are listed in Table 1. This table also summarizes the conclusion of each of these studies. Table 2 lists National Register Assessments within .5 miles of the Project Area and Table 3 lists Designated New York City Landmarks within .5 miles of the Project Area.

Among the earliest studies in the area was a Phase 1A Documentary Study of the site for the Maujer Street Community Development conducted by Historical Perspectives, Inc. (HPI) in 1992. The study evaluated twenty-five lots spanning three blocks in the Williamsburg section of Brooklyn for their potential to yield significant cultural resources related to the settlement and occupation of the historic village of Williamsburg. The study identified five lots as having the potential to contain intact yard features from the late-nineteenth and early-twentieth century. However, it was noted that these lots retained a low probability for recovering cultural resources that could produce substantive data that is not readily available from documentary resources and comparable research sites.

Following this study archaeological field testing of two city-owned properties located on Maujer Street and Ten Eyck Street, respectively was undertaken by Celia J. Bergoffen in 2011. Field testing occurred on three of the five historic property lots previously identified by HPI as having the potential to contain intact yard features. Nine test trenches were excavated on two lots on Maujer Street aligned with the earlier buildings and late-nineteenth century dwellings. No archaeological features were encountered during excavation and no further investigation was recommended. Three test trenches were excavated on a single lot on Ten Eyck Street which uncovered a free standing, circular brick cistern, as well as the foundation walls of a former building and a stone-lined feature presumed to have been a privy. Full excavation of these features rendered the site satisfactorily mitigated for negative impact to archaeological resources and no further investigation was required.

In 1992, HPI conducted a Phase 1A Documentary Study for the Scholes Street Urban Renewal Housing Project site in the Williamsburg section of Brooklyn. The study evaluated eight lots on Block 3037 for their potential to yield significant cultural resources related to the early nineteenth century village of Bushwick ('Bushwick Green'). The study concluded that no further archaeological consideration was warranted for six lots. The presence or absence of intact yard features on the remaining two lots could not be conclusively identified; however, ultimately, both lots were considered non-sensitive for cultural resources which could produce substantive data.

Greenhouse Consultants, Inc. (1995) conducted an archaeological and historical sensitivity evaluation of the Williamsburg Houses Community Center site in the East Williamsburg section of Brooklyn. The study evaluated Lot 70 within Block 3025 and determined that the site had a low probability of rendering prehistoric resources but a high probability for yielding historic yard features (e.g. cisterns, privies), remains of breweries, and historic cultural materials related to nineteenth century occupation. Further testing was recommended.

In 2001, City/Scape Cultural Resource Consultants conducted a Stage 1A Sensitivity Analysis of the proposed site of a potential six-story mixed use building at 897-903 Grand Street. The study evaluated the archaeological potential for two lots and determined that the area did not have the potential to yield archaeological resources dating earlier than the nineteenth century. It further concluded that late-nineteenth century construction activities, and the presence of substructures (such as cellars), effectively disturbed the archaeological potential of the site. No further investigation was recommended.

Louis Berger & Associates, Inc. drafted a Phase 1A Cultural Resources Technical Report identifying architectural sites and properties on the site of the proposed Kosciuszko Bridge Project (2007). The study evaluated 97 architectural properties, or resources, to determine their eligibility for the New York State National Register or the National Register of Historic Places. Their findings are available in Kosciuszko Bridge Project, Cultural Resources Technical Report (Louis Berger & Associates, Inc. 2007).

HPI conducted a Phase 1A Archaeological Documentary Study in 2016 of a proposed substation site at Maspeth Avenue. The proposed substation would service the Canarsie L train line. The study determined that the inland location of the project site and disturbance related to construction and demolition activities rendered low potential to encounter prehistoric archaeological resources. It was further determined that the site retained the possibility to yield significant historic cultural resources such as yard features (cisterns, wells), refuse deposits and remains of both domestic and commercial buildings. Due to the nature of the project site, archaeological monitoring was recommended as a practical alternative to pre-construction archaeological testing.

In 2015, four subterranean vaults were accidentally discovered at 33 Ten Eyck Street in the Williamsburg section of Brooklyn. The vaults were dated to circa 1860 associated with a nineteenth century brewery. The area was known for breweries which was rooted in German immigrant heritage and of the area during that time. Celia J. Bergoffen provided archaeological monitoring services for excavation of the vaults in July 2016. The structures and architecture were documented in accordance with the Historic American Buildings Survey and the Historic American Engineering Record (HABS/HAER).

Table 01: Archaeological Reports within a .5-mile radius of the project area.

| YEAR | TITLE/SITE | AUTHOR | NUMBER | CONCLUSIONS |
|---|---|---|---|---|
| 1992 | Phase 1A Archaeological Assessment, Maujer Street Community Development Plan | Historical Perspectives, Inc. | LPC # 234 | Five of the twenty-five evaluated lots were identified as having the potential to contain intact backyard features but determined to have a low probability to yield cultural materials that would yield significant data. |
| 1992 | Phase 1A Archaeological Assessment, Scholes Street Urban Renewal Area Housing Site | Historical Perspectives, Inc. | LPC # 235 | Concluded that no further consideration needed for six of eight lots evaluated in the study. The remaining two lots retained some probability for cultural resources but were ultimately determined to be non-sensitive for cultural resources that would produce significant information. |
| 1995 | Archaeological and Historical Sensitivity Evaluation, the Williamsburgh Houses Community Center, Williamsburgh, Brooklyn NY (Draft) | Greenhouse Consultants, Inc. | LPC # 206 | Determined the site had a low probability to preserve prehistoric resources but a high probability to yield historic yard features (cisterns, privies), remains of breweries, and cultural material related to nineteenth century occupation. Further testing recommended. |
| 2001 | Revised Stage 1A Sensitivity Analysis, Block 2923, Lots 24 & 25, 897-903 Grand St., Brooklyn, NY | City/Scape: Cultural Resource Consultants | LPC # 976 | Determined the project area did not have the potential to yield archaeological resources dating earlier than the nineteenth century. Concluded that late-nineteenth century construction activities and the presence of substructures disturbed the archaeological potential of the site. |
| 2007 | Kosciuszko Bridge Project, Cultural Resources Technical Report (Draft), Phase 1A | Louis Berger & Associates, Inc. | SHPO # 07SR57158 | 97 architectural properties in the vicinity of the proposed Kosciuszko Bridge Project were evaluated to determine their eligibility for their National Register eligibility. |
| 2011 | Phase 1B Archaeological Field Testing, Sites 2 and 3: 37-39 Maujer Street, Block 2785, Lots 42 and 43, and 37 Ten Eyck Street, Block 2791, Lot 35, Brooklyn, NY | Celia Bergoffen | LPC # 1316 | Three features – including a free standing, circular brick cistern, the foundation walls of a former building, and a stone-lined feature presumed to have been a privy –uncovered during excavation of one lot at Ten Eyck Street. Excavation satisfactorily mitigated the negative impact to archaeological resources and no further investigation was required. |

| YEAR | TITLE/SITE | AUTHOR | NUMBER | CONCLUSIONS |
|---|---|---|---|---|
| 2016 | Phase 1A Archaeological Documentary Study, Canarsie L Line, New Substation at 5 Maspeth Avenue, Brooklyn NY, 11211 | Sara McIvor | SHPO # 16SR00795 | Diminished potential to yield prehistoric archaeological resources. The site was determined to be sensitive for the presence of historic cultural resources such as yard features (cisterns, privies), refuse deposits and the remains of historic buildings. Archaeological monitoring was recommended. |
| 2016 | Report on Archaeological Monitoring 33 Ten Eyck Street, Williamsburg, Brooklyn Block 2791, Lot 37 | Celia Bergoffen | SHPO # 17SR00082<br><br>LPC # 1728 | Archaeological monitoring of excavation of four late-nineteenth century vaults associated with a historic German brewery. |

Table 02: National Register Assessments within .5 miles of the Project Area.

| USN | NUMBER | NAME | STATUS |
|---|---|---|---|
| 4701.015496 | | Williamsburg Houses - 163-213 Manhattan Ave | Eligible |
| 4701.015503 | | Williamsburg Houses - 88-202 Ten Eyck Walk | Eligible |
| 4701.015878 | | P.S. 196 - 207 Bushwick Ave | Not Eligible |
| 4701.016565 | | I.S. 49 (1935-37, Walter C. Martin.) - 223 Graham Avenue | Eligible |
| 4701.018783 | | Former Schnaderbeck Brewery - 30-34 Maujer Street 11206 | Eligible |
| 4701.019042 | | Greenpoint Hospital Outpatient Clinic - 2 Kingsland Ave 11211 | Eligible |
| 4701.015502 | | Williamsburg Houses - 88-215 Stagg Walk | Eligible |
| 4701.017340 | 19PR07061 | Cooper Park Houses (NYCHA housing) - 40 Debevoise Avenue | Not Eligible |
| 4701.023228 | | 525A Humboldt St 11222 | Not Eligible |
| 4701.013960 | | 19th Police Precinct Station House & Stable (Former - 43 Herbert Street) | Eligible |
| 4701.023225 | | 529 Humboldt Street 11222 | Not Eligible |
| 4701.023226 | | 527A Humboldt Street 11222 | Not Eligible |
| 4701.000137 | | Firehouse: Engine Co. 229 (Hook & Ladder 146) - 75-77 Richardson Avenue | Eligible |
| 4701.013959 | | Greenpoint Hospital Boiler House and Support Structures - Jackson Street | Eligible |
| 4701.015501 | | Williamsburg Houses - 86-226 Maujer Street | Eligible |
| 4701.023256 | 19PR05900 | 202-208 Meserole Street, Brooklyn - 202 Meserole Street | Not Eligible |
| 4701.015107 | | 361 Stagg Street | Undetermined |
| 4701.015497 | | Williamsburg Houses - 202-254 Graham Avenue | Eligible |
| 4701.015499 | | Williamsburg Houses (NYCHA, 1938) - 122-192 Bushwick Avenue | Eligible |
| 4701.015673 | | Swinging 60's Senior Center - 211 Ainslee Street | Not Eligible |

| USN | NUMBER | NAME | STATUS |
|---|---|---|---|
| 4701.016365 | | Sackett & Wilhelms Lithographing & Publishing Company complex (4 bldgs) - 270 Morgan Avenue 11211 | Eligible |
| 4701.017146 | | JHS 126 (a.k.a. John Ericsson Jr. High; Max O. Urbahn, architect - 1966) - 424 Leonard Street 11222 | Eligible |
| 4701.021062 | 18NR00078 | German Evangelical Lutheran St. John's Church - 195 Maujer Street 11206 | Listed |
| 4701.023258 | 19PR05930 | 233-235 Montrose Avenue - 233 Montrose Avenue | Not Eligible |
| 4701.023630 | | Moslem Mosque of Brooklyn, Inc. - 106 Powers Street 11211 | Undetermined |
| 4701.014494 | | Greenpoint Hospital Nurses' Residence - 9 Debevoise Avenue | Eligible |
| 4701.015079 | | St. Cecilia's Catholic School - 1-15 Monitor Street | Undetermined |
| 4701.015119 | | PS 18 - 101 Maujer Street 11206 | Eligible |
| 4701.015495 | | Williamsburg Houses - 142-190 Leonard Street | Eligible |
| 4701.000546 | | 648 - 658 Grand Street | Undetermined |
| 4701.014705 | | Brooklyn Public Library, Leonard Branch - 81 Devoe Street | Undetermined |
| 4701.015108 | | 260 Powers Street | Undetermined |
| 4701.015498 | | Williamsburg Houses - 215-274 Humboldt Street | Eligible |
| 4701.015500 | | Williamsburg Houses - 83-221 Scholes Street | Eligible |
| 4701.018585 | 15PR00461 | Ten Eyck LLC - 55 Ten Eyck Street 11206 | Not Eligible |
| 4701.019041 | | Greenpoint Hospital Main Building - 300 Skillman Avenue 11211 | Eligible |
| 4701.023257 | 19PR05931 | 205 Montrose Avenue, Brooklyn - 205 Montrose Avenue | Not Eligible |
| 4701.000498 | | PS 132 (The Conselyea School) - 370 Manhattan Avenue | Eligible |
| 4701.023227 | | 527 Humboldt Street 11222 | Not Eligible |

Table 3: Designated New York City Landmarks within .5 miles of the Project Area.

| NUMBER | ADDRESS | NAME | LANDMARK TYPE |
|---|---|---|---|
| LP-2244 | Lorimer Street, between Driggs Avenue and Bayard Street | McCarren Play Center | Individual Landmark |
| LP-1703 | 43 Herbert Street (512-518 Humboldt Street) | 19th Police Precinct Station House and Stable | Historic Buildings and Sites Individual Landmark |
| LP-2135 LP-2135A | Scholes to Maujer Streets, Bushwick Avenue to Leonard Street | Williamsburg Houses | Historic Buildings and Sites Individual Landmark |
| LP-2152 | 174 Meserole Street | F.J. Berlenbach House | Historic Building and Site Individual Landmark |

## III. CONTEXT AND RESEARCH DESIGN

### HISTORIC ENVIRONMENTAL CONTEXT

The project is located in the Eastern District of Kings County (Brooklyn) New York, which is geographically located on western Long Island.

Western Long Island was formed by glacial outwash during the Wisconsin ice age, which resulted in a series of creeks and marshland (Schuberth 1968). Long Island is comprised of two spines of glacial moraine, with a large, sandy outwash plain beyond. These moraines consist of gravel and loose rock left behind during the two most recent pulses of Wisconsin glaciation 21,000 years ago. The northern moraine, which directly abuts the North Shore of Long Island at points, is known as the Harbor Hill moraine. The more southerly moraine, known as the Ronkonkoma moraine, forms the "backbone" of Long Island; it runs primarily through the center of Long Island. The land to the south of this moraine is the outwash plain of the last glacier (Schuberth 1968; Eisenberg 1978; Campanella 2019).

The project area is located north of the Harbor Hill moraine in the Atlantic Coastal Plain physiographic province. “The precise underlying geology of the project area has not been identified but would be consistent with the types of materials associates with the glacial terminal moraines running east and west along the spin of Long Island. These include unconsolidated gravel, sand and clay deposits” (Guillet 2001:2).

The project area is located within the bounds of the original 1660 settlement of Bushwick (*Boswijck*). It was from this original settlement that the village of Bushwick grew and expanded. The land forming the project area itself was situated on arable upland that had been historically utilized as farmland. It is immediately west of former marshland that once surrounded the *Mispat Kil* (Newtown Creek), and south of salt meadow that surrounded *Noorman’s Kil* (Bushwick Creek) (Map 4).

### CURRENT CONDITIONS

The Project Area is located in the East Williamsburg neighborhood of Brooklyn, New York in a distinctly urban setting. The Project Area has been developed since the late nineteenth century. The United States Department of Agriculture Soil Survey defines it as heavily urbanized Urban land-Greenbelt complex, 3 to 8 percent slopes, low impervious surface (United States Department of Agriculture 2020).

East Williamsburg is mostly characterized by medium density residential development with related commercial retail uses (e.g., local shopping and food retailers). There are also institutional uses (e.g., schools) in the western half of the neighborhood while the eastern half predominantly contains two-story warehouses (i.e. industrial uses).

The area immediately surrounding the Project Area is characterized primarily by one- and two-family and multi-family residential properties interspersed with commercial use structures. There are two community facility uses to the northwest (i.e., the St. Francis of Paolo Church and School) and light industrial properties to the east.

The Development Site is located along the south side of Metropolitan Avenue between Bushwick Avenue and Olive Street; the Potential Development Site occupies the southeastern corner of Metropolitan Avenue and Bushwick Avenue, and the non-Development Site is located along Bushwick Avenue (Map 5).

*DEVELOPMENT SITE*

The Development Site, 824-832 Metropolitan Avenue, Block 2916, Lots 14 and 16 is bounded by Metropolitan Avenue to the north, Block 2916, Lot 8 to the west, Block 2916, Lots 4, 69, and 70 to the south, and Block 2916, Lot 17 to the east. The site has 75 feet of frontage along Metropolitan Avenue and a depth of 100 feet.

Lot 14 is a 5,000-square foot, asphalt-paved parcel that is surrounded by a chain link fence fronting Metropolitan Avenue. The lot is used for parking and storage by an event services company.

Lot 16 is a 2,500 square foot, rectangular lot. The north side of the lot contains a 3-story (plus basement), wood-frame apartment building with four units. The south side of the lot is a landscaped rear yard, decorated with ornamental plants and shrubs, walkways and seating areas.

*POTENTIAL DEVELOPMENT SITE*

Lot 8 was considered a potential development site for the purposes of the CEQR analysis. The 12,625-sf corner lot at 808 Metropolitan Avenue is developed with a gas station, featuring a canopy structure and attendant booth, with multiple gas pumps. The site is not owned by the Applicant.

*NON-DEVELOPMENT SITE*

Lot 17 is considered a non-development site for the purposes of the CEQR analysis. The proposed rezoning only applies to a small southwestern portion of lot (approximately 30 sf) in order to make that portion of this lot's zoning consistent with the rest of the site. The 2,500-sf lot is developed with a three-story, two-family residence.



Image 1: 824-830 Metropolitan Avenue (Block 2916, Lots 14 and 16) facing south.




Image 2: Block 2916, Lot 8 - corner of Metropolitan and Bushwick Avenues facing east.



Image 3: 824-830 Metropolitan Avenue (Block 2916, Lots 14 and 16) facing southeast.



Map 4: *Map of The Country Thirty Miles Round the City of New York*. John H. Eddy. 1811




Map 5: Project Area highlighted with the Development Site (APE), Potential Development Site and non-Development Site (OASIS 2020).

## RESEARCH DESIGN

This Phase IA documentary study has been designed to determine the history of the Project Area and its potential to contain significant archaeological resources. Among these are potential Native American (prehistoric) and/or historic resources. Historic period resources were specifically cited by the NYC LPC (correspondence dated September 20, 2019).

Historic resource potential may include the project area's association with the original settlement of Bushwick (*Boswijck*) and the development of Bushwick village. Research is intended to determine when the lot was developed; if it was developed with modern utilities; and to identify the inhabitants of the property. If the property was not developed with modern utilities the possibility exists that support structures remain buried beneath the surface. It is known that in the absence of sewer connections or running water households relied on privies, wells and cisterns. It has been well documented archaeologically that once these support structures were no longer actively used, they often became repositories for trash, including every day household items. Recovery and analysis of such materials has the potential to yield meaningful and significant information about the lives of past New Yorkers of various socio-cultural and economic statuses.

## IV. PROJECT METHODS

Standard documentary research methodologies were utilized in gathering information for this study. This included a review of existing cultural resource reports within the repositories of the NYC LPC and NY SHPO. Historical maps, and other documentary information from various online and library/museum repositories were consulted to aid in determining the history and development of the project area. Online repositories utilized included the New York Public Library, the Library of Congress, New York State Archives, and the David Rumsey Historical Map Collection. Relevant historic maps are presented in Section V.

Both primary and secondary source documents were consulted. Primary source records included, historic maps, New York City Real Estate records; United States and New York State census records. Other sources included historic newspaper searches, city directories, and published histories of the area. Pertinent information reviewed as part of this survey is presented in Section V.

Also incorporated is an assessment of information provided by the Applicant's proposed project plans.

## V. DOCUMENTARY RESEARCH RESULTS

### PRE-HISTORY

The prehistoric era covers the period from the first human occupation of North America until contact with European settlers. The date of the first human occupation of North America is the subject of much dispute. However, there is evidence of human presence in the northeastern United States since approximately 15,000 B.P. following the retreat of the Laurentide Ice Sheet, which covered the area during the Late Wisconsin Glaciation (Kraft 1986).

Prehistoric occupation in North America is divided into three major cultural periods: Paleo-Indian (circa 13,000 – 10,000 B.P.), Archaic (circa 10,000 – 3000 B.P.) and Woodland (circa 3000 B.P. – A.D. 1600), marked by changes in climate and the archaeological record.

Western Long Island's earliest Paleo inhabitants were presumably small bands of organized and highly mobile hunter-gatherers. They did not establish permanent settlements but moved seasonally according to resource availability. Paleo-Indian sites reflect temporary occupation at elevated locations (offering optimal vantage opportunity for hunting) or alongside streams and rivers (Fagan 2005). Because of the need for mobility, Paleo-Indian tools and other material culture were not overly complicated or large, which in turn lends to the ephemeral nature of Paleo sites in the archaeological record.

Later human occupation of western Long Island during the Archaic period, evolved from that of a hunter-gatherer economy, and was indicative of "specialized adaptations" of individuals to their environment (Fletcher & Kintz 1979:12). Settlement patterns during the Archaic remained semi-mobile, but there was a trend towards increasingly longer amounts of time spent in one location as water sources stabilized. Groups established base camps and moved periodically throughout a more limited territory as resources became available (McManamon, et al. 2009). On western Long Island, "Settlement patterns of these hunter-gatherer-fishermen reflect the utilization of the varied resources from shore to forest" during the Early Archaic period (Fletcher & Kintz 1979:12). The Late Archaic period was characterized by larger prehistoric populations with more complex forms of settlement activity and trade relations (Fletcher & Kintz 1979:13). Late Archaic sites on western Long Island reflect seasonal occupation of hunting and butchering camps, fishing sites, and wild food collection stations (Fletcher & Kintz 1979:12).

The introduction of agriculture, the appearance of permanent settlements, the introduction and advancement of ceramic technology, and prevalence of more elaborate and diverse tools typically mark the onset of the Woodland Period. The advent of horticultural activities and the domestication of plants and animals is a key factor in enabling groups to settle in one place and develop into more complex societies (Bolton 1922; Furman 1875). The Woodland populations of Long Island centered their subsistence activities around the cultivation of maize, beans and squash; and the exploitation of marine-based resources (Fletcher & Kintz 1979: 12).

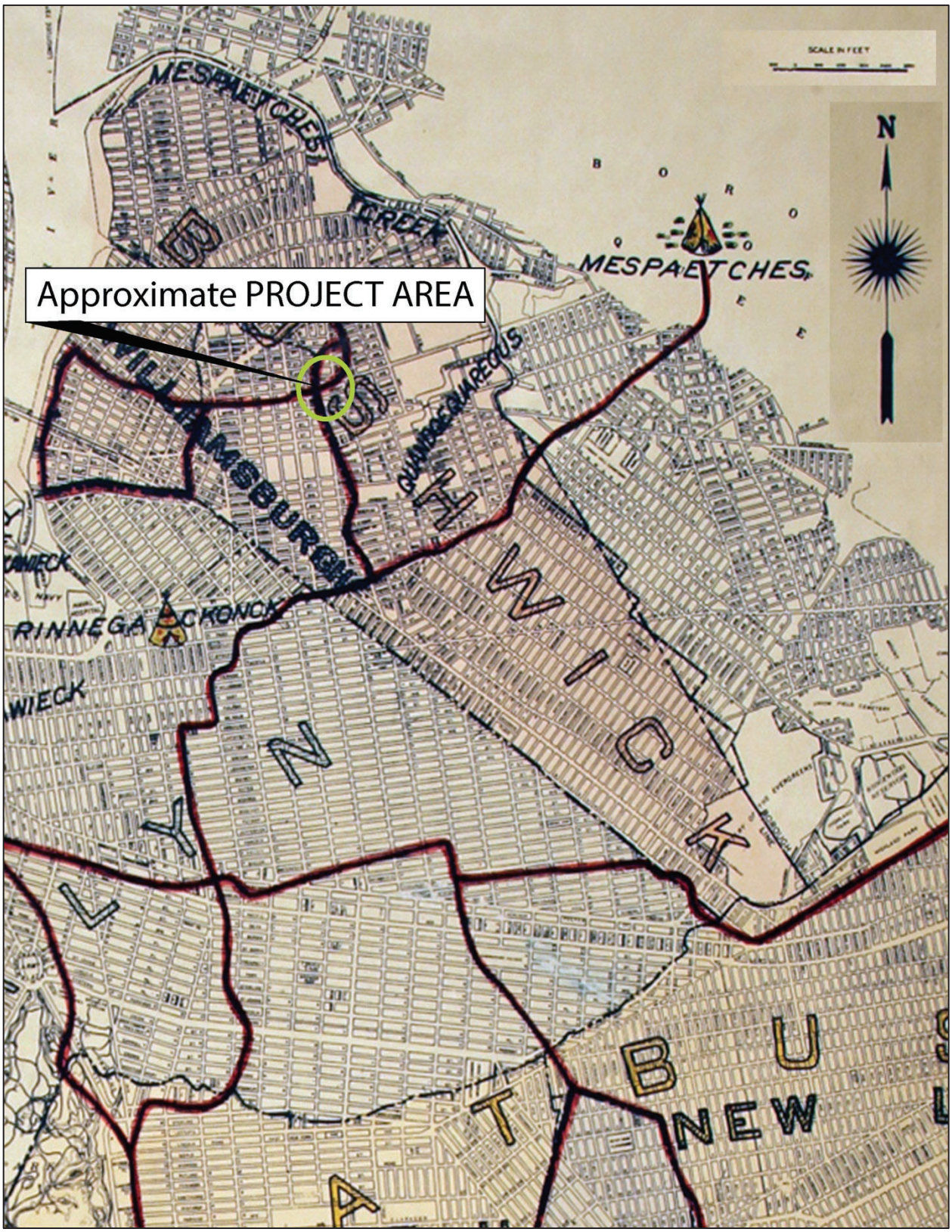
At the time of contact, Brooklyn was principally inhabited by the Canarsee, the Nayak, the Keshaechquereren, the Maereck, and the Rockaway Native American tribes (Bull & Giordano 2007:12). These Native American groups occupied long-term villages and seasonal camps throughout Brooklyn and western Long Island (Bull & Giordano 2007:12).

Archaeological investigations of Native American sites throughout western Long Island have thus far revealed a prehistoric settlement pattern organized around fresh-water resources, arranged proximate to tidal creeks, tidal marshes, stream banks, estuaries and wetland areas.

Two prehistoric sites in the vicinity of the project area were identified by Arthur C. Parker during his tenure as New York State archaeologist. Both sites were discovered along the waterway once known as the *Mispat Kil,* today called Newtown Creek. Parker recorded traces of prehistoric occupation along the south bank of creek as New York State Museum site #3613. At or near the head of the creek, in the present-day neighborhood of Maspeth, a village site presumed to have dated to the Woodland Period was recorded as New York State Museum site #4536 (Roberts and Crowley 1995:3-4).

Two Native American paths ran through the project site and the area that would later form the original settlement of *Boswijck*, and where the project site is located (Map 6[1]). These roads were the Woodpoint Road and the Kijkuit Lane (or Kiekout Road). The 'road to Newtown', which is roughly aligned to present-day Metropolitan Avenue, is believed to have been a third Native American trail (Abell Horn 2016:5).

[1] A high-resolution version of this map was not available.



Map 6: *Indian Villages, Paths, Ponds and Places in Kings County*. Kelly 1946.

## CONTACT PERIOD

The first Europeans "discovered" Long Island in 1524, when Florentine explorer Giovanni da Verrazzano and a crew of fifty sailed the ship La Dauphine into New York's harbor. Verrazzano had been commissioned by several wealthy investors, principally funded by the French monarch Francis I to discover a new passage to Asia (Brevoort 1873:177; Ieradi 2001:10).

In 1609, Henry Hudson, an English explorer, was commissioned by the Dutch East India Company to chart a new course to Asia via the Arctic Ocean. Hudson's ship, the Half Moon, reached Coney Island in September of 1609 and continued north following the river that would one day bear his name. Hudson's brief visit to Brooklyn launched several consequent expeditions to the New World sponsored by the Dutch East India Company and its later iteration, the Dutch West India Company (Ieradi 2001:8-11). Hudson's "account of the resources of the country he had seen and its opportunities for trade were not lost in a community whose merchants were then the most far-reaching and enterprising in the world" (Ross 1902:45).

The Dutch West India Company initiated settlement of the New Netherland colony in 1624 with the establishment of Fort Amsterdam on the southern tip of Manhattan. In 1626 the Company appointed Peter Minuit as Director-General of the colony. That same year, Minuit purchased from Native American proprietors the island of Manhattan and named New Amsterdam as the colony's capital.

Ten years later, Dutch colonists ventured into the greater New Netherland colony and began settling farms on western Long Island outside the city proper. These farmsteads were situated linear to the East River on the "western most edge" of the island. Six townships were settled under the Dutch administration in present-day Kings County: Amersfoort (Flatlands), Breuckelen (Brooklyn), Boswyck (Bushwick), Gravesend, Midwout (Flatbush) and New Utrecht. The first settlement, Amersfoort (Flatlands) dates to 1636. The remaining townships were established over the next two decades (Stiles 1867: 29).

## HISTORIC PERIOD

Dutch exploration and settlement of western Long Island continued throughout the early seventeenth century. To incentivize settlement of New Netherland, the Dutch West India Company instituted a policy in 1638 offering land to all potential colonists, which they could hold in free "allodial proprietorship" in return for its cultivation (Bailey 1949:36). The policy was to be put into practice by the newly appointed Director General Willem Kieft. Kieft made the first purchase of land for the Company on August 1, 1638. He acquired a tract that fronted two miles along the East River from a group of Canarsee occupying the Eastern District, known as the Keskaechquerem (Armbruster 1912:2). The territory encompassed the majority of what would one day become Bushwick.

Kieft further encouraged settlement of the Eastern District in 1640 when he published the Charter of Freedoms and Exemptions (Armbruster 1912:4). Individual plantations, cultivated independently of one another by a collection of Swedish, Norwegian and Dutch colonists, arose in the Eastern District between the years of 1641-1650 (Stearns 1884:2). For the following two decades, these scattered bouweries and plantations dominated the landscape. Escalating tensions between Native American groups and the European community, spurred by the provocations of Kieft and the Dutch administration, left settlers in the Eastern District vulnerable to the resulting raids and attacks and the New Netherland Council offered landowners little in the way of adequate protection. The first real attempt to make the Eastern District safe for colonization occurred under Kieft's successor, Director-General Peter Stuyvesant (Stiles 1869: 304).

Stuyvesant was determined to establish organized settlement in the Eastern District. His first attempt to implement structure occurred on a site along the East River known as *Het-strand* ('the Strand'). It was located near Wallabout and a Native American lookout point called *Kuy-Kuyt*. A small group of settlers had erected homes near present-day South Fourth Street, within view of Fort Amsterdam. In 1660, Stuyvesant ordered that a blockhouse be erected at the site. However, *Het-strand* was not suited for cultivation and settlement which impeded the Director's effort to create community (Provost 1949:iii).

The second attempt to organize a regular settlement in the Eastern District presented itself on February 14, 1660. A company of fourteen French emigrants and a Dutch interpreter, Pieter Jans De Witt, petitioned Director-General Stuyvesant for land in the New Netherland colony upon which they could settle a town (Provost 1949:iv). Stuyvesant proposed they take up a plot of land in the Eastern District, situated between *Mispat Kil* (Newtown Creek) and *Noorman's Kil* (Bushwick Creek). The plot was known as *Het-dorp* and its location was described by Henry R. Stiles in 1884 as being at the junction of North Second Street and Bushwick Avenue (1884:14).

With the promise of a future settlement on the horizon, Stuyvesant issued an advisory to landowners of outlier bouweries in the Eastern District to unite with the French contingent as a safety measure. He further recruited New Amsterdam based colonists who were both willing to relocate and adept at countering Native American hostilities. Within the span of one week, Stuyvesant had assembled twenty-two men to establish and build the new settlement at *Het-dorp* (Provost 1949:iv, 1955: 2).

On February 19th, the French company visited the site accompanied by Stuyvesant and several officials of the Dutch administration – the Fiscal, Nicholas De Sille, Secretary Cornelis Van Ruyven, and the Sworn Surveyor Jacques Corteleau. Together, they laid out a road in the center of the *Het-dorp*, aligned to the path of a defunct Native American trail, that connected the site to both creeks; around this road they laid out the blueprint for a village (Stearns 1884: 7; Kearns and Kirkorian 1992:6).

> "On both sides of the road the house-lots were laid out, twenty-two in number, divided by lanes; in the rear of the house-lots were larger parcels, known as garden-lots. These house-lots and garden-lots were enclosed with palisades. Outside the stockade and extending to the creeks was the farmland, cut up in long, narrow strips, in equal number with the house-lots" (Armbruster 1912:15)

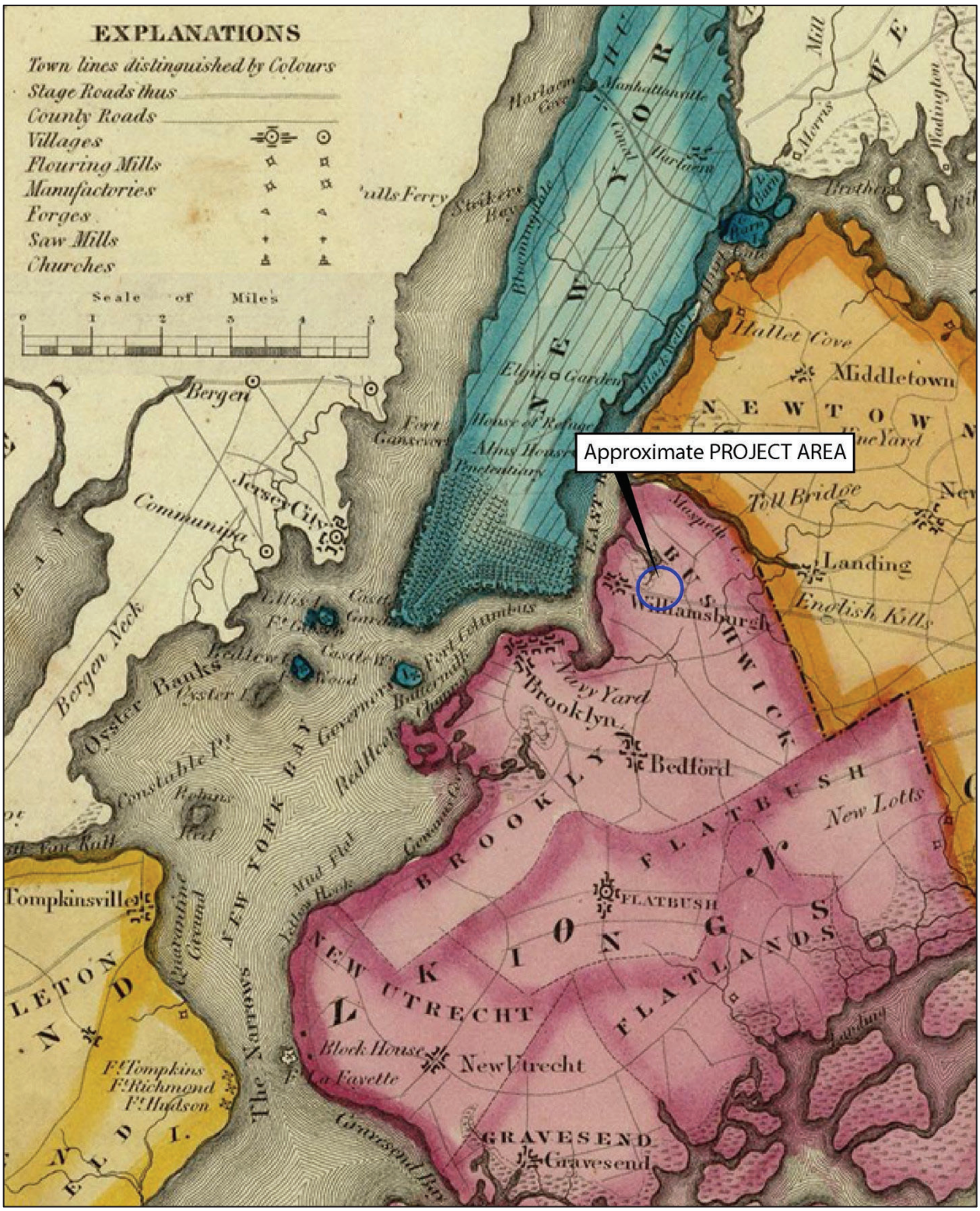
Stuyvesant tasked Pieter Jans De Witt with overseeing the development. The Dutch interpreter was to assign land to the twenty-two settlers and manage the construction of buildings and appurtenant structures. Under his direction, fifteen acres of the village site were cleared for the house and garden lots; an artificial pond was constructed to supply water to the community; and narrow strips of farmland, extending from *Het-dorp* to either the East River or one of the two creeks, were distributed to each homestead (Provost 1949:v). Less than one month later, on March 7th, the first house was erected in *Het-dorp*[2] (Armbruster 1912:22).

In the first year of settlement, the site had grown to necessitate the appointment of three magistrates who would see to the administration and maintenance of the village. "The appointment of magistrates meant that (the settlement) had attained, under the Dutch government, the dignity of a town" (Armbruster 1912:23, 25). On March 14, 1661, Stuyvesant named the new village *Boswijck*,[3] meaning 'Town of the Woods' (Stearns 1884: 8).

*Boswijck*, along with the settlement of New Utrecht, was placed under the jurisdiction of the Dutch Schout of Breuckelen, Amersfoort and Midwout. Altogether, they became known as the Five Dutch Towns (Stiles 1884:8) (Map 7).

[2] Provost names Evert Hedeman as having erected the first house (Provost 1949:iv). Armbruster gives no identity but writes that the first residence was soon followed by those of William Traphagen and Knoet Mouris (Armbruster 1912:22).

[3] "From 'bos,' meaning a collection of small things packed close together, and from 'wijk' – retreat, refuge, guard, defend from danger" (Armbruster 1912:22)




Map 7: *Map of the counties of New York, Queens, Kings and Richmond*. David H. Burr 1829.

## BUSHWICK

In its first five years of settlement, *Boswijck* continued to grow and take shape. Three loci of settlement emerged within *Boswijck*: *Het-dorp, Het-strand,* and *Het-kivis padt* ('the Cross Roads').

The original town plot of *Het-dorp* was the primary center of settlement in *Boswijck*, in the vicinity of the present-day junction of Metropolitan and Bushwick Avenue (Map 8). In May 1661, the magistrates made an application on behalf of twenty-three *Boswijck* residents for town privileges to accommodate an increasing number of settlers. The application included additional lands and roadways. Of these twenty-three original *Boswijck* settlers, twelve were established in the application as emigrants to New Netherland – seven hailing from France, three from Sweden, and one from Norway (Stiles 1884: 8).

Land outside of the immediate town plot was quickly utilized by the growing *Boswijck* community. In 1661, salt meadow had been allotted into parcels and distributed to individual homesteads. Freeholders were granted access to marshland along *Mispat Kil*, in present-day Williamsburgh, and reservations of woodland in *Boswijck Nieuw Loten,* which held in common (Stiles 1884:7).

*Het-dorp* was, as Stiles put it, "the centre of town life, towards which all the principal roads of the settlement converged" (1884:14). These principal roads were the Wood Point Road and Kijkuit Lane. The Wood Point Road extended beyond the *Boswijck* town plot and ran to Mispat Kil (Newtown Creek), where a town dock had been erected for the benefit of local farmers who would use the waterway to transport their produce into the New Amsterdam markets (Armbruster 1912:27). Kijkuit Lane originated in the village at or near the present-day intersection of Bushwick Avenue and Metropolitan Avenue and followed the line of the latter leading to the Block House at *Het-strand* on Noorman's Kil (today known as Bushwick Creek). In 1662, *Boswijck* resident and French emigrant Boudwyn Manout was nominated as the town schoolmaster and minister, and he conducted the first religious service (a "trial sermon") in *Boswijck* at the Block House (Provost 1949:v; Armbruster 1912:72). Armbruster posits that the Block House was where *Boswijck* residents attended divine services, as there is no evidence for a dedicated building for worship having been erected within the central village until the eighteenth century. Thus, Armbruster believed that, "The roads led to the most important points; the one to the Town dock, whence the crops of the farms were sent to the fort, and the other to the place where church services were held" (Armbruster 1912:72).

During the second year of *Boswijck's* settlement, a "wrinkled and homely" one-story Town House was erected alongside the Wood Point Road. Its present-day location would have been at the junction of Bushwick Avenue and Kingsland Avenue, immediately north of Conselyea Street. The structure is believed to have been the first dedicated municipal building in the county. The schoolhouse opened the same year. Its present location would have abutted the west side of Bushwick Avenue, between Bushwick Avenue and Humboldt Street (Stiles 1884:14, 15; Armbruster 1912:27). A boat landing was erected in *Boswijck* on the banks of Noorman's Kil by Pieter Jansen Trinbol. He opened the dock to the public, and *Boswijck* villagers could reach the landing by a new roadway that was laid out off the Wood Point Road (Armbruster 1912: 27). That same year, Stuyvesant made two calculated moves to further bolster the *Boswijck* population. The first move ordered that the neighboring settlement known as New Arnheim, in the vicinity of

present-day Newtown, would be dismantled as it was impeding the growth of *Boswijck* (Armbruster 1912:15). In the second move, Stuyvesant reissued the advisory by which all landowners of outlying plantations were to remove to the central village, but he reissued it as an order and directed the magistrates to demolish the dwellings (Armbruster 1912:24).

In January 1663 Boudwyn Manout was appointed court clerk for the magistrates of the town. He recorded the minutes in the Dutch language, and his salary was both levied among the townspeople and funded by the Council in New Netherland. On February 8, 1663 the magistrates appropriated six lots of land from French resident Jean Mailjeart "for the accommodation of newcomers," who would have to purchase each lot for 25 guilders wampum value (Stiles 1884:8). A town burial ground was established by the spring of 1663 on Woodpoint Road[4]. It would have been presently located at the intersection of Kingsland Avenue and Withers Street (Armbruster 1912:86; Stiles 1884:14). In April of that year, Boudwyn Manout was tasked by the town with performing messenger service and the duties of undertaker and grave digger (Provost 1949:ix). That same year, Stuyvesant issued an order for *Boswijck* to raise a Militia for the protection of the village. Forty adult and young-adult males enlisted as officers and "soldiers of the town." Under their appointed Captain, Ryck Lydecker, the militia was organized into four regiments (each consisting of ten men) who rotated watch duty – thus, one regiment actively guarded the village while the remaining three were on reserve. They could be summoned to arms by the town drummer, Barent Gerritsen (Provost 1949:v; Stiles 1884:8).

In January 1664, a carpenter named Abraham Jensen received permission from the New Netherland Council for rights to a water mill, which he erected at the head of Mispat Kil (Newtown Creek). Another roadway branching off Wood Point Road was laid out towards the mill site (Armbruster 1912:27). Though *Boswijck* thrived in its initial years, Stiles estimates that the population of the primary settlement under the Dutch regime likely did not exceed more than 25 families (1884:9-10).

In 1664, Dutch Director-General Peter Stuyvesant surrendered the New Netherland colony to English rule, which was then renamed New York. In an endeavor to restructure the colony in accordance to the Duke's Laws,[5] the First General Assembly implemented a territorial partition of Long Island into three Ridings[6]. The Eastern District of Kings County was placed within the West Riding. In October 1667, Governor Richard Nicolls confirmed *Boswyck* under English rule and patented the town (Armbruster 1912:27).

[4] Armbruster writes that the burial ground in the early village of *Boswijck* was unique for the reason that, "Invariably the graveyard surrounded the church edifice in the early Dutch settlements, but in Bushwick village the graveyard was laid out without having a church building" (Armbruster 1912:70)

[5] The Duke's Laws were a series of guidelines issued by the new English administration in 1665 outlining the future governance of the province (Stiles 1867:152).

[6] The three Ridings of the early English colonial government were as follows: the East Riding, constituted the present-day Suffolk County; the West Riding, covered present-day Staten Island, Kings County and Newtown; and the North Riding, encompassed the remaining Queens County area (Stiles 1867: 153).

*Boswyck* residents found ample opportunity to resist English rule. In February 1664, two delegates represented the town at a "convention of the Dutch towns on Long Island" where they protested the English government's insistence that they establish a church and "litigate in a language which they did not understand" (Stiles 1884:9). "Manhattan Island soon became largely anglicized, but Bushwick, and its neighboring Dutch towns, contained few English people, and continued to employ the Dutch language in their homes, in their churches and in their personal contacts for more than a century after they came under English rule" (Provost 1949: vi).

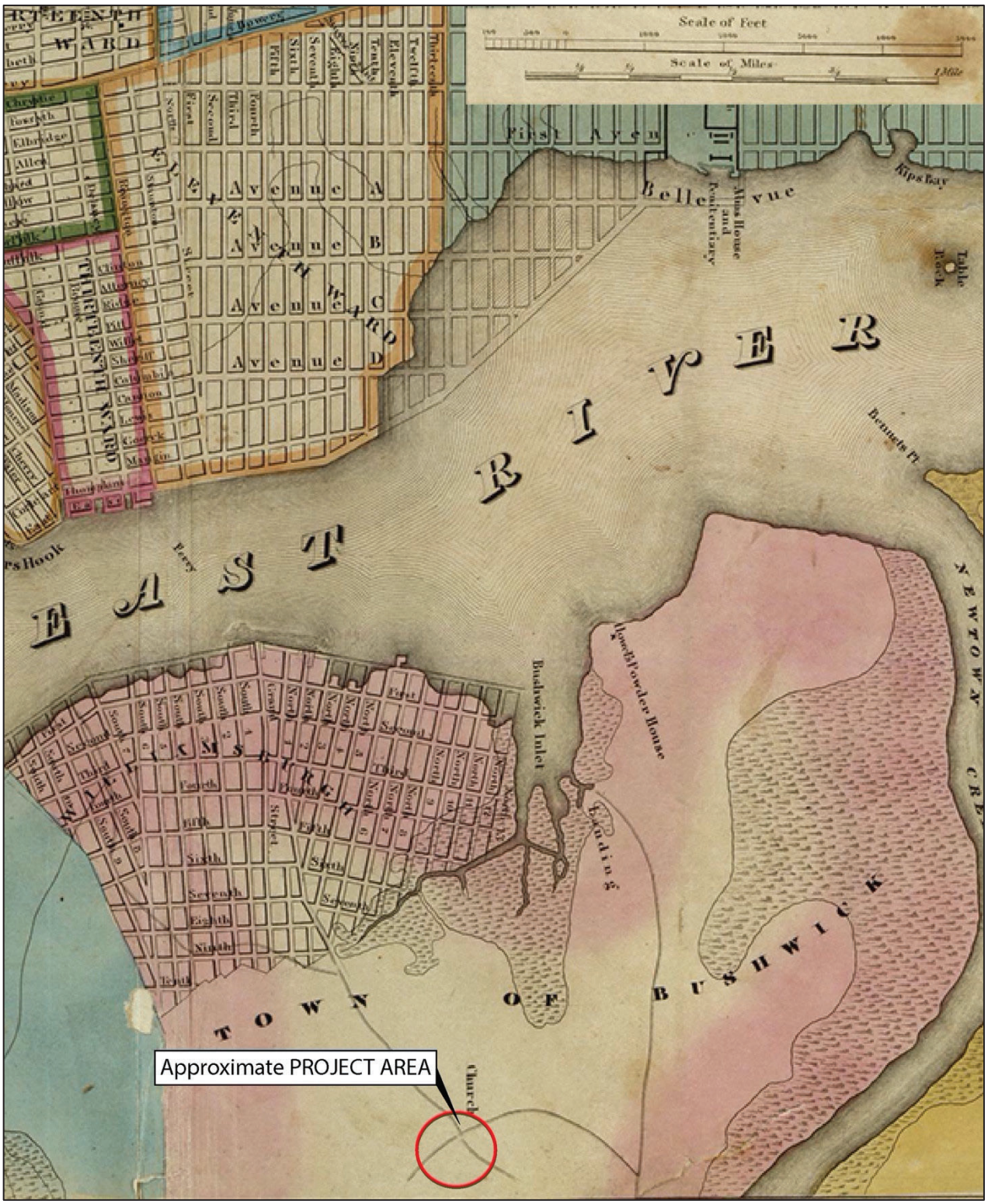
The townspeople of *Boswyck* were resolved to not engage with the English courts, to settle all legal matters by arbitration, and to contribute to the support of the poor via the Dutch church. It is worth noting that, perhaps in a rebellious vein, an Episcopal church was not established in the town until 1776 and not a single lawyer was found resided in Kings County until 1783 (Stiles 1884:9).

In 1683 the Provincial Assembly discontinued the Ridings system and restructured Long Island into three counties - Kings, Queens and Suffolk, with Bushwick becoming part of Kings County (Armbruster 1914:18). In 1687, Governor Thomas Dongan issued a patent for the town of *Boswyck*. In 1698, fifty-one families were living in the town – the heads of nine households were of French descent, two were of English descent. The town consisted of an estimated forty farmsteads each with approximately sixty acres. The total population was 301 persons, which included 141 children, fifty-two slaves and eight servants (Provost 1949:vii).

The spirited and fiery nature of Bushwick residents was nearly quelled during the Revolution when the town was occupied by the British between the years of 1776 and 1780 (Stiles 1884:12). In 1788, Bushwick was recognized as a town in King County, and Kings County was recognized by the laws of the newly established State of New York.

Bushwick village remained principally farmland until the middle of the nineteenth century. The farms thrived in Bushwick, but there was little growth or development and Bushwick retained its rural character throughout the nineteenth century (Kearns and Kirkorian 1992:16). In 1840, the town of Bushwick was separated from the rapidly urbanizing village of Williamsburg (Keke and Kirkorian 1992:7).

On January 1, 1855, the towns of Brooklyn, Williamsburg and Bushwick were consolidated into the City of Brooklyn (Provost 1949:xi). This was the structure of Long Island until the turn of the twentieth century when the rise of urban New York led to the proposal to incorporate Kings and Queens Counties into the Greater City of New York (Armbruster 1914:18).




Map 8: *An atlas of the State of New York, containing a map of the State and of the several counties*. David H. Burr 1832.

## HISTORIC LAND USE OF THE APE

The project area is located within the former Dutch settlement of *Boswjick*, in the vicinity of the original town plot of *Het-dorp* ('the Green', or Bushwick Green). It lies along present-day Metropolitan Avenue at its intersection with Bushwick Avenue.

The earliest identified property owners for the APE are Jean L'Escuyer and his wife, Rachel Dircks. They acquired the property which includes the APE between the years of 1663 and 1704.

Jean L'Escuyer was a French emigrant to the New Netherland colony. Born in Paris, France circa 1635, Jean arrived in New Amsterdam aboard the ship *Bruynvis* (Brownfish) in June 1658. In 1660 he settled in the Hudson Valley area, in an area called Esopus, and enlisted in the local militia. He met Rachel Dircks through fellow Miltia member Harman Hendricksen, who was married to Rachel's sister, Magdalena (Provost 1955:2).

Rachel Dircks was baptized at the Dutch Church in New Amsterdam on September 3, 1641. She was the daughter of Dirck Volckertsen and Christina Vigne. Christina Vigne came to New Netherland from France circa 1620. Vigne was from a prominent family: she was the wealthy stepdaughter of Jan Jansen Damen and the sister-in-law of Cornelis Van Tienhoven, the Secretary of the Director and New Netherland colony in 1638. Vigne's brother, Jan, is presumed to have been the first child born in New Netherland. Dirck Volckertsen was a shipwright and carpenter who emigrated to New Netherland from Norway circa 1630. He was one of the first settlers of the Eastern District. Volckertsen – known as Dirck "the Noorman" – was granted several hundred acres in northern Bushwick in 1643. He erected a stone farmhouse between the East River and Bushwick Creek – lending the latter it's early name, *Noorman's Kil* (Provost 1955:2).

In 1645, Volckertsen established a plantation between Newtown Creek and Bushwick Creek (Stiles 1884:6). In 1660, Volckertsen removed from his bowery at the request of Director-General Stuyvesant and became one of the first twenty-two settlers of *Boswijck*. Volckertsen ultimately owned and occupied between four and five hundred acres of land in Bushwick. His holdings comprised almost all of modern day Greenpoint (Provost 1949:ii). Volckertsen was considered, "A man of strong character, albeit with a somewhat violent temper" (Provost 1955:2). His independent and free-thinking nature was passed on to his daughters, Rachel and Magdalena, who, in May 1694, were fined before the Court of Sessions for assaulting the English Captain Pieter Praa in Bushwick and tearing him by his hair in front his soldiers (Stiles 1884:10).

It is unclear whether Rachel Dircks was already living in the Bushwick area with her father when Jean L'Escuyer arrived on February 28, 1663 and received land in the village[7]. They married on November 11, 1663 at the Dutch Church in New Amsterdam as "Jean Escuyer de Parys, op Boswyck" and "Rachel Dircks, de Noorman, j.d. van Boswyck" (Provost 1949:103). The couple took up residence near Newtown Creek, by present-day Maspeth Avenue, within the confines of the protected *Het-dorp* town plot (Provost 1955:2, 5).

[7] Provost believes that Dircks was living in Bushwick beginning circa 1655 (Provost 1949:103)

L'Escuyer quickly involved himself in the civic affairs of the village. In 1663 he was named as a member of the Town Militia (as John Parys). In October 1664, L'Escuyer was acting as magistrate or commissary of *Boswyck*; and in March 1665 he was elected as Schepen (Provost 1949:103). It was at this time, when the hostilities and threat of attack from Native Americans had eased, that Jean began acquiring additional lands in *Boswyck* beyond the confines of the stockade. In 1676 he possessed ninety-two acres of improved lands in the town. Over the next two years, he acquired an additional sixty-four acres from both his father-in-law, Dirck Volckertsen, and his brother-in-law, Barrent Gerrets (Provost 1949:89, 103).

By 1685, Jean and Rachel had five sons and three daughters. In 1687 they were living in *Boswyck* with two of their adult sons, one adult daughter and one minor child living in their household. By 1700, the L'Escuyer's had acquired twenty-five acres on Newtown Creek where Jean operated the tidal grist mill originally constructed in 1664 by carpenter Abraham Jansen. Jansen's mill was one of the two mills first established in the City of Brooklyn. The mill site later became known as 'Luquere's Mill' and remained in operation throughout the eighteenth century[8] (Stiles 1884:18). On February 16, 1701, Jean purchased an estimated ten acres of upland in *Boswyck* from Machiell De Gree, which had originally formed one-fourth of the plantation formerly belonging to Charles Fonteyn. In 1706, Jean owned 137 acres in both *Boswyck* and the neighboring village of Newtown (Provost 1955:2).

"Jan Lequere[9], of Bushwicks" wrote his will September 13, 1705 – it is the first document in the records for the Town of Boswyck to use the modern form 'Bushwick' (Provost 1949:104). He remained in Bushwick until his death in 1713 (Provost 1955:2). Jean devised his entire estate to Rachel and entitled her with the right to occupy it regardless of remarriage. Their children were to receive a division of the estate after her decease. The last record of Rachel is dated February 23, 1712/13, in codicillary documents pertaining to Jean's will. She resided in Bushwick until her death, the event of which allowed the estate to pass in equal shares to her surviving children (Provost 1955:3).

On April 8, 1704, Jean and Rachel had bequeathed the part of their estate encompassing the project area to their second-eldest son, William. The conveyance was recorded in the Kings County Office of the City Register on May 8, 1708 between 'John and Rachell Laquiee' and 'William Laquiee' for a tract of nearly ten acres of upland and all meadow included within its bounds. The conveyance was a gift, rather than an inheritance, and it is likely that William occupied the property after receiving it with his wife, Catryntje, and their son, Jan, who was born the following year (Provost 1955:7).

[8] This is evidenced by Stiles account that a Hessian soldier, Christopher Zimmerman, who had occupied Bushwick during the Revolution ultimately ended up remaining in the area after the war, and worked at Luquere's Mill as a miller (Stiles 1884:16)

[9] Jan Laquere is the anglicized name of Jean L'Escuyer. Additonally, there are numerous spellings for his name in early records, including Laquier, Lequere, Laquiee and Jan of Parys/Paris.

William was deceased April 1, 1712. It is unclear whether the property reverted back to the estate of William's parents or if it passed to William's wife. Little information is known of Catryntje, and it appears as if their son, Jan, settled in the neighboring village of Newtown without ever having occupied the Bushwick property.

The chain of conveyance for the property encompassing the project area disappears from the public record until December 24, 1833 when it is stated that the property had been in the possession of Abraham Laquier (II), who was the great-nephew of William Laquiee.

Abraham Laquier (II) was born on July 28, 1739 to John Laquier and Lysbeth Woertman. His grandparents, Abraham Laquier (I) and Antoinette Duryea, were both residing in Bushwick in 1738 with two males and two males over the age of ten, two females over the age of ten, and two children under the age of ten living in their home. In 1755, they were recorded in a Bushwick census as being the owners of a slave. Abraham (I) was the only one of Jean and Rachel's children to still be residing in Bushwick in the second half of the eighteenth century (Provost 1955:10). His father, John, had married Lysbeth Woertman on October 3, 1733 at the Brooklyn Dutch Church. They resided in Bushwick until at least 1741 (Provost 1949:105).

Abraham (II) married Catharina Covenhoven on May 5, 1765 and for the following two decades, they resided in Bushwick with their son, John, and their daughter, Catharina. "As the only son of record, his Bushwick farm appears to have come to him from his father during the latter's lifetime" (Provost 1955:11). Stiles' account of Bushwick's history indicates that Abraham had acquired – or at least occupied – the property as early as the Revolution. He was an active advocate for the American military and patriotic causes during the Revolution, "foremost in county and local action which was calculated to advance the interests of the country" (Stiles 1884:11). In November of 1776, after the disastrous Battle of Long Island, Bushwick was subject to British occupation. A regiment of Hessian soldiers under British Colonel Rahl constructed barracks on Abraham's plantation which they used as their winter quarters (Stiles 1884:12). Despite the appropriation of his home, Abraham did not abandon Bushwick, nor does it seem that their presence had dampened his patriotic spirit. In 1777, Abraham is recorded as serving as Justice of the Peace in Bushwick. After the close of the war, Hessian soldier Christopher Zimmerman chose to remain in Bushwick and found work as a miller in 'Luquere's Mill', which bore Abraham's family name.

Even though Abraham had made the best of his circumstances in Bushwick, the Laquier land, much like the rest of the town, had been ravaged from the war. It was perhaps too damaged to be repaired, for Provost states that Abraham and his family left Bushwick at some point after 1782 and removed to Gowanus (Provost 1955:11). In 1823 Abraham was a resident of the Town of Brooklyn but still retained ownership of his Bushwick property. In his will, dated August 4, 1823, Abraham devised the dwelling house, mill, and entirety of his Bushwick holdings to his grandson, Augustine N. Lawrence. The property transferred into Lawrence's possession on September 28, 1823.

Lawrence was born in Manhattan on December 1, 1794 to Abraham's daughter, Catharina. His father, Augustine Hicks Lawrence, had co-founded the New York Stock Exchange Board – a precursor to the New York Stock Exchange in 1792. His paternal grandfather, Augustine Nicholas Lawrence, served as a foreign diplomat and Colonel in the War of 1812 (Leonard 1907:817). Lawrence attended Columbia University in Manhattan and graduated in 1812 (Columbia University 1916:94). In 1824, Lawrence lived in Manhattan with his wife, Penelope, and worked as a broker. It does not appear as though Lawrence ever occupied his grandfather's Bushwick property.

In May 1824, Lawrence and Penelope conveyed the Bushwick property to two farmers based in Queens County, Samuel Carman and Edmund Frost. Nine years later, on December 24, 1833, an additional record of conveyance for the transaction is entered into the public record where Lawrence and Leffert Lefferts, acting as executors for the will and estate of Abraham Laquier, confirm the transference of the property. These two records outline Lawrence's inheritances of five parcels of land in Bushwick which collectively contained an estimated forty-seven acres of arable land and thirty-one acres of salt meadow.

The parcel that would ultimately comprise the majority of present-day Block 2916, and the property upon which the project area is located, is referenced as the fourth parcel:

> "The Fourth of which said pieces of land is described as follows. Beginning at the southeast corner formed by the intersection of the Williamsburgh Turnpike and the road leading to Bushwick Cross Roads and runs thence southwardly by the last mentioned road to the widow Bennets land, thence northeasterly by the land of the said widow Bennet to the Turnpike road, and thence westwardly by the Turnpike road to the place of beginning, containing by estimation about six acres be the same more or less… and also the mill, pond, ponds of water, water rights and privileges of dams and mills in the town of Bushwick… as the same were owned by Abraham Luquier in his lifetime and at the same time of his death" (Conveyances, Vol. 15 p. 65)

On May 1, 1828, Johnson Chase, who was "of the leity of New York Minister of the Gospel," mortgaged the five Bushwick parcels from Edmund Frost and the heirs of Samuel Carman for $15,000. Carman's surviving widow, Sarah, released her right and interest to the property to Chase on May 16, 1828. To fund his acquisition of the property, Chase had secured a loan from Hannah Brown, a Manhattan-based widow who would routinely borrow against her late husband's estate to make investments which she felt would benefit the long-term security of her three minor sons. On April 1, 1831, a suit of foreclosure was brought before the Court of Chancery between Edmund Frost and the heirs of Samuel Carman against Johnson Chase, where Hannah Brown was named as one of the defendants. $10,500 needed to be raised to satisfy the agreement for the mortgaged lands, thus the Court decided that the entire property would be sold at auction within three weeks public notice. The auction took place in Bushwick on April 28, 1831 at a dwelling house on one of the premises. The five Laquier parcels were purchased by Johnson Chase, Hezekiah Chase, Thomas Hale, Meyer Leoy and Hannah Brown. On October 28, 1831, one of the Masters in Chancery for New York conveyed to Brown her portion of the Laquier property, which included the fourth parcel – the land containing the project area. Six years later, Brown's three sons had

come of age. In a deed dated August 10, 1837, Brown stated that she had purchased the Laquier property on behalf of her late husband's estate. As it belonged to their inheritance, Brown conveyed the parcels to her sons William, Edmund and Francis to hold as tenants in common.

The chain of conveyance for the property disappears once again from the public record and reemerges in 1844 when, on July 7th, a case raised by David Coope and Stephen Haynes was brought before the Court of Chancery at City Hall in Manhattan. The case regarded an unpaid mortgage on the property and named William Brown, Francis Brown, and Samuel Jackson (the administrator for the estate of Hannah Brown) as defendants. The Court ruled to auction the lands as a means of raising the monies needed to satisfy the mortgage. On September 4, 1844 the property was auctioned at the Franklin House in Brooklyn and purchased by David Coope, a Brooklyn-based merchant. Three months later, on December 7th, the property was formally conveyed to him by a Master in Chancery for the State of New York.

On March 24, 1846 David and Catharine Coope, who shared the land with Coope's partner, Stephen Haynes (Map 9), as tenants in common had the property surveyed by W. W. Huttick and partitioned into salable building lots. Table 4 lists the deed conveyances for the period before the project area was partitioned. The earliest map to depict these individual lots and associated development is the 1868 Higginson Map. This map shows the Project Area as being sub-divided into what appears to be seven distinct lots represented by twelve distinct street addresses (Map 10). Table 5 correlates the present-day lots and addresses with their historic divisions.

Table 4: Deed Conveyances, 1700 – 1846.

| GRANTORS | GRANTEES | DATE OF RECORDING | LIBER, PAGE |
|---|---|---|---|
| John and Rachell Laquiee | William Laquiee | May 26, 1708 | Deeds: 3, 225 |
| Abraham Laquer | Augustine N. Lawrence | August 4, 1823 | [Will of Abraham Laquer] |
| Augustine N. and Penelope Lawrence | Samuel Carman<br>Edmund Frost | June 18, 1824 | Deeds: 15, 65 |
| Sarah Carman, widow of Samuel Carman | Johnson Chase | May 16, 1828 | Deeds: 24, 329 |
| Edmund and Abigail Frost<br>Samuel R. Carman<br>Mary Carman<br>Hannah Carman | Johnson Chase | May 23, 1828 | Deeds: 24, 325 |
| Elbert Herring, master in chancery | Hannah Brown | October 28, 1831 | Deeds: 31, 471 |
| Abraham Laquer, executors for the estate of | Samuel Carman<br>Edmund Frost | December 24, 1833 | Deeds: 38, 462 |
| Hannah Brown | David Coope<br>Stephen Haynes | August 15, 1836 | Deeds: 63, 190 |
| Hannah Brown | William H. Brown<br>Edmund A. Brown<br>Francis Brown | August 12, 1837 | Deeds: 71, 524 |
| Edmund A. Brown | William H. Brown | March 4, 1842 | Deeds: 100, 484 |
| Hannah Brown | Philip Burrowes (attorney at law for William H., | June 2, 1846 | Deeds: 149, 352 |

| GRANTORS | GRANTEES | DATE OF RECORDING | LIBER, PAGE |
|---|---|---|---|
| | Edmund A. and Francis Brown) | | |
| William W. Campbell, master in chancery | David Coope | May 14, 1845 | Deeds: 131, 240 |
| James Schenck | David and Catharine Coope | September 1, 1846 | Mortgage: 152, 131 |

Table 5: Historic Addresses for Metropolitan Avenue Block 2916 Lots 14, 16, 8 and 17.

| Present-day Lot # | Current Address | Historic Address 1868 | Historic Address Bromley |
|---|---|---|---|
| 8 | 808 Metropolitan Avenue | 51 Bushwick Avenue | 5 Bushwick Avenue |
| | | 53 Bushwick Avenue | 7 Bushwick Avenue |
| | | 55 Bushwick Avenue | 9 Bushwick Avenue |
| | | 59 Bushwick Avenue | 11-13 Bushwick Avenue |
| | | 8 Metropolitan Avenue | 818 Metropolitan Avenue |
| | | 10 Metropolitan Avenue | 820 Metropolitan Avenue |
| | | 12 Metropolitan Avenue | 822 Metropolitan Avenue |
| 14 | 824-830 Metropolitan Avenue | 14-16 Metropolitan Avenue | 824 Metropolitan Avenue |
| 16 | 832 Metropolitan Avenue | 18 Metropolitan Avenue | 832 Metropolitan Avenue |
| 17 | 834 Metropolitan Avenue | 20 Metropolitan Avenue | 834 Metropolitan Avenue |


Project Area
Stephen B. Masterns
Peter Cooper
Gabriel De Bevoise
Charles J. De Bevoise
Wm. Cooper
Coop & Hayne
Noah Waterbury
Estate of
Heirs of John
Meeker Ave.
Kingsland
Van Cott Ave.
Broom St.
Van Pelt St.
Newton St.
Sandford St.
Formerly Wm. Conselyea
Wm. Frost
Andrew Conselyea
Jackson St.
Richardson St.
Skillman St.
Powers St.
Devoe St.
Olive St.
Sharon St.
Bullion St.
Benton St.
Parker St.
Bennet St.
Amos St.
Porter Ave.
Vanderbilt Ave.
Morgan Ave.
Kingsland Ave.
Old Ross Point
Old Mill Road
Meadow St.
Grand St.
Mill St.
Dickinson St.
Calhoun St.
Orient St.
Maspeth Ave.
Remsen St.
Wyckoff St.
Broadway
Waterbury
Judge
Morgan
Vanderveer
Metropolitan
Joseph Conselyea
Catherine
Slagg
Heirs
Charles
Schools
Bogart
Lawrence
Williamsburgh
Navy
Nassau
William St.
Henry St.
Herbert St.
Formerly
Sandford
Newton
Richardson
Skillman
Jackson
Powers
Devoe
Olive
Judge
Broadway
Waterbury
Morgan
Vanderveer
Meadow
Grand
Mill
Dickinson
Calhoun
Orient
Maspeth
Bullion
Benton
Parker
Bennet
Amos
Porter
Vanderbilt
Sharon
Remsen
Wyckoff
Metropolitan
Joseph
Catherine
Slagg
Heirs
Charles
Schools
Bogart
Lawrence
Williamsburgh
Navy
Nassau
William
Henry
Herbert




Map 10: *Higginson's Insurance Maps of the City of Brooklyn L.I.* Brooklyn, Vol. 4, Double Page Plate No. 84. J. H. Higginson 1868.

*LOT SPECIFIC HISTORIES*

**Lot 14 – (824-830 Metropolitan Avenue)**

Present-day Lot 14 initially comprised two 25' x 100' contiguous building lots. Presently, Lot 14 forms one 50' x 100' building lot. The westerly boundary of the lot is located 140' east of the southeast corner at the intersection of Metropolitan Avenue and Bushwick Avenue, and it fronts 50' along Metropolitan Avenue.

On November 2, 1846, David and Catharine Coope conveyed the two lots, identified as "Lot 6" and "Lot 7" to John G. Ruoff. The property is described as being 50' x 100' along the Williamsburgh Turnpike (Metropolitan Avenue), with its westerly boundary situated 150' east of the southeast corner at the intersection of present-day Metropolitan and Bushwick Avenue.

The 1852 Field map depicts three owners in the project area 'J. G. Ruoff – Colum Hotel – Jones Blacksmith' with J.G. Ruoff most closely associated with the APE (Map 11). J.G. Ruoff was a well-respected member of the community who served 28 years as a policeman. After retirement he may have worked as an undertaker, this is suggested by his obituary (Brooklyn Times Union May 21, 1914). It is noted on the 1852 Field map that J.G. Ruoff owned at least one additional property in the general area.

According to the 1880 census, the first year to list street addresses, the Ruoff family lived at 12 Metropolitan Avenue as well as Johanna and Gustave Feigenbaum (United States Census 1880). No information was found regarding the Colum Hotel or Jones Blacksmith.

The Project Area property remained within the Ruoff family for nearly forty years. On January 7, 1885, John, Margaret, Leonard and Franciska Ruoff, and Johanna and Gustave Feigenbaum transferred the property to Elizabeth Wendel.

The 1868 Higginson map provides greater detail about the development of the property including information regarding street addresses (Map 10). The 1868 map shows the Project Area as comprising seven property lots with 12 individual buildings or street addresses. The APE is located within 14-16 Metropolitan Avenue. Though owned by Ruoff the buildings at 14-16 were rented according to census records. No. 14 Metropolitan Avenue was rented to the Debold family. John Debold was a cabinet maker who lived with his wife Catherine and their 5 children. No. 16 Metropolitan Avenue was rented to Osker Frising, a tailor who lived there with his wife and 4 sons. Both Debold and Frising were German immigrants (United States Census 1880).

The APE contains a two-story frame building with a store spans 50' across the front of the lot. A one-story smaller frame structure, up to 25' wide, is connected to the rear of the building. Two small outbuildings are situated in the center rear of the backyard and abutting the rear border of the lot (Map 10).

In 1886, Lot 14 was designated as two individual building lots, labelled “Lot 6” and “Lot 7”. An L-shaped wood building fronting 25’ on Metropolitan Avenue forms the front portion of “Lot 6,” which formed the western half of present-day Lot 14. A square wood building fronting 25’ on Metropolitan Avenue forms the front portion of “Lot 7,” which formed the eastern half of present-day Lot 14. There are no outlier buildings on either lot (Map 13). In 1898 two back to back L-shaped frame buildings are on “Lot 6” and “Lot 7,” respectively, each fronting 25’ on Metropolitan Avenue (Map 14). This is also the first map to note the modern street addresses.

The property went through another significant change at the turn of the century. In 1904, it is depicted as one individual lot measuring 50’ x 100’ and identified for the first time as the singular “Lot 14.” A two-story frame building with a brick or stone foundation, which fronted slightly more than 25’ on Metropolitan Avenue, was located in the western half of Lot 14. An identical, albeit slightly smaller structure, was located in the eastern half. Both had a one-story frame rectangular structure attached to the rear of the building. Two small frame square “sheds or old buildings” were located in the western half of Lot 14 and abutted the rear boundary (Map 15).

Elizabeth Wendel (as Elizabeth Holz) deeded the property to Eugene E. Ruoff on October 8, 1906. This is the first record where a street address is assigned to the property. It is listed as 826-30 Metropolitan Avenue. That same day, Ruoff mortgaged the property to both Elizabeth Wendel and to Margaret Ruoff. Two years later, in 1908, Lot 14 is depicted once again as having two back-to-back L-shaped frame buildings fronting a collective 50’ on Metropolitan Avenue, with one small frame shed or outbuilding situated in the southwest corner of the lot (Map 16).

On March 15, 1909 Margaret Ruoff conveyed her interest in the mortgaged premises to John R. Ruoff; that summer, on August 18th, the executors for the estate of Elizabeth Holz (née Wendel) conveyed her interest in the premises to Helen M. Plaisted. Three years later, on October 1, 1912, Plaisted conveyed the same to the Bushwick Savings Bank. On June 28, 1920, John R. Ruoff, along with Bernard A. Ruoff and Theresa Ruoff, deeded the premises to Eugene E. Ruoff and John R. Ruoff.

Throughout this period 824 Metropolitan Avenue served as a rental property. The 1900 census lists three individual families living at this address. By 1910 three different families are occupying the property. Census records are available in Appendix C. No directory listings associated with 14-16 Metropolitan Avenue or 824-830 Metropolitan Avenue were found

A discrepancy is noted in the 1940s tax photos – there are 2 images available for Lot 14 of different adjacent structures. However, the Image for Lot 16 is not of the building next to the two buildings associated with Lot 14. The building with columns on the front stoop is unidentified in the tax photos (See Images 1, 2 and 3).

The tax photos show that Lot 14 contained two 2-story dwellings, a retail store, and a small, 1-story building occupied by a tailor, from at least 1907 to 1961. According to the Department of Buildings these structures were demolished in 1961. According to the ESA, the lot was used from 1961 to the present for automobile sales, parking, and contractor/general storage. A 2015 Phase I EAS of the project site, noted that since the project site was previously developed, and that construction debris was formerly present at the site, it is likely that the property contains historical

urban fill materials. It further noted that Lot 14 may have been impacted by spills, leaks or discharges of hazardous substances or petroleum products from contractor storage operations, or from any auto repairs/maintenance activities performed during the time the lot contained used car sales operations (Environmental Studies Corporation 2019).

According to the EAS the 1888 Sanborn map shows two 2-story dwellings, one 1-story retail store, and one small accessory structure on this lot. These structures, along with a 1-story building, appear on the lot on the 1907, 1933 and 1951 Sanborn maps. Lot 14 appears as undeveloped with no identified on-site uses or operations on the 1965 Sanborn map (Environmental Studies Corporation 2019).

According to New York City Department of Buildings (NYCDOB) records, an Oil Burner Application was filed for Lot 14 in 1949, which indicates that one or more of the former buildings on the lot had an oil-fired heating system. There is no indication whether or not any fuel oil storage tanks have been removed from Lot 14 at the time the buildings were demolished (Environmental Studies Corporation 2019).



Image 4: 1940s Tax Photo Block 2916, Lot 14.



Image 5: 1940s Tax Photo Block 2916, Lot 14, alternate view.



Image 6: 1940s Tax Photo Block 2916, Lot 16.

Table 6: Property owners – Lot 14, Block 2916 (824-830 Metropolitan Avenue).

| GRANTORS | GRANTEES | DATE OF RECORDING | LIBER, PAGE |
|---|---|---|---|
| David and Catharine Coope | John G. Ruoff | November 2, 1846 | 155, 18 |
| John, Margaret, Leonard, and Franciska Ruoff; Johanna and Gustave Feigenbaum | Elizabeth Wendel | January 7, 1885 | 1587, 451 |
| Elizabeth Holz (Wendel) | Eugene E. Ruoff | October 8, 1906 | 30, 425 |
| Eugene E. Ruoff | Margaret Ruoff | October 8, 1906 | 47, 414 |
| Eugene E. Ruoff | Elizabeth Holz | October 8, 1906 | 47, 415 |
| Margaret Ruoff | John R. Ruoff | March 15, 1909 | 3263, 292 |
| Elizabeth Holz, (exc. of) | Helen M. Plaisted | August 18, 1909 | 3352, 43 |
| Helen M. Plaisted | Bushwick Savings Bank | October 1, 1912 | 3797, 188 |
| Bernard A., John and Theresa Ruoff | Eugene E. Ruoff and John R. Ruoff | June 28, 1920 | 3956, 420 |

**Lot 16 – (832 Metropolitan Avenue)**

Lot 16 is a single 25’ x 100’ building lot. The westerly boundary of the lot is located 190’ east of the southeast corner at the intersection of Metropolitan and Bushwick Avenue, and it fronts 25’ along Metropolitan Avenue.

On February 16, 1847, David and Catharine Coope deeded the lot, identified by them as “Lot 7B” or “B No. 7” to James Stainburn, a Bushwick-based chemist.

The property was conveyed by Stainburn and his wife, Mary, in January 1865 to Joseph Werkmeister, a “driver” living in Bushwick. Originally from Germany, he lived at 18 Metropolitan Avenue with his wife and their 5 children. They also rented part of the building to John Heisman and his family (United States Census 1880).

The property is depicted as a 2 ½ story wood-frame structure on the 1868 Higginson map (Map 10). remained in Werkmeister’s possession for twenty-six years. He transferred it on May 2, 1891 to Elizabeth Holz and her husband, Andrew. The following year, on April 9, 1892, Elizabeth and Andrew Holz deeded the property to Johanna Corcoran. Corcoran then transferred the property back to the couple on June 9th of that year. The latter mentioned deed is the first record to assign a street address to the property (832 Metropolitan Avenue).

The Holz family is listed in the 1900 census. Andrew Holz was a German immigrant who worked as an Engineer. They had 3 children. They rented to two additional families, the Nicholsens and Clarks (United States Census 1900).

On November 3, 1893, Elizabeth Holz mortgaged the property to Martha Metz. Seven years later, on January 14, 1900, Andrew Holz mortgaged the property to a group of seven individuals, which included Metz. That same day, this same group mortgaged their interest in the property to Otto Huber. By 1910 the property was solely occupied by renters. These renters changed regularly in the census records (see Appendix C).

On June 17, 1915 Huber mortgaged his interest in the property to Joseph Huber, John F. Clarke, and Otto Huber, Jr. By 1938, the property had come into the possession of William A. Holz and Sadie Holz. On September 1, 1938 they deeded the property to the North Cape Realty Group who, on the same day, deeded the property William A. Holz, making him the sole owner. Nine years later, on May 14, 1947 Holz deeded the property to Edward A. Citro and Teresa Citro, who remained in possession of it until September 28, 1954 when they deeded it to William and Matilda Dede. Table 6 details the chain of conveyance.

The structure presently on Lot 16 is a 3-story (plus basement) wood frame apartment building (Image 3). Based on historic maps this was constructed sometime after 1880, the 1880 Hopkins map shows the lot as empty (Map 12). However, there is a listing in the 1880 census records. No information was found to account for this discrepancy. The current structure has been continuously used as an apartment building since its construction.

A 2-story dwelling is shown on this lot on the 1886 Robinson map (Map 13. A 3-story (plus basement) building appears on 1904 map (Map 15). This structure appears to be the same as the existing 3-story apartment building on the lot.

Table 7: Property owners – Lot 16, Block 2916 (832 Metropolitan Avenue).

| GRANTORS | GRANTEES | DATE OF RECORDING | LIBER, PAGE |
|---|---|---|---|
| David and Catharine Coope | James Stainburn | February 16, 1847 | 159, 482 |
| James and Mary Stainburn | Joseph Werkmeister | January 30, 1865 | 653, 340 |
| Joseph Werkmeister | Elizabeth Holz<br>Andrew Holz | May 2, 1891 | 2042, 511 |
| Elizabeth and Andrew Holz | Johanna Corcoran | April 9, 1892 | 2107, 416 |
| Johanna Corcoran | Elizabeth Holz | June 9, 1892 | 2120, 427 |
| Elizabeth Holz | Martha Metz | November 3, 1893 | 2513, 379 |
| Andrew Holz | John Freitag; Henry F. Schild; Adam Bauer; Martha Meth; William, Eugene and Andrew Hempel | January 14, 1900 | 3411, 81 |
| John Freitag; Henry F. Schild; Adam Bauer; Martha Meth; William, Eugene and Andrew Hempel | Otto Huber, (exc. of) | January 14, 1900 | 3411, 83 |
| Martha Meth, (exc. of) | John Freitag; Henry F. Schild; Adam Bauer; Martha Meth; William, | January 14, 1900 | 13, 363 |

| GRANTORS | GRANTEES | DATE OF RECORDING | LIBER, PAGE |
|---|---|---|---|
| | Eugene and Andrew Hempel | | |
| Otto Huber, (exc. of) | Joseph Huber<br>John F. Clarke<br>Otto Huber Jr. | June 17, 1915 | 4128, 7 |
| William A. & Sadie Holz | North Cape Realty Corp. | September 1, 1938 | 5635, 379 |
| North Cape Realty Corp. | William A. Holz | September 1, 1938 | 5635, 378 |
| William A. Holz | Edward A. & Teresa A. Citro | May 14, 1947 | 7125, 587 |
| Edward A. & Teresa M. Citro | William & Matilda Dede | September 28, 1954 | 8276, 22 |

**Lot 8 – (808 Metropolitan Avenue)**

808 Metropolitan Avenue, Lot 8, is an irregular-shaped lot that encompasses the northwestern corner of block 2916. It's northerly border fronts 140' on Metropolitan Avenue, its westerly border fronts some 136' on Bushwick Avenue, and it is bound easterly by Lot 14 (824 Metropolitan Avenue).

During the second half of the nineteenth century, present day Lot 8 consisted of six individual building lots of varying sizes. The six plots forming the entirety of present-day Lot 8 ultimately came into the possession of Cornelius Jones, a blacksmith, between the years of 1845-1860. 'Jones blacksmith' is one of the earliest structures noted on the block and the first on present-day Lot 8 (Map 11).

Jones was deceased by 1860 and the property transferred to his wife, Catherine, and daughter, Elizabeth. The six lots they inherited were identified in nineteenth century deeds as "Lot 1, 2, 3, 4, 5, and 38." However, both women dispersed of the parcels in asymmetric apportionments. For instance, a deed between Elizabeth and Catherine in 1860 shows Elizabeth conveying, "a cut off the rear" from a typical 25' x 100' property lot. A thorough examination of the nineteenth century records has been undertaken to determine as closely as possible an accurate timeline of occupancy for each parcel comprising present day Lot 8 (Table 7).

*Lots 1 and 2*
Lots 1 and 2 formed a contiguous irregular-shaped lot in the northwestern most corner of Lot 8. Beginning at the southeast corner at the intersection of present-day Metropolitan and Bushwick Avenue, it's northern border spanned 65' which fronted Metropolitan Avenue, it's western border spanned 110.6' along Bushwick Avenue, it's southern border stretched 38' along the northern border of "Lot 38," and it's eastern border spanned 100' which abutted "Lot 3." These original property boundaries are most closely depicted on GM Hopkins 1880 Map (Map 12). On August 20, 1845, David and Catharine Coope conveyed "Lot 1" and "Lot 2" to Cornelius Jones. David and Catharine Coope again conveyed the property to Jones on November 14, 1849. Per the 1868 Higginson map, these are 2 Metropolitan Avenue and 51, 53 and 55 Bushwick Avenue.

According to the 1880 census Catherine and Elizabeth Jones did not live in any of these properties. 51 Bushwick Avenue is rented to the Gerlinger Family. Frank Gerlinger's occupation is listed as "Keeps Beer Saloon. He lived with his wife Josephine and their three children, as well as a cousin and a servant. Frank and his wife Josephine were German immigrants. 53 Bushwick Avenue was occupied by two households. Benjamin Lyons, a shoemaker originally from England lived his wife Rachael and their 4 children. Conrad Becker, a wheelwright originally from Germany, lived with his wife Katie and their 3 children. 55 Bushwick Avenue was also occupied by two families, the Sangers and the Jacobs (United Stated Census 1880).

By 1900 the street addresses along Bushwick Avenue have changed on maps (Map 14) – No. 51 Bushwick Avenue is now No. 3 Bushwick Avenue, No. 53 is No. 7 and No. 55 is No. 9. Marie Jacobs and her daughter are the only consistent residents at these addresses in 1900 but are no longer living at this address in 1910 (United Stated Census 1900 and 1910). There is no listing for No. 3 Bushwick Avenue. There are no entries for any of the Bushwick Avenue addresses beginning in 1920 suggesting that this property has shifted to commercial use. The 1940s tax photo shows the lot is a Used Car lot (Image).

*Lot 38*

Lot 38 formed the rear portion of present-day Lot 8. Its original form most closely resembles Lot 65 and Lot 65a on GM Hopkins Map 1880 (Map 12), 59 Bushwick Avenue on the 1868 Higginson Map (Map 10). On November 4, 1845, James Schenck settled a mortgage with David Coope for a number of lots on Block 2916, which included "Lot 38." The settlement of the mortgage allowed the property to pass into the custody of Cornelius Jones. On July 31, 1849, Cornelius Jones and his wife, Catherine, conveyed "Lot 1," "Lot 2," and "Lot 38" to Francis J. Bennett. That same day, Bennett and his wife, Hannah, conveyed the same properties to into the sole possession of Catherine Jones. By 1860 Catherine had remarried Thomas M. Williams. On February 8th, 1860, Elizabeth Hughes – the daughter of Cornelius and Catherine – conveyed with her husband, John Hughes, a "cut off the rear of 'Lot 3'" to Catherine. The land became consolidated with "Lot 38." On May 19, 1866, Catherine and Thomas M. Williams conveyed a part of "Lot 38" to Demosthenes Procopiadi. The exact property boundaries for this specific conveyance are aligned to Lot 65 on the 1880 GM Hopkins Map (Map 12). Per the 1868 Higginson map this corresponds to 59 Bushwick Avenue (Map 10).

In 1880 this property was occupied by Ferdinand Goldbeck and his family. Ferdinand was a German immigrant who worked as a table maker from Germany. Another family, Francis Lutz and his daughter are also listed (United Stated Census 1880).

The 1898 Belcher Hyde map lists this address as 11 Bushwick Avenue (Map 14). No corresponding entry was found in the 1900, or later census records.

*Lots 3, 4 and 5*

Lot 3 was originally an individual 25' x 100' building lot. The westerly boundary of the lot was located 65' east of the southeast corner at the intersection of Metropolitan and Bushwick Avenue, and it fronted 25' along Metropolitan Avenue. "Lot 3" was purportedly conveyed by Hannah Brown to David Lyons between the years of 1836-1839, though no record for the transaction has been found. On July 6, 1846, a Master in Chancery for the State of New York conveyed the

property to Cornelius Jones. A conveyance between James Schenck and Cornelius Jones was made for the property on the same date.

Lots 4 and 5 were originally two contiguous 25' x 100' building lots. The westerly boundary of Lot 4 was located 100' east of the southeast corner at the intersection of Metropolitan and Bushwick Avenue, while the westerly boundary for Lot 5 was located 125' east of the same intersection. Both fronted 25' along Metropolitan Avenue. On February 25, 1846, David and Catharine Coope conveyed "Lot 4" and "Lot 5" to Cornelius Jones.

On February 20, 1860 Catherine and Thomas M. Williams conveyed to her daughter, Elizabeth, "Lot 4, 5 and part of Lot 3." On November 6, 1862, Elizabeth and her husband, John Hughes, conveyed the property to Thomas Cruttenden. Cruttenden and his wife, Hannah, then conveyed the property into the sole ownership of John Hughes on the same day. Six years later, on August 21, 1866, John Hughes conveyed the same premises to Albert Fredrick.

The 1868 Higginson map shows lots 3, 4 and 5 as being developed as No. 8, No. 10 and No.12 Metropolitan Avenue. By 1900 these would be 818, 820 and 822 Metropolitan Avenue (Images 4, 5 and 6).

Albert Fredrick appears in public record again on July 9, 1868 with his wife, Louisa when the couple conveyed "Lot 3" to Michael Kahlben. On September 30, 1869 Albert and Louisa conveyed "Lot 5" to John G. Ruoff. The executors for the estate of Johanna Ruoff transferred the property to Elizabeth Wendel on January 7, 1885. Specific reference to occupation on "Lot 4" is not made again until November of 1958 – the chain of conveyance for those titles are provided below (Table 7).

"Lot 3" remained in the possession of Kahlben and his wife, Karoline, until January 22, 1874 when it was conveyed by them to Freidrich W. Fleer. Fleer and his wife, Anna, then transferred the property on January 4, 1877 to Paul Kernn. Kern, along with his wife, Louisa, conveyed the property Anna A. Baum on March 31, 1883. Several days later, on April 2, 1883, Baum conveyed the property to Louisa H. Kearn, giving her sole possession of the premises.

Limited additional records of conveyance for landowners associated with present-day Lot 8 on Block 2916 have been located. This information is included in Table 7 presented below. However, the deeds of conveyance for these transactions were inaccessible[10], it cannot be determined which of the specific six lots comprising Lot 8 the owners may have occupied.

In 1880 No. 8 Metropolitan Avenue was occupied by the owners Paul and Louisa Kernn. Both were German immigrants and Paul worked as a tailor and Louisa is listed as a "Tailoress". The Kernns also rented to two families, the Angers and the Baums, both of German descent (United States Census 1800). In 1900 six families are listed as renters at 818 Metropolitan Avenue. They are Henry and Katie Hoffman; P and Lizzie Fling; George and Lizzie Kratz; Michael and Lizzie

[10] These pages were missing from conveyance records located at both the Brooklyn City Register's Office and the off-site location in Jamaica, Queens.

Best and their grown daughter; Ferth and Clara Wankmuller and their daughter; and Frank and Louise Schore and Louise's two brothers (United States Census 1900)

However, in the 1910 census four families are listed – Herman Wiegard and his wife, both German immigrants; Mary Best, also a German immigrant; James Dee, his wife and three daughters; and Charles and Josephine Zinsmeister. By 1920 an entirely different set of renters are present at 818 Metropolitan Avenue which has now been divided into six apartments (United States Census 1920).

No. 10 Metropolitan Avenue was rented by five different families in 1880 – Margaret McComesy; Christiana Rinklin and her grand-daughter Rosey; Anthony and Paulina Yeager and their two children; Margaret Kesler and her two grown children; and John and Mary Clark and their two children. Two of the renters also had boarders living with them (United States Census 1880). In 1900 there are 11 families living at 820 Metropolitan Avenue (United States Census 1900).

The 1920 Census records a "Rear House" at 820 Metropolitan Avenue. The main building is rented to four families and the rear house is rented to five families (United States Census 1920). The comparison of number of families between 1900 and 1920 suggests that the rear house was extant in 1910. This would account for 11 families being listed at this address in 1910. As with the other properties there is no consistency between the families between the ten-year census periods.

As noted above, John G. Ruoff was owner of portion of present-day Lot 8 along with present day Lots 14 and 16. Based on census records the Ruoff family lived at No. 12 Metropolitan Avenue (United States Census 1880) which would become 822 Metropolitan Avenue (Image 6). The Ruoff family are listed as the sole occupants of 822 Metropolitan Avenue through to the 1920 Census. By 1930, brothers John and Eugene Ruoff, both in their 60s are still living in the house while also renting to Patrick Ofulcher, a tugboat fireman originally from Ireland, his wife Catherine and their two daughters (United States Census 1930). Ten years later, the Sanderson family are renting the house.

The Ruoff family owned 822 Metropolitan Avenue until 1958 when it is sold to Constantine Pappas who immediately transfers it to Lenmar Incorporated. This was the eastern most portion of what would become present-day Lot 8. Other portions of what would become present-day Lot 8 were sold off to commercial interests by the mid-twentieth century.

Present-day Lot 8 adjoins the development site and is occupied by an active Speedway gasoline filling (810 Metropolitan Avenue). As noted in the EAS the 1951 through Sanborn 1977 maps show a gasoline filling station at 5 Bushwick Avenue (Environmental Studies Corporation 2019).

The EAS also notes that there have been five spill incidents identified at 810 Metropolitan Avenue. These all required the remediation of petroleum impacted soil and groundwater prior to regulatory closure by NYSDEC. Several portions of the area have been previously disturbed ranging from 2' – 12' below surface (Figure 1).



Image 7: 1940s tax photo Block 2916, Lot 8 – 808 Metropolitan Avenue.



Image 8: 1940s tax photo Block 2916, Lot 11 - 818 Metropolitan Avenue.

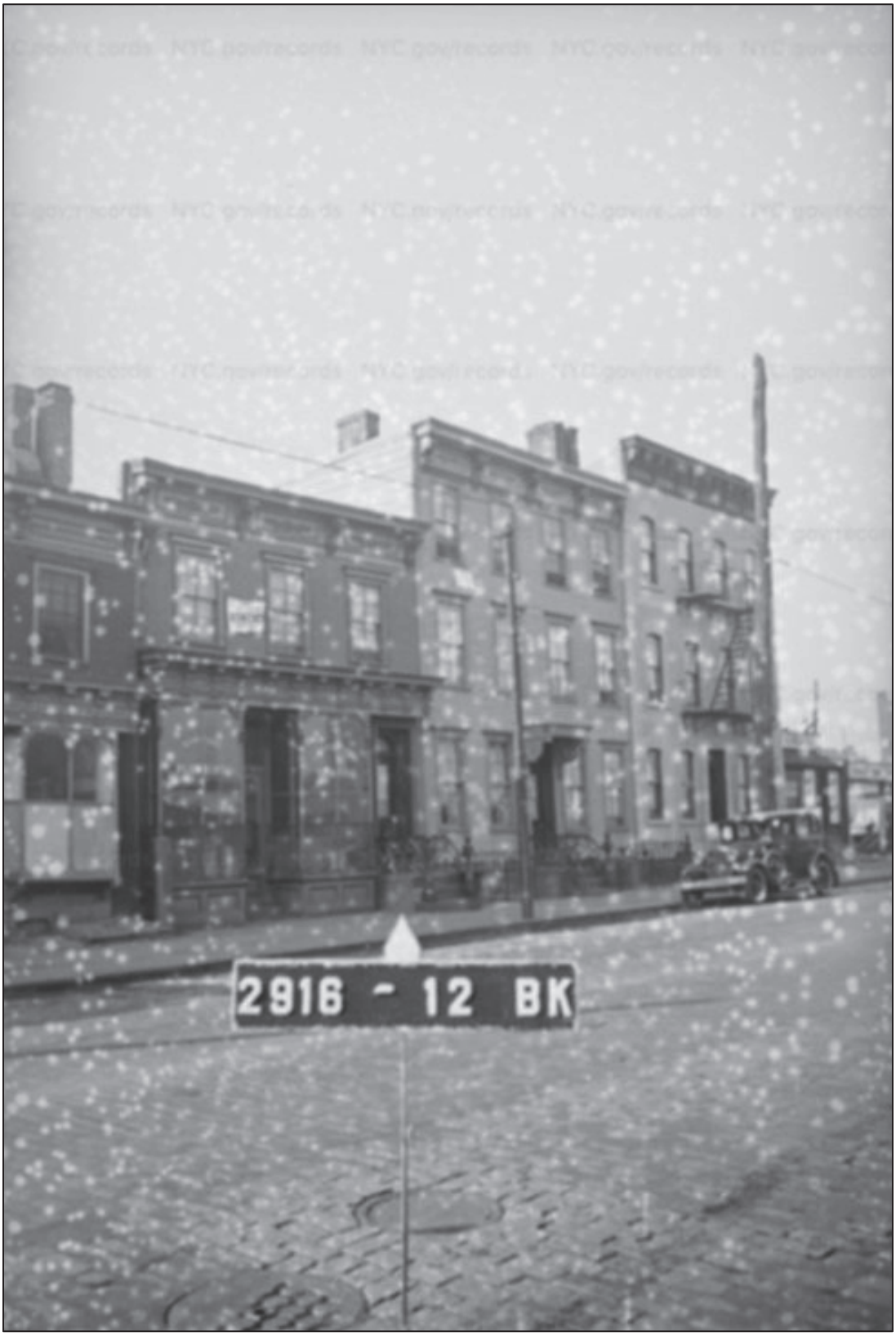


Image 9: 1940s tax photo Block 2916, Lot 12 – 820-822 Metropolitan Avenue.

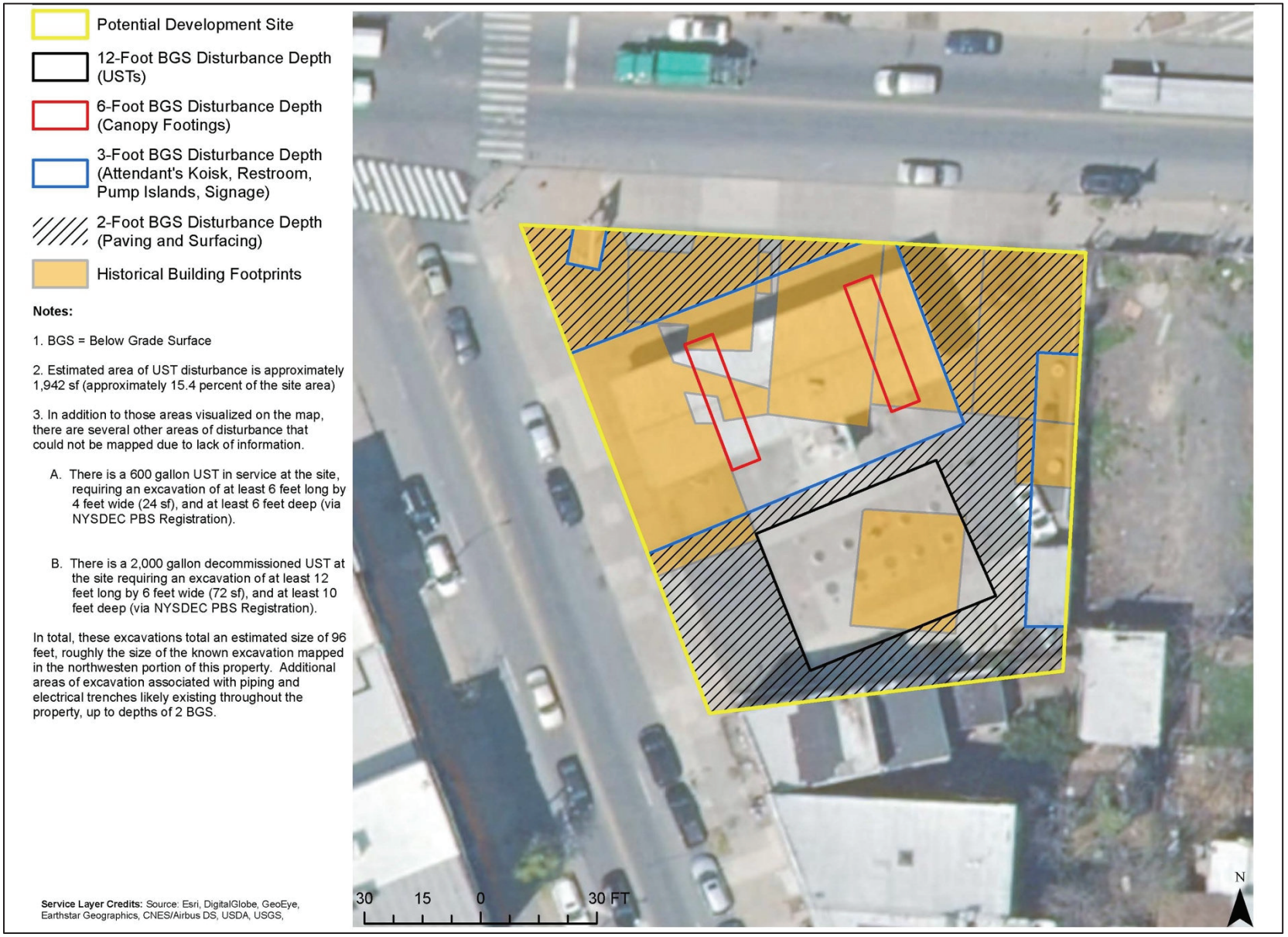



Figure 1: Lot 8 Areas of Disturbance.

Table 8: Property owners – Lot 8, Block 2916 (808 Metropolitan Avenue).

| GRANTORS | GRANTEES | DATE OF RECORDING | REMARKS |
|---|---|---|---|
| David & Catharine Coope | Cornelius Jones | August 20, 1845 (V. 135, p. 128) | Lots 1 and 2 |
| David & Catharine Coope | Cornelius Jones | November 14, 1849 (V. 204, p. 339) | Lots 1 and 2 |
| James Schenck | Cornelius Jones | November 4, 1845 (V. 138, p. 373) | Lot 38 |
| Cornelius & Catherine Jones | Francis J. Bennett | July 31, 1849 (V. 199, p. 315) | Lot 1, 2 and 38 |
| Francis J. & Hannah Bennett | Catherine Jones | July 31, 1849 (V. 199, p. 318) | Lot 1, 2 and 38 |
| Elizabeth & John Hughes | Catherine Williams | February 8, 1860 (V. 518, p. 490) | "A cut off the rear" of Lot 3, which was consolidated with the land forming Lot 38 |
| Catherine & Thomas M. Williams | Demosthenes Procopiadi | May 19, 1866 (V. 709, p. 145) | A portion of Lot 38 |
| David & Catharine Coope | Cornelius Jones | February 25, 1846 (V. 144, p. 104) | Lot 4 and 5 |
| Master in Chancery | Cornelius Jones | July 6, 1846 (V. 149, p. 439) | Lot 3 |
| James Schenck | Cornelius Jones | July 6, 1846 (V. 204, p. 341) | Lot 3 |
| Catherine & Thomas M. Williams | Elizabeth Hughes | February 20, 1860 (V. 519, p. 423) | Lot 4, 5 and part of Lot 3 |
| Elizabeth & John Hughes | Thomas Cruttenden | February 20, 1860 (V. 519, p. 156) | Lot 4, 5 and part of Lot 3 |
| Thomas & Hannah Cruttenden | John Hughes | February 20, 1860 (V. 519, p. 158) | Lot 4, 5 and part of Lot 3 |
| John Hughes | Albert Fredrick | August 21, 1866 (V. 719, p. 530) | Lot 4, 5 and part of 3 |
| Albert & Louisa Fredrick | Michael Kahlbehn | July 9, 1868 (V. 836, p. 100) | Lot 3 |
| Demosthony &Sarah Procopiadi | Mary McAdam | December 30, 1868 (V. 864, p. 470) | Present-day Lot 8 |
| Albert and Louise Friedrich | John G. Ruoff | September 30, 1869 (V. 916, 474) | Lot 5 |
| Michael & Karoline Kalbehn | Freidrich W. Fleer | January 22, 1874 (V. 1142, p. 253) | Lot 3 |
| Freiderich W. & Anna B. Fleer | Paul Kernn | January 4, 1877 (V. 1263, 360) | Lot 3 |
| Paul Kernn & Louisa H. Kernn | Anna A. Baum | March 31, 1883 (V. 1501, p. 423) | Lot 3 |
| Anna A. Baum | Louisa H. Kernn | April 2, 1883 (V. 1501, p. 243) | Lot 3 |
| Johanna Ruoff, exc. of | Elizabeth Wendel | January 7, 1885 (V. 1587, p. 455) | Lot 5 |

| GRANTORS | GRANTEES | DATE OF RECORDING | REMARKS |
|---|---|---|---|
| Mary Mc Adam | Maria M. Jacob | July 9, 1888 (V. 1821, p. 98) | Present-day Lot 8 |
| Louisa H. Kernn | Maria M. Jacob | August 28, 1888 (V. 1829, p. 519) | Present-day Lot 8 |
| Anthony Klein, widow & excr. Of | Christian Christner | December 23, 1893 (V. 2215, p. 37) | Present-day Lot 8 |
| Maria M. Jacob | Louis Ermak | April 25, 1894 (V. 2234, p. 548) | Present-day Lot 8 |
| Maria M. Jacob | Christian Christner | September 24, 1900 (V. 10, p. 170) | Present-day Lot 8 (Lease) |
| Maria M. Jacob | Sundel Hyman | July 14, 1905 (V. 26, p. 331) | Present-day Lot 8 (Lease) |
| Sundel Hyman | Margaret Ruoff | March 29, 1911 (V. 3284, p. 220) | Present-day Lot 8 |
| Joseph and Grace Serpico | Aaron Schneiderman | November 8, 1928 (V. 4990, p. 1) | Present-day Lot 8 (Lease) |
| Aaron Schneiderman | David Lishansky | November 8, 1928 (V. 4990, p. 4) | Present-day Lot 8 (Asst. of Lease) |
| David Lishansky | Aaron Schneiderman | November 8, 1928 (V. 7169, p. 325) | Present-day Lot 8 (Mortgage on Lease) |
| Alex Rosenthal Hyman Sundel | 818 Metropolitan Ave. Corp. | December 11, 1950 (V. 7706, 653) | Present-day Lot 8 |
| 818 Metropolitan Ave. Corp. | Davdian Holding Corp. | March 3, 1952 (V. 7905, p. 624) | Present-day Lot 8 |
| Davdian Holding Corp. | Metwick Holding Corp. | June 29, 1955 (V. 8354, p. 494) | Present-day Lot 8 |
| Metwick Holding Corp. | Carvel Stores Realty Corp. | November 9, 1955 (V. 8332, p. 17) | Present-day Lot 8 |
| Theresa Ruoff | Constantine Pappas | November 25, 1958 (8680, p. 632) | Lot 4 |
| Constantine Pappas | Lenmar Inc. | November 25, 1958 (V. 8680, p. 604) | Lot 4 |
| Lenmar Incorporated | 820 Metropolitan Ave. Corp. | October 11, 1960 (V. 8865, p. 500) | Lot 4 |
| 820 Metropolitan Ave Corp. | Orlando Peter | July 13, 1961 (V. 8937, p. 155) | Lot 4 |

**Lot 17 – (834 Metropolitan Avenue)**

Lot 17 is a 25' x 100' building lot. The westerly boundary of the lot is located some 240' east of the southeast corner at the intersection of Metropolitan and Bushwick Avenue, and it fronts 25' along Metropolitan Avenue.

On March 5, 1846 David and Catharine Coope deeded two opposing building lots, identified by them as "Lot 8" and "Lot 44" to Charles Cook, a gentleman of Newtown. "Lot 8" was present-day Lot 17 and its rear abutted "Lot 44", which fronted 25' on Devoe Street.

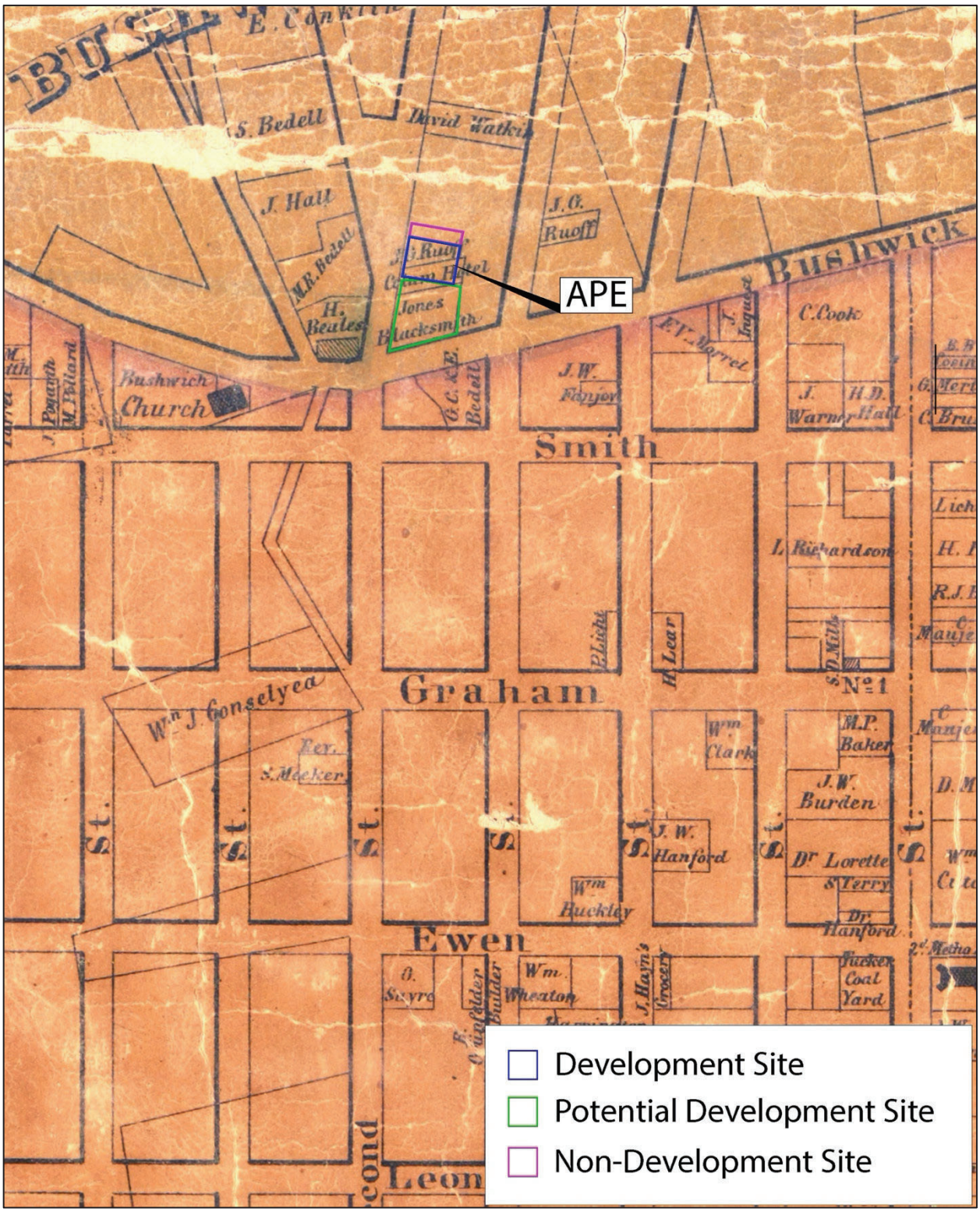
Four years later, on October 24, 1850 Cook and his wife, Grace, transferred both properties into the possession of Ralph J. Chaffee. Chaffee was a physician living in Windsor, Connecticut with his wife, Alleta. The couple was still based in Connecticut on December 7, 1860 when they conveyed the lots to Asahel Chapin. Asahel and his wife, Louise, retained the lot on Devoe Street for themselves; and on July 2, 1867, they transferred Lot 8 to James Baird. The property appears again in public record as being in the possession of Alonzo H. Baird, Rudolph Baird and Ellen Baird. Together, they conveyed or mortgaged the property on September 25, 1906 to Philip Kramer and Michael Creamer. Kramer and Creamer parted with the property a year later, on July 16th, 1907, when they deeded it to Alexander Chaieski (Chase) and Jan Bogdanowicz (Bogdan), who presumably held the premises as tenants in common. This is the first record to assign a street address to the property (834 Metropolitan Avenue).

According to the 1880 United States Census, 20 Metropolitan Avenue was run as a boarding house occupied by Phoebe A. McGregor and her daughter Mrs. Charles Sears. By 1900 two families are renting at 834 Metropolitan Avenue. Willie Bedell, a carpenter, and his wife and their 3 daughters and the Willsey family, William and Carrie and their 3 children. As with the other properties the residents change along with the census records (see Appendix C).

On June 29, 1932, Helen Aniolowska deeded her ¼ interest in the premises to William Bogdanowicz and William S. Bogdan. The last historic record for the property shows Alexander Chaieski deeded the entire premises to Margret and Alexander Chase.

Table 9: Property owners – Lot 17, Block 2916 (834 Metropolitan Avenue).

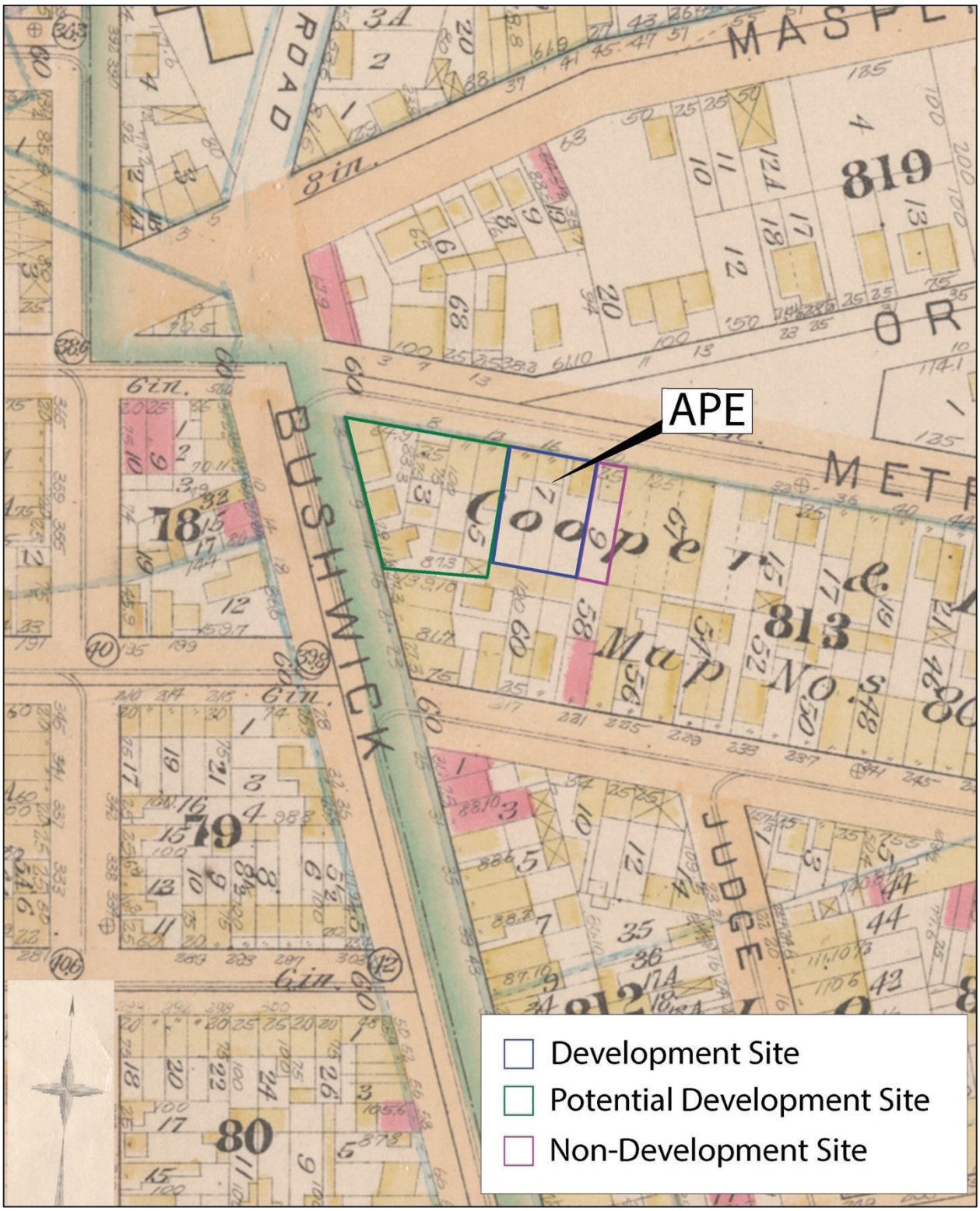
| GRANTORS | GRANTEES | DATE OF RECORDING | LIBER, PAGE |
|---|---|---|---|
| David and Catharine Coope | Charles Cook | March 5, 1846 | 144, 277 |
| Charles and Grace Cook | Ralph J. Chaffee | October 24, 1850 | 228, 179 |
| Ralph J. and Alleta A. Chaffee | Asahel Chapin | December 7, 1860 | 543, 54 |
| Asahel and Louise Chapin | James Baird | July 2, 1867 | 769, 445 |
| Alonzo H., Rudolph and Ellen Baird | Philip Kramer; and Mike Creamer | September 25, 1906 | 31, 118 |
| Philip Kramer; and Mike Creamer | Alexander Chaieski; and Jan Bogdanowicz | July 16, 1907 | 3026, 55 |
| Helen Aniolowska | William Bogdanowicz; and William S. Bogdan | June 29, 1932 | 5281, 36 |
| Alexander Chase (Chaieski) | Alexander and Margret Chase | July 30, 1954 | 8259, 467 |



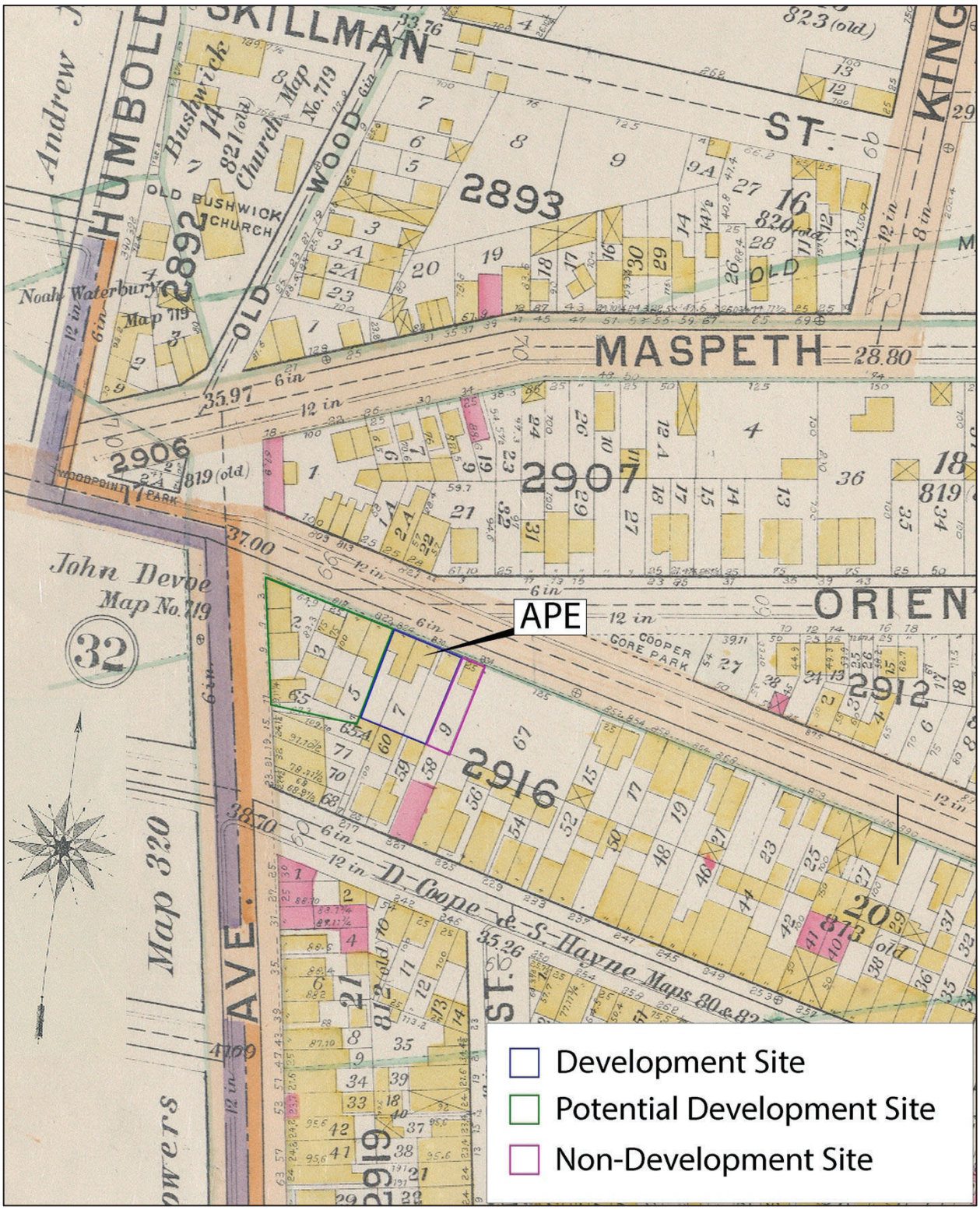

Map 11: *Map of the City of Williamsburg and town of Bushwick, including Greenpoint with part of the City of Brooklyn*. Thomas W. Field 1852.



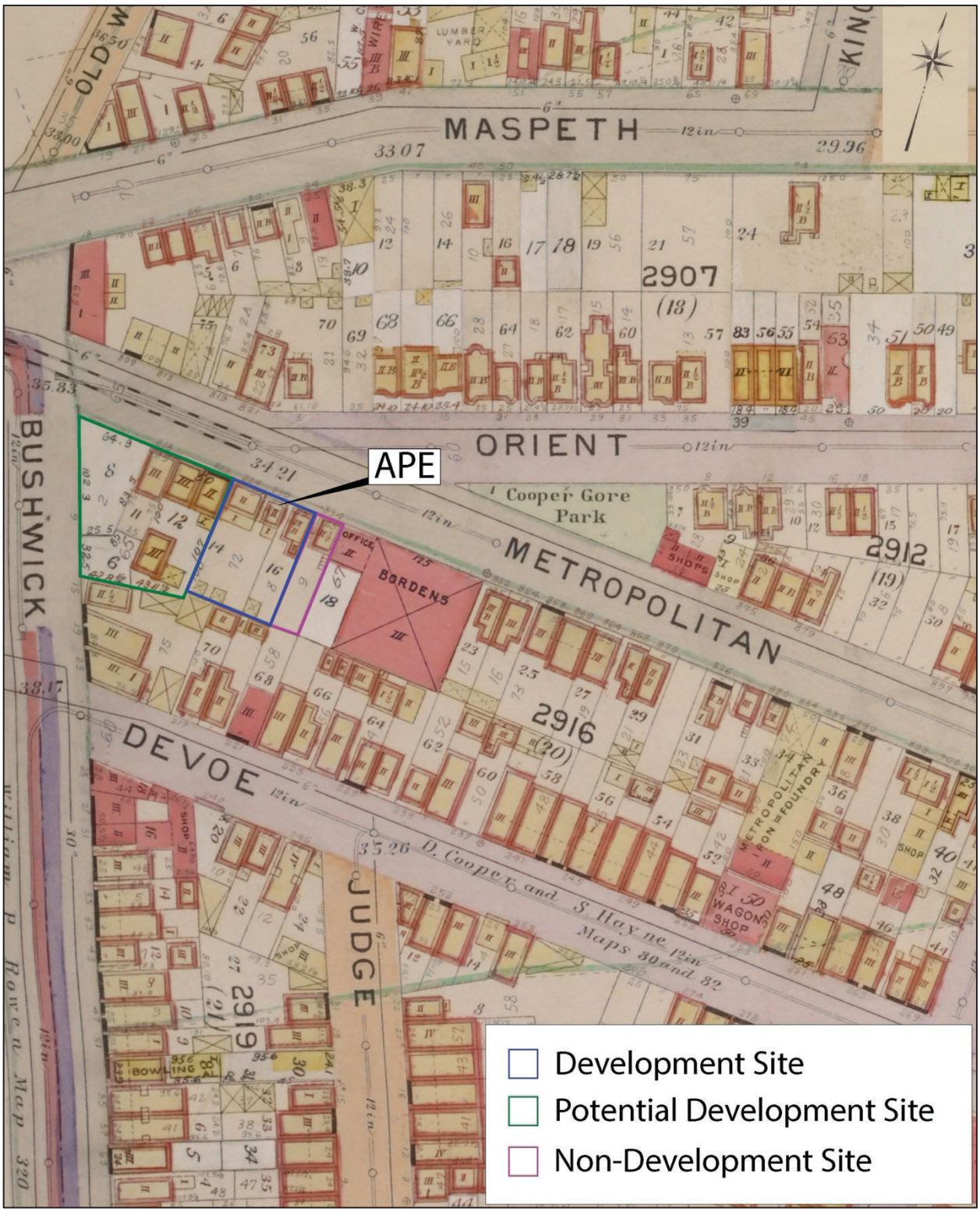

Map 12: *Detailed Estate and Old Farm Line Atlas of the City of Brooklyn. Part of Ward 18. Brooklyn*. Vol. 2, Plate D. G.M. Hopkins & Co. 1880.




Map 13: *Robinson's atlas of the city of Brooklyn, New York: embracing all territory within its corporate limits, from official records, private plans and actual surveys*. Part of Wards 15, 17 & 18. Brooklyn, N.Y. Plate 14. New York: E. Robinson & Co. 1886.




Map 14: *Atlas of the Brooklyn borough of the City of New York*. Part of Wards 16 & 18. Land Map Section, No. 10. Vol. 1, Double Page Plate No. 36. E. B. Hyde & Co. 1898.




Map 15: *Atlas of the borough of Brooklyn, City of New York*. Part of Ward 18, Section 10. Brooklyn, Vol. 3, Double Page Plate No. 19. E. Belcher Hyde 1904.




Map 16: *Atlas of the Borough of Brooklyn, City of New York*. Part of Sections 9 & 10. Vol. 1, Plate 14. G.W. Bromley & Co. 1908.

## VI. CONCLUSIONS

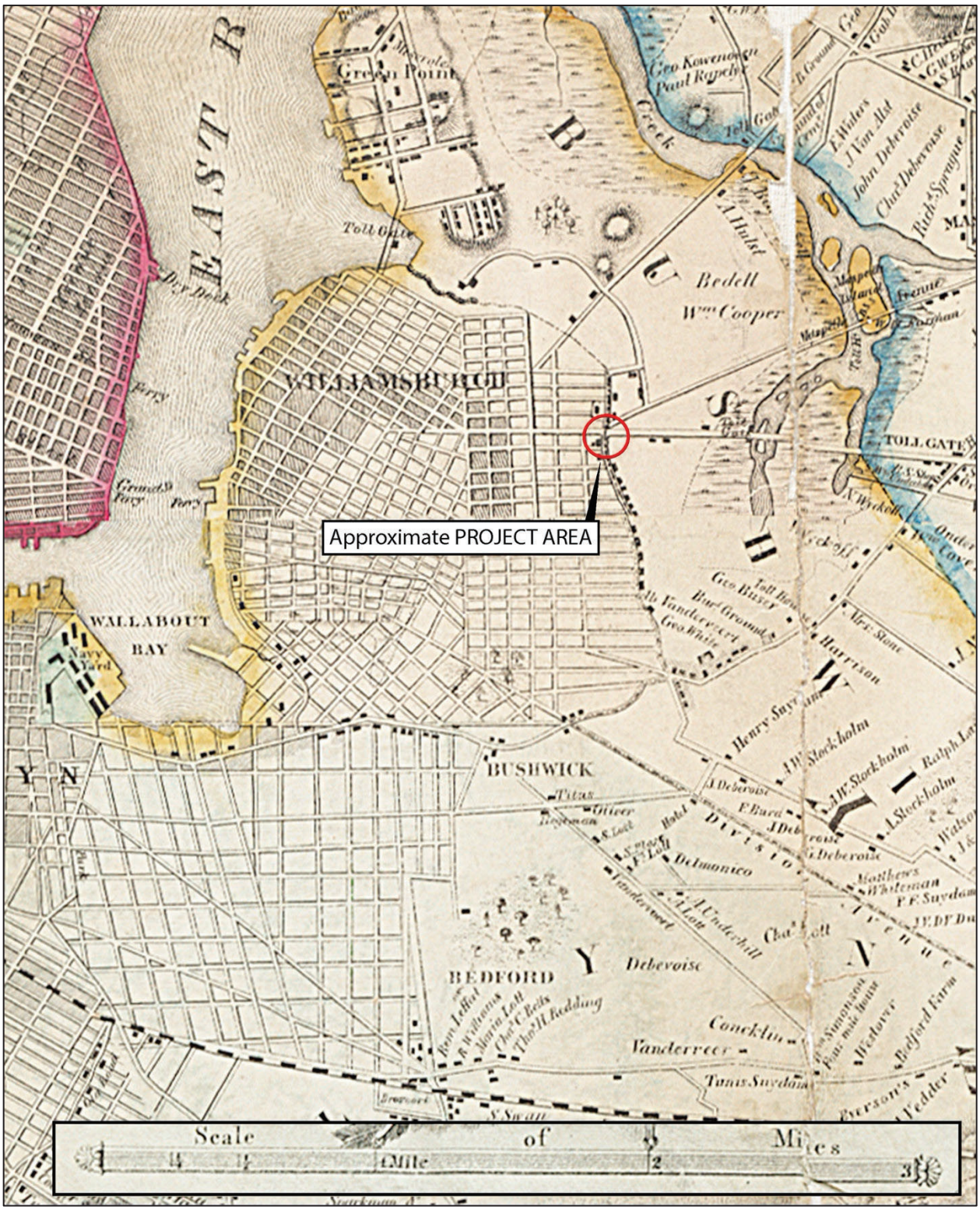
The lots within the project area have been developed since the mid-nineteenth century. Prior to this they were a central part of the historic town of Bushwick and at a crossroads of two Native American trails. These trails would become Metropolitan Avenue and Bushwick Avenue. Both are outside the APE. There is no direct indication or evidence of Native American occupation of the Project Area and this determined to have a low to moderate sensitivity for prehistoric resources.

Development in the mid-nineteenth century alter the natural landscape as streets and housing were developed. The project area would be fully developed sometime after the mid-point of the nineteenth century. The initial development of the area was residential, with some buildings having a commercial space at street level. However, minimal information was found in nineteenth century city directories regarding commercial activities within the Project Area.

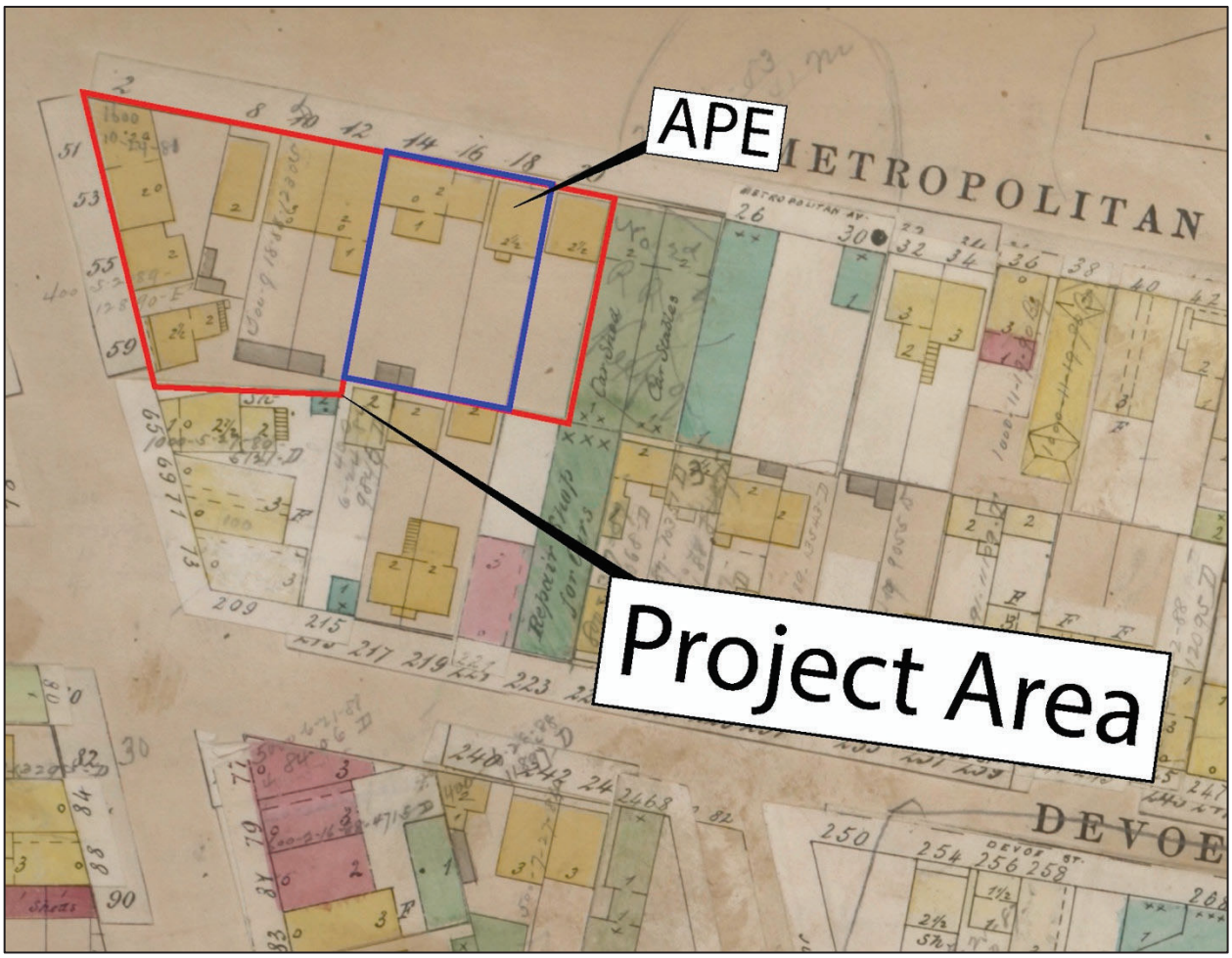
The development of the Project Area and vicinity following the mid-nineteenth century is evidenced on several historic maps. The 1849 Sidney map is the first to show general development of the area with structures along Bushwick Avenue and the street grid laid to the west in Williamsburg (Map 17). As a major crossroads it also appears that this area was laid with sewer and water lines relatively early. The 1868 Higginson Map is the first map to show substantial development in the Project Area itself. This map depicts the developed house lots fire hydrants along Metropolitan Avenue and Devoe Street to the south (Map 18). The development of the area is further evidenced on the 1869 Dripps map which shows rail lines running along both Metropolitan and Bushwick Avenues (Map 19). The Metropolitan rail line and the fire hydrants can also be seen on the 1880 Bromley map (Map 20). Later maps (e.g. Bromley 1916) show even greater utility detail (Map 21).

The 1868 Higginson map does depict “outbuildings” on four of the Project Area lots, including 824 Metropolitan Avenue, present-day lot 14. The specific use of these “outbuildings” is unidentified. This same map shows hydrants on the block suggesting that water lines were available. Sewer lines are not present on maps of the Project Area until 1898. Based on the presence of “outbuildings” on earlier maps, it is possible the Project Area and APE structures were constructed without water or sewer access. In consideration of this, there is a moderate potential for the recovery of historic resources within the Project Area and APE.

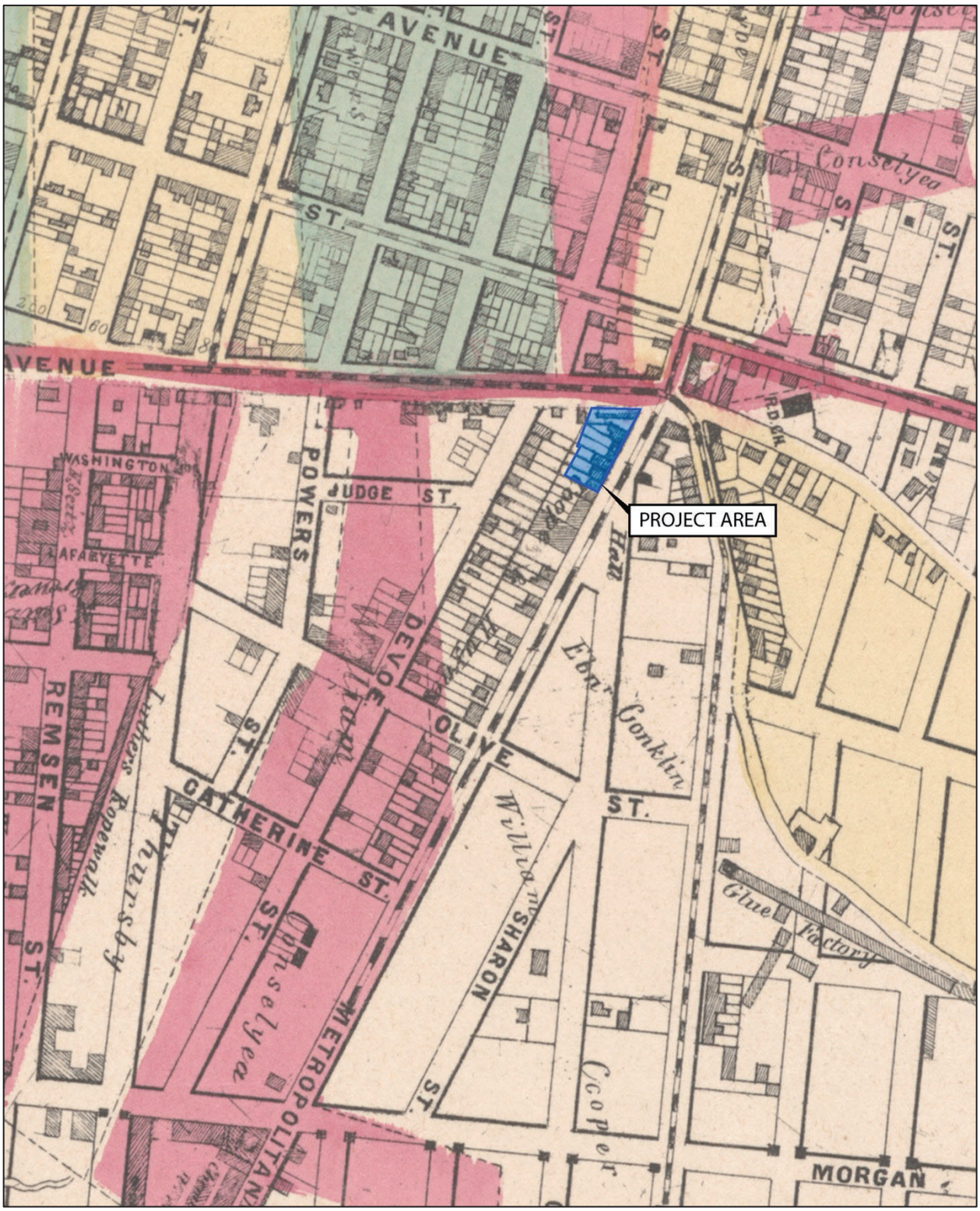
Based upon census records the occupants of 824-830 Metropolitan Avenue (the APE) were transient. The residents are different in each year the census was taken. This would make the association of any recovered materials with specific families tenuous and of limited analytical value. The property with the greatest potential for direct association of potential archaeological resources and past occupants is the former 822 Metropolitan Avenue, presently part of Lot 8, which is outside the APE. However, this lot has be subject to various disturbances ranging from 2’ – 12’ below ground surface.



Map 17: *Sidney's map of twelve miles around New-York.* Sidney 1849.



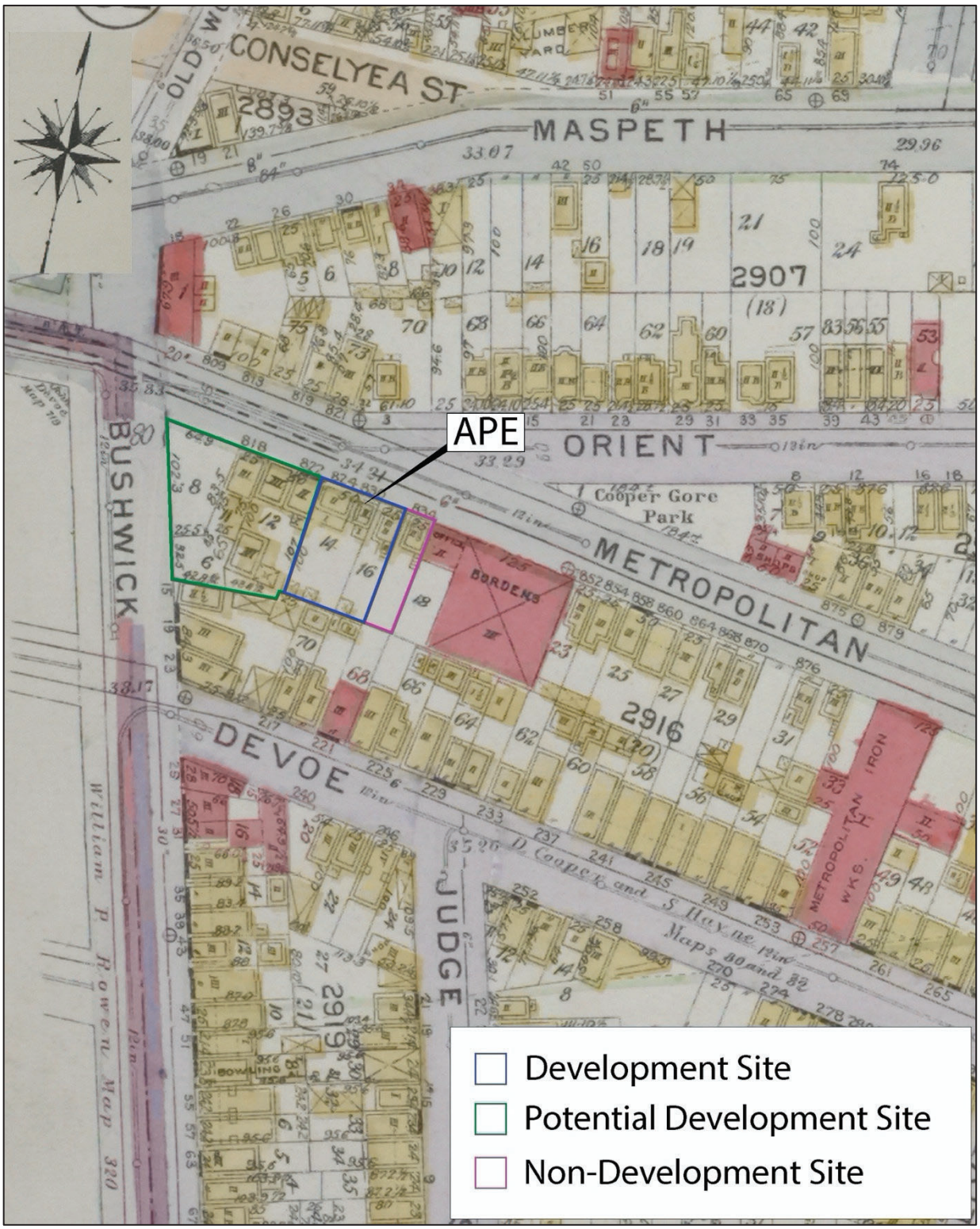
Map 18: Project Area zoom of *Higginson's Insurance Maps of the City of Brooklyn L.I.* Vol. 4, Double Page Plate No. 84. J. H. Higginson 1868.




Map 19: *Map of the City of Brooklyn: being the former cities of Brooklyn & Williamsburgh and the town of Bushwick, as consolidated January 1st, 1855 by an act of the legislature of the State of New York*. Sheet 7 M. Dripps 1869.




Map 20: *Atlas of the entire city of Brooklyn, complete in one volume; from actual surveys and official records*. Part of Wards 15, 16 & 18. City of Brooklyn. Plate 27. Geo. W. Bromley 1880.




Map 21: *Atlas of the borough of Brooklyn, city of New York*. Part of Wards 16 & 18, Section 10. Brooklyn, Vol. 1, 2nd Part, Double Page Plate No. 36. E. B. Hyde & Co. 1916.

## VII. RECOMMENDATIONS

Of the four lots are part of the rezoning application and assessed in this study, only two are slated for development. Recommendations are made for all the lots cited in the rezoning application

However only two lots, 14 and 16, are considered the Area of Potential Effect for this project.

*Lots 14 and 16*
Though there exists a moderate potential for the recovery of mid- to late-nineteenth century resources they would be of limited significance for analysis due to the transient nature of the residential population of the APE. Therefore, no further work is recommended within the APE.

*Lot 17*
A portion of Lot 17 is part of the rezoning application it is not slated for development and is outside the APE. Although there exists a moderate potential for the recovery of mid- to late-nineteenth century resources they would be of limited significance for analysis due to the transient nature of the residential population of the APE. Therefore, no further archaeological work is recommended.

*Lot 8*
Lot 8 is cited in the re-zoning application but is not part of the APE. No work is planned for this site. Per coordination between 824 Metropolitan Avenue Owner, LLC and DCP the lot has been redeveloped twice as a gas station and the entirety of the area is disturbed. Therefore, no archaeological work is recommended should this site be developed in the future.

## VIII. REFERENCES


Armbruster, Eugene L.

1912 *The Eastern District of Brooklyn.* New York. Digitized in 2007by Harvard University

1914 Long Island, Its Early Days and Development, with Illustrations and Maps. Brooklyn: The Brooklyn Daily Eagle

Bailey, Paul.

1949 Long Island, A History of Two Great Counties Nassau and Suffolk (Vol. 1). New York: Lewis Historical Publishing Co., Inc.

Belcher, E. – Hyde.

1904 Part of Ward 18, Section 10. Brooklyn, Vol. 3, Double Page Plate No. 19. In *Atlas of the borough of Brooklyn, City of New York*. Brooklyn: E. Belcher Hyde. Lionel Pincus and Princess Firyal Map Division, New York Public Library https://digitalcollections.nypl.org/items/670dba69-1d2a-448e-e040-e00a18063311

1916 Part of Wards 16 & 18, Section 10. Brooklyn, Vol. 1, 2nd Part, Double Page Plate No. 36. In *Atlas of the borough of Brooklyn, city of New York*. Brooklyn: E. B. Hyde & Co. https://digitalcollections.nypl.org/items/6c05633e-3c01-b9cf-e040-e00a18063bc7

1898 Part of Wards 16 & 18. Land Map Section, No. 10. Vol. 1, Double Page Plate No. 36. In *Atlas of the Brooklyn borough of the City of New York*. New York: E. B. Hyde & Co. https://digitalcollections.nypl.org/items/510d47e2-4a04-a3d9-e040-e00a18064a99

Beers, Frederick W.

1891 Map of New York, Brooklyn, Jersey City; Section 1. New York: Watson & Co. David Rumsey Historical Map Collection https://www.davidrumsey.com/luna/servlet/s/qvv3du

Bolton, Reginald P.

1922 New York City in Indian Possession. In Hodge, F. W. (Eds.), *Indian Notes and Monographs: A series of publications relating to the American Aborigines* (Vol. II, pp. 221-354). New York, N.Y.: Museum of the American Indian - Heye Foundation.

Bromley, G. W. & Co.
1880 Part of Wards 15, 16 & 18. City of Brooklyn. Plate 27. In *Atlas of the entire city of Brooklyn, complete in one volume; from actual surveys and official records*. New York: Geo. W. Bromley & E. Robinson. https://digitalcollections.nypl.org/items/510d47e2-0b5a-a3d9-e040-e00a18064a99

1908 Part of Sections 9 & 10. Vol. 1, Plate 14. In *Atlas of the Borough of Brooklyn, City of New York*. Philadelphia: G.W. Bromley & Co. https://digitalcollections.nypl.org/items/82f47b30-8613-0137-4e3d-69ee8d1ac6c7

Burr, David H.
1829 New York, Queens, Kings and Richmond Counties. Rawdon, Clark and Company. Albany, New York.

1832 New York City and County. Rawdon, Clark and Company. Albany, New York.

Campanella, Tom
2019 *Brooklyn: The Once and Future City.* Princeton, N.J.: Princeton University Press.

City of New York – Bureau of Engineering.
1924a 13A – N.Y. City (Aerial Set). New York: Fairchild Aerial Camera Corporation; New York (N.Y.). Bureau of Engineering. Lionel Pincus and Princess Firyal Map Division, New York Public Library https://digitalcollections.nypl.org/items/510d47e2-700b-a3d9-e040-e00a18064a99

1924b 13C – N.Y. City (Aerial Set). New York: Fairchild Aerial Camera Corporation; New York (N.Y.). Bureau of Engineering. Lionel Pincus and Princess Firyal Map Division, New York Public Library https://digitalcollections.nypl.org/items/510d47e2-700d-a3d9-e040-e00a18064a99

Dripps, Matthew
1869 Map encompassing Williamsburg, E. Williamsburg and Bushwick. Sheet 7. In *Map of the City of Brooklyn: being the former cities of Brooklyn & Williamsburgh and the town of Bushwick, as consolidated January 1st, 1855 by an act of the legislature of the State of New York*. New York: M. Dripps. https://digitalcollections.nypl.org/items/510d47e2-49e8-a3d9-e040-e00a18064a99

Eddy, John H.
1811 Map of the Country – Thirty Miles Round the city of New York. Prior and Dunning. Newark, New Jersey.

Field, Thomas W.
1852 Map of the City of Williamsburg and town of Bushwick, including Greenpoint with part of the City of Brooklyn. New York: Thomas W. Field. https://digitalcollections.nypl.org/items/c492af0b-e68f-e301-e040-e00a18064be4

Fletcher, Laraine, and Kintz, E.
1979 Fire Island National Seashore, Long Island, New York. Historic Resource Study. Report on file with U.S. Department of the Interior, National Parks Service. CRBIB: 010346. Holdings: WASO/NESO.

Fulton, Henry
1874 Brooklyn, Double Page Section 1; [Including Wards 13, 14, 15, 16, 17, 18, 19,21, 25]. In *Farm Line Map of the City of Brooklyn*. New York: J.B. Beers & Co. David Rumsey Historical Map Collection. https://www.davidrumsey.com/luna/servlet/s/duy067

Higginson, J.H.
1868 Brooklyn, Vol. 4, Double Page Plate No. 84. In *Higginson's Insurance Maps of the City of Brooklyn L.I*. New York: J. H. Higginson https://digitalcollections.nypl.org/items/64b498f8-4a88-c936-e040-e00a1806393b

Hoff, Henry B.
1987 *Genealogies of Long Island Families, from the New York Genealogical and Biographical Record* (Vol. 2). Baltimore: Genealogical Publishing Co., Inc.

Hopkins, G.M.
1880a Part of Ward 15. Brooklyn. Vol. 6, Plate I. In *Detailed Estate and Old Farm Line Atlas of the City of Brooklyn*. Philadelphia: G.M. Hopkins & Co. https://digitalcollections.nypl.org/items/510d47e4-41b4-a3d9-e040-e00a18064a99

1880b Part of Ward 18. Brooklyn. Vol. 2, Plate D. In *Detailed Estate and Old Farm Line Atlas of the City of Brooklyn*. Philadelphia: G.M. Hopkins & Co. Lionel Pincus and Princess Firyal Map Division, New York Public Library https://digitalcollections.nypl.org/items/510d47e4-4bdf-a3d9-e040-e00a18064a99

Kelly, James
1946 Indian Villages, Paths, Ponds and Places in Kings County. https://viewing.nyc/media/f156934e20f6934e9ccbc69f9ffd4f7a/

Locke, W.W.
1896 Map of Newtown Creek and vicinity [and factories nearby.] Brooklyn: Department of Health https://digitalcollections.nypl.org/items/c6da6d9e-4b36-b1c0-e040-e00a18060bfb

Perris, William
1855 Plan of the city of Brooklyn, L.I. New York: Wm. Perris [&] J.H. Higginson. https://digitalcollections.nypl.org/items/510d47e2-088f-a3d9-e040-e00a18064a99

Provost, Andrew
1949 *Early Settlers of Bushwick, Long Island, New York and their Descendants* (Vol. 1). Darien: compiled by Andrew Provost, Jr.

1953 *Early Settlers of Bushwick, Long Island, New York and their Descendants* (Vol. 2). Darien: compiled by Andrew Provost, Jr.

1955 *Early Settlers of Bushwick, Long Island, New York and their Descendants* (Vol. 3). Darien: compiled by Andrew Provost, Jr.

Kearns, Betsy and Kirkorian, Cece
1992 Scholes Street Urban Renewal Housing Site. Phase 1A Archaeological Assessment. Riverside: Historical Perspectives, Inc.

Robinson, E. and R. H. Pidgeon
1886 Part of Wards 15, 17 & 18. Brooklyn, N.Y. Plate 14. In *Robinson's atlas of the city of Brooklyn, New York: embracing all territory within its corporate limits, from official records, private plans and actual surveys*. New York: E. Robinson & Co. Lionel Pincus and Princess Firyal Map Division, New York Public Library https://digitalcollections.nypl.org/items/510d47e2-0b78-a3d9-e040-e00a18064a99

Ross, Peter
1902 *A History of Long Island: from its earliest settlement to the present time.* New York: Lewis Publishing Co.

Sidney, James C.
1849 Sidney's map of twelve miles around New-York: with the names of property holders, &c., from entirely new & original surveys https://digitalcollections.nypl.org/items/510d47da-efb8-a3d9-e040-e00a18064a99

Stearns, John M.
1884 *A History of the Town, Village and City of Williamsburgh, Kings County, N.Y.* Brooklyn: no publisher given

Stiles, Henry Reed

1867 *History of the City of Brooklyn, Including the Old Town and Village of Brooklyn, the Town of Bushwick, and the Village and City of Williamsburgh* (Vol. 2). Brooklyn: Published by subscription

1884 *A History of the Town of Bushwick, Kings County, N.Y.* Brooklyn: no publisher given

United States – Census Bureau.

1820 to 1940 Census of Kings County.

# DECLARATION

This DECLARATION made as of the __ day of _____, 2021 by 824 Metropolitan Avenue Owner LLC, having an office located at 41 Maujer Street #1F, Brooklyn, NY 10026 (hereinafter referred to as "Declarant");

## WITNESSETH

WHEREAS, Declarant is the fee owner of certain real property located in Kings County, City and State of New York, designated for real property tax purposes as Lots 14 and 16 of Tax Block 2916 (the "Project Site") on the Tax Map of the City of New York and is more particularly described in Exhibit A, annexed hereto and made a part hereof; and

WHEREAS, _____ an agent of _____Title Insurance Company has issued a Certification of Parties in Interest, annexed hereto as Exhibit B and made a part hereof, that as of _____, 2021, Declarant and _____ are the only Parties in Interest (as defined in subdivision (f)(4) of the definition of "zoning lot" as set forth in Section 12-10 of the Zoning Resolution of the City of New York) in the Project Site (the "Certification"); and

WHEREAS, all Parties in Interest to the Project Site have either executed this Declaration or waived their rights to execute this Declaration by written instrument annexed hereto as Exhibit C and made a part hereof, which instrument is intended to be recorded simultaneously with this Declaration; and

WHEREAS, as of the date hereof, the Title Company has determined that there has been no change in the facts set forth in the Certification, and the Declarant represents and warrants that the Parties in Interest listed in the Certification are the only known Parties in Interest in the Project Site as of the date hereof; and

WHEREAS, an application, designated number _____ (the "Application"), was submitted by Akerman LLP to the Department of City Planning ("DCP") for approval by the City Planning Commission ("CPC") pursuant to the Uniform Land Use Review Procedure ("ULURP") and Section 197-c of the New York City Charter for a zoning map amendment and zoning text amendment affecting the Project Site and p/o Lot 8 and p/o Lot 17 of Block 2916 (the "Rezoning Area"); and

WHEREAS, an environmental assessment statement concerning the Rezoning Area prepared pursuant to the City Environmental Quality Review (the "CEQR") is under review in connection with the Application (CEQR _____) and, pursuant to CEQR, the Landmarks Preservation Commission (the "LPC"), among others, has reviewed the environmental assessment, including the historic land use of the Rezoning Area; and

WHEREAS, the result of such review, as documented in LPC's September 12, 2019 notice, attached hereto as Exhibit D and made a part hereof, indicate the potential presence of significant archaeological resources on Lots 8, 14, 16 and 17 of the Project Site (the "Subject Property"); and

WHEREAS, the requirements of this Declaration shall only apply to the Subject Property; and

WHEREAS, Declarant desires to identify the existence of any potential archaeological resources and mitigate any potential damage to any such archaeological resources found in connection with the development or redevelopment of the Subject Property and has agreed to follow and adhere to all requirements for archaeological identification, investigation and mitigation set forth in the CEQR Technical Manual and LPC's Guidelines for Archaeological Work in NYC, including without limitation, the completion of an archaeological documentary study, archaeological field testing, excavation, mitigation and curation of archaeological resources as required by the LPC (collectively, the "Archaeological Work"); and

WHEREAS, Declarant agrees to restrict the manner in which the Subject Property may be developed or redeveloped by having the implementation of the Archaeological Work, performed to the satisfaction of the LPC, as evidenced by writings described and set forth herein, be a condition precedent to any soil disturbance for any such development or redevelopment (other than soil disturbance necessitated by Declarant's performance of the Archaeological Work); and

WHEREAS, Declarant intends this Declaration to be binding upon all successors and assigns; and

WHEREAS, Declarant intends this Declaration to benefit all landowners and tenants including the City of New York (the "City") without consenting to the enforcement of this Declaration by any party other than the City.

NOW, THEREFORE, Declarant does hereby declare and agree that the Subject Property shall be held, sold, transferred, and conveyed, subject to the restrictions and obligations which are for the purpose of projecting the value and desirability of the Subject Property and which shall run with the land, binding the successors and assigns of Declarant so long as they have any right, title or interest in the Subject Property or any part thereof:

1. Declarant covenants and agrees that no application for grading, excavation, foundation, alteration building or other permit respecting the Subject Property which permits soil disturbance shall be submitted to or accepted from the Department of Buildings (the "DOB") by the Declarant until LPC has issued to DOB, as applicable, either a Notice of No Objection as set forth in Paragraph 2(a) and 2(c), a Notice to Proceed as set forth in Paragraph 2(b), a Notice of Satisfaction as set forth in Paragraph 2(d) or a Final Notice of Satisfaction as set forth in Paragraph 2(e). Declarant shall submit a copy of the Notice of No Objection, Notice to Proceed, Notice of Satisfaction or Final Notice of Satisfaction, as the case may be, to the DOB at the time of filing of any application set forth in this Paragraph 1.

2. (a) Notice of No Objection – LPC shall issue a Notice of No Objection after the Declarant has completed the work set forth in the LPC-approved Archaeological Documentary Study and LPC has determined that the results of such assessment demonstrate that the site does not contain potentially significant archaeological resources.

(b) Notice to Proceed with LPC-Approved Field Testing and/or Mitigation – LPC shall issue a Notice to Proceed after it approves a Field Testing Plan and, if necessary, a Mitigation Plan.

Issuance of a Notice to Proceed shall enable the Declarant to obtain a building permit solely to perform excavation or other work necessary to implement the Field Testing and/or Mitigation Plan. The LPC shall review and approve the scope of work in all permits prior to field testing or mitigation work commencing on the Subject Property.

(c) Notice of No Objection After Field Work – LPC shall issue a Notice of No Objection After Field Work if Declarant has performed required LPC-approved field testing and, as a result of such testing, the LPC determines that the Subject Property does not contain potentially significant archaeological resources. The notice described in subparagraphs (a) and (c) of this paragraph shall each hereafter be referred to as a "Notice of No Objection." Issuance of a Notice of No Objection shall be sufficient to enable Declarant to obtain a full building permit for the performance of excavation or construction on the Subject Property.

(d) Notice of Satisfaction – LPC shall issue a Notice of Satisfaction after the Mitigation Plan has been prepared and accepted by LPC and LPC has determined in writing that all significant identified archaeological resources have been documented and removed from the Subject Property. Issuance of a Notice of Satisfaction shall enable Declarant to obtain a building permit for excavation and construction on the Subject Property.

(e) Final Notice of Satisfaction – LPC shall issue a Final Notice of Satisfaction after the mitigation has been completed and the LPC has set forth in writing that the Mitigation Plan, including but not limited to the Final Archaeological Report and a curation plan for any archaeological resources found on the Subject Property, has been completed to the satisfaction of LPC.

3. No temporary certification of occupancy ("TCO") or permanent certificate of occupancy ("CO") shall be granted by the DOB or accepted by Declarant until the Chairperson of the LPC shall have issued a Final Notice of Satisfaction or a Notice of No Objection.

4. The Director of Archaeology of the LPC shall issue all notices required to be issued hereunder reasonably promptly after Declarant has made written request to the LPC and has provided documentation to support such request, and the Director of Archaeology of the LPC shall in all events endeavor to issue such written notice to the DOB, or inform Declarant in writing of the reason for not issuing said notice, within thirty (30) calendar days after Declarant has requested such written notice.

5. Declarant represents and warrants with respect to the Subject Property that no restrictions of record, nor any present or presently existing estate or interest in the Subject Property nor any lien, encumbrance, obligation, covenant of any kind preclude, presently or potentially, the imposition of the obligations and agreements of this Declaration.

6. Declarant acknowledges that the City is an interested party to this Declaration and consents to the enforcement of this Declaration solely by the City, administratively or at law or at equity, of the obligations, restrictions and agreements pursuant to this Declaration.

7. The provisions of this Declaration shall inure to the benefit of and be binding upon the respective successors and assigns of the Declarant, and references to the Declarant shall be deemed to include such successors and assigns as well as successors to their interest in the Subject Property. References in this Declaration to agencies or instrumentalities of the City shall be deemed to include agencies or instrumentalities succeeding to the jurisdiction thereof.

8. Declarant shall be liable in the performance of any term, provision, or covenant in this Declaration, except that the City and any other party relying on this Declaration will look solely to the fee estate interest of the Declarant in the Subject Property for the collection of any money judgment recovered against Declarant, and no other property of the Declarant shall be subject to levy, execution, or other enforcement procedure for the satisfaction of the remedies of the City or any other person or entity with respect to this Declaration. The Declarant shall have no personal liability under this Declaration.

9. The obligations, restrictions and agreements herein shall be binding on the Declarant or other Parties in Interest only for the period during which the Declarant and any such Party in Interest holds an interest in the Subject Property; provided, however, that the obligations, restrictions and agreements contained in this Declaration may not be enforced against the holder of any mortgage unless and until such holder succeeds to the fee interest of the Declarant by way of foreclosure or deed in lieu of foreclosure.

10. Declarant shall indemnify the City, its respective officers, employees and agents from all claims, actions, or judgments for loss, damage or injury, including death or property damage of whatsoever kind or nature, arising from the Declarant's performance of its obligations under this Declaration, including without limitation, the negligence or carelessness of the Declarant, its agents, servants or employees in undertaking such performance; provided, however, that should such claim be made or action brought, Declarant shall have the right to defend such claim or action with attorneys reasonably acceptable to the City and no such claim or action shall be settled without the written consent of the City.

11. If Declarant is found by a court of competent jurisdiction to have been in default in the performance of its obligations under this Declaration, and such finding is upheld on a final appeal by a court of competent jurisdiction or by other proceeding or the time for further review of such finding or appeal has lapsed, Declarant shall indemnify and hold harmless the City from and against all reasonable legal and administrative expenses arising out of or in connection with the enforcement of any judgment obtained against the Declarant, including but not limited to the cost of undertaking the Mitigation Plan, if any.

12. Declarant shall cause every individual or entity that between the date hereof and the date of recordation of this Declaration, becomes a Party in Interest (as defined in subdivision (f)(4) of the definition of "zoning lot" set forth in Section 12-10 of the Zoning Resolution of the City of New York) to all or a portion of the Subject Property to waive its right to execute this Declaration and subordinate its interest in the Subject Property to this Declaration. Any mortgage or other lien encumbering the Subject Property in effect after the recording date of this Declaration shall be subject and subordinate hereto as provided herein. Such waivers and subordination shall be attached to this Declaration as Exhibits and recorded in the Office of the County or City Register.

13. This Declaration and the provisions hereof shall become effective as of the date of this Declaration. Declarant shall record or shall cause this Declaration to be recorded in the Office of the County or City Register, indexing it against the Subject Property within five (5) business days of the date hereof and shall promptly deliver to the LPC and the CPC proof of recording in the form of an affidavit of recording attaching the filing receipt and a copy of this Declaration as submitted for recording. Declarant shall also provide a certified copy of this Declaration as recorded to LPC and CPC as soon as a certified copy is available.

14. This Declaration may be amended or modified by Declarant only with the approval of LPC or the agency succeeding to its jurisdiction and no other approval or consent shall be required from any other public body, private person or legal entity of any kind. A statement signed by the Chair of the LPC, or such person as authorized by the Chair, certifying approval of an amendment or modification of this Declaration shall be annexed to any instrument embodying such amendment or modification.

15. Any submittals necessary under this Declaration from Declarant to LPC shall be addressed to the Director of Archaeology of LPC, or such other person as may from time to time be authorized by the Chair of the LPC to receive such submittals. As of the date of this Declaration LPC's address is:

Landmarks Preservation Commission
1 Centre St, 9N
New York, NY 10007

Any notices sent to Declarant shall be sent to the address hereinabove first set forth and shall be sent by personal delivery, delivery by reputable overnight carrier or by regular mail.

16. Declarant expressly acknowledges that this Declaration is an essential element of the environmental review conducted in connection with the Application and as such the filing and recordation of this Declaration may be a precondition to the determination of significance pursuant to CEQR, which implements the State Environmental Quality Review Act ("SEQRA") and the SEQRA Regulations, Title 6 New York Code of Rules and Regulations ("NYCRR") Part 617.7 within the City of New York.

17. Declarant acknowledges that the satisfaction of the obligations set forth in this Declaration does not relieve Declarant of any additional requirements imposed by Federal, State or Local laws.

18. This Declaration shall be governed by and construed in accordance with the laws of the State of New York.

19. Whenever in this Declaration, the certification, consent, approval, notice or other action of Declarants, LPC or the City is required or permitted, such certification, consent, approval, notice or other action shall not be unreasonably withheld or delayed.

20. In the event that any provision of this Declaration is deemed, decreed, adjudged or determined to be invalid or unlawful by a court of competent jurisdiction, such provision shall be severable and the remainder of this Declaration shall continue to be in full force and effect.

21. This Declaration and its obligations and agreements are in contemplation of Declarant receiving approvals or modified approvals of the Application. In the event that the Declarant withdraws the Application before a final determination or the Application is not approved, the obligations and agreements pursuant to this Declaration shall have no force and effect and Declarant may request that LPC issue a Notice of Cancellation upon the occurrence of the following events: (i) Declarant has withdrawn the Application in writing before a final determination on the Application; (ii) the Application was not approved by the CPC; or (iii) LPC has issued a Final Notice of Satisfaction. Upon such request, LPC shall issue a Notice of Cancellation after it has determined, to the LPC's reasonable satisfaction, that one of the above has occurred. Upon receipt of a Notice of Cancellation from LPC, Declarant shall cause such Notice to be recorded in the same manner as the Declaration herein, thus rendering this Restrictive Declaration null and void. Declarant shall promptly deliver to LPC and the CPC a certified copy of such Notice of Cancellation as recorded.

IN WITNESS WHEREOF, Declarant has executed this Declaration as of the day and year first above written.

824 METROPOLITAN AVENUE OWNER LLC

_____

By:

Name:

Title:

EXHIBIT A

Lots 14 and 16 of Tax Block 2916, Brooklyn

EXHIBIT B

Certification of Parties in Interest

EXHIBIT C

Waivers by Parties in Interest

EXHIBIT D

LPC's September 12, 2019 Notice

# NOISE APPENDIX

| | | | | |
|---|---|---|---|---|
| **Instrument Model** | **CEL-633C** | | | |
| Serial Number | 2670911 | LAS 10% | 76 dB | Result |
| LASmax | 96 dB | LAS 50% | 65.5 dB | |
| LASmin | 52.5 dB | LAS 90% | 57 dB | |
| Start Date & Time | 10/10/2019 07:51:33 AM | Calibration (Before) Date | 10/10/2019 07:50:23 AM | |
| Duration | 00:20:04 HH:MM:SS | Calibration (After) Date | 10/10/2019 08:11:46 AM | |
| LAeq | 74.3 dB | Calibration Drift | 0.1 dB | |
| End Date & Time | 10/10/2019 08:11:37 AM | Battery Low | No | |
| Notes | | | | |

| Instrument Model | CEL-633C | | | |
|---|---|---|---|---|
| Serial Number | 2670911 | LAS 10% | 78 dB | Result |
| LASmax | 91.6 dB | LAS 50% | 70 dB | |
| LASmin | 57.1 dB | LAS 90% | 63 dB | |
| Start Date & Time | 10/10/2019 12:22:05 PM | Calibration (Before) Date | 10/10/2019 12:23:54 PM | |
| Duration | 00:20:03 HH:MM:SS | Calibration (After) Date | 10/10/2019 12:42:25 PM | |
| LAeq | 74.7 dB | Calibration Drift | 0.3 dB | |
| End Date & Time | 10/10/2019 12:42:08 PM | Battery Low | No | |
| Notes | | | | |

| | | | | |
|---|---|---|---|---|
| **Instrument Model** | **CEL-633C** | | | |
| Serial Number | 2670911 | LAS 10% | 79 dB | Result |
| LASmax | 91.4 dB | LAS 50% | 71 dB | |
| LASmin | 56.7 dB | LAS 90% | 63 dB | |
| Start Date & Time | 10/10/2019 16:50:14 PM | Calibration (Before) Date | 10/10/2019 16:49:56 AM | |
| Duration | 00:20:06 HH:MM:SS | Calibration (After) Date | 10/10/2019 17:10:35 AM | |
| LAeq | 75.8 dB | Calibration Drift | -0.1 dB | |
| End Date & Time | 10/10/2019 17:10:20 PM | Battery Low | No | |
| Notes | | | | |

| | | | | |
|---|---|---|---|---|
| **Instrument Model** | **CEL-633C** | | | |
| Serial Number | 2670911 | LAS 10% | 78.5 dB | Result |
| LASmax | 92.1 dB | LAS 50% | 70.5 dB | |
| LASmin | 54.6 dB | LAS 90% | 62 dB | |
| Start Date & Time | 10/10/2019 7:30:50 AM | Calibration (Before) Date | 10/10/2019 7:27:07 AM | |
| Duration | 00:20:06 HH:MM:SS | Calibration (After) Date | 10/10/2019 7:50:17 AM | |
| LAeq | 75.9 dB | Calibration Drift | 0.0 dB | |
| End Date & Time | 10/10/2019 7:50:56 AM | Battery Low | No | |
| Notes | | | | |

| Instrument Model | CEL-633C | | | |
|---|---|---|---|---|
| Serial Number | 2670911 | LAS 10% | 79.5 dB | Result |
| LASmax | 95 dB | LAS 50% | 70.5 dB | |
| LASmin | 54.8 dB | LAS 90% | 61 dB | |
| Start Date & Time | 10/10/2019 12:00:48 PM | Calibration (Before) Date | 10/10/2019 11:52:44 AM | |
| Duration | 00:21:44 HH:MM:SS | Calibration (After) Date | 10/10/2019 12:20:47 PM | |
| LAeq | 76.4 dB | Calibration Drift | -0.1 dB | |
| End Date & Time | 10/10/2019 12:21:32 PM | Battery Low | No | |
| Notes | | | | |

| Instrument Model | CEL-633C | | | |
|---|---|---|---|---|
| Serial Number | 2670911 | LAS 10% | 76.5 dB | Result |
| LASmax | 87.9 dB | LAS 50% | 67 dB | |
| LASmin | 54.8 dB | LAS 90% | 58.5 dB | |
| Start Date & Time | 10/10/2019 16:30:50 AM | Calibration (Before) Date | 10/10/2019 16:26:27 AM | |
| Duration | 00:20:06 HH:MM:SS | Calibration (After) Date | 10/10/2019 16:50:09 AM | |
| LAeq | 72.7 dB | Calibration Drift | 0.1 dB | |
| End Date & Time | 10/10/2019 16:50:56 AM | Battery Low | No | |
| Notes | | | | |

CASELLA

# Certificate of Conformity and Calibration

| | | | |
|---|---|---|---|
| **Instrument Model:-** | CEL-633C | **Preamplifier Type:-** | CEL-495 |
| Serial Number | 2670911 | Serial Number | 3987 |
| Firmware revision | V006-03 | | |
| **Microphone Type:-** | CEL-251 | As Received:- | 114.1 |
| Serial Number | 2803 | As Adjusted:- | 114.0 |
| **Instrument Class/Type:-** | 1 | | |



## Applicable standards:-

IEC 61672: 2002 / EN 60651 (Electroacoustics - Sound Level Meters)
IEC 60651 1979 (Sound Level Meters), ANSI S1.4: 1983 (Specifications For Sound Level Meters)

**Note:- The test sequences performed in this report are in accordance with the current Sound level meter** *Standard - IEC61672. The combination of tests performed are considered to confirm the products electro-acoustic performance to all applicable standards including superceeded Sound Level Meter Standards - IEC60651 and IEC60804.*

| | | | |
|---|---|---|---|
| **Test Conditions:-** | 23.5 °C | Test Engineer:- | Ken Umbeer |
| | 87.7 %RH | Date of Issue:- | August 22, 2019 |
| | 1013.5 mBar | Date Due:- | August 22, 2020 |

## Declaration of conformity:-

This test certificate confirms that the instrument specified above has been successfully tested to comply with the manufacturer's published specifications. Tests are performed using equipment traceable to NIST. This product is certified as being compliant to the requirements of the CE Directive.

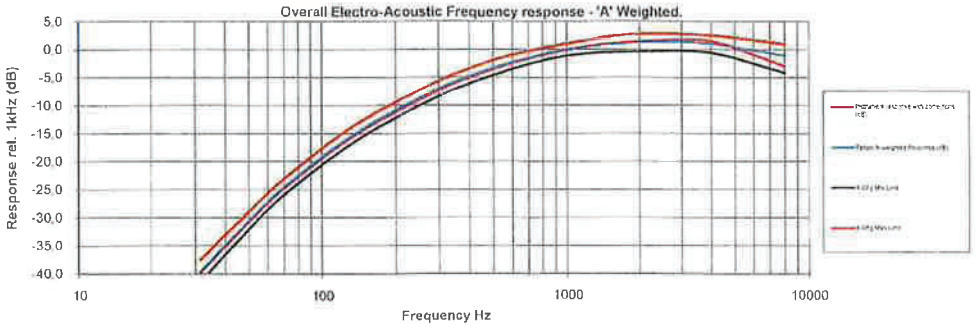
## Test Summary:-

| | |
|---|---|
| Self Generated Noise Test | All Tests Pass |
| Electrical Signal Test Of Frequency Weightings | All Tests Pass |
| Frequency & Time Weightings At 1 kHz | All Tests Pass |
| Level Linearity On The Reference Level Range | All Tests Pass |
| Toneburst Response Test | All Tests Pass |
| C-peak Sound Levels | All Tests Pass |
| Overload Indication | All Tests Pass |
| Acoustic Tests | All Tests Pass |

## Combined Electro-Acoustic Frequency Response - A Weighted

**Combined Electro-Acoustic Frequency Response - A Weighted (IEC 61672-3:2006)**

The following A-Weighted frequency response graph shows this instruments overall frequency response based upon the application of multi-frequency pressure field calibrations. The microphones Pressure to Free field correction coefficients are applied to pressure response. Reference level taken at 1kHz.





**Casella CEL**
Regent House, Wolseley Road,
Kempston, Bedford
MK42 7JY
United Kingdom

Phone: +44 (0) 1234 844100
Fax:- +44(0) 1234 841490
E-mail:
info@casellameasurement.com
Web: www.casellameasurement.com

**Casella CEL, Inc. a subsidiary of IDEAL Industries, Inc.**
415 Lawrence Bell Drive
Unit 4
Buffalo
NY 14221
USA

Toll Free: (800) 366-2966
Tel (716) 276-3040 Fax: (716) 276-3043
E-mail: info@casellausa.com
Web: www.casellausa.com


Tested to CEL-63X test sheet TP444 revision 00-12

# Certificate of Conformity and Calibration

CASELLA CEL

| | | | |
|---|---|---|---|
| Instrument Model: | CEL-120/1 Acoustic Calibrator | Certificate #: | 19651-1 |
| Serial Number: | 4478708 | | |



## Calibration References:

Casella CEL hereby certifies that the above listed sound measuring instrument has been tested according to the manufacturer's specifications and meets the requirements of the relevant American National Standards Institute (ANSI) Standard for Sound Calibrators S1.40 - 1983 (R1997). This instrument was calibrated against standards which are either traceable to the National Institute of Standards and Technology (NIST) or they have been derived by approved ratio techniques.

## Test Conditions:

| | | | |
|---|---|---|---|
| 23.5 °C | | Date of Issue:- | August 22, 2019 |
| 87.7 %RH | | Due Date:- | August 22, 2020 |
| 1013.5 mBar | | Service Engineer:- | Ken Umbeer |

## Declaration of conformity:-

This test certificate confirms that the instrument specified above has been successfully tested to comply with the manufacturer's published specifications. Tests are performed using equipment traceable to national standards. This product is certified as being compliant to the requirements of the CE Directive. Test accuracy ratio (TAR) ≥1.

## Summary:

The data represents the response of the sound level meter calibrator to the reference source corrected for atmospheric conditions at the time of calibration.

| | Nominal Value | Tolerance | As Received | As Adjusted |
|---|---|---|---|---|
| Frequency (Hz) | 1000.0 | ±5.0 | 1000.0 | 1000.0 |
| Level (dB) | 114.0 | ±0.3 | 114.2 | 114.0 |
| Level (dB) | 94.0 | ±0.3 | 94.1 | 94.0 |

| Standards Used in Calibration: | | Serial Number | Calibration Due Date | Certificate Number |
|---|---|---|---|---|
| Sound Level Meter: | CEL-620.A1 | 5130002 | 2/4/2020 | 29619-2 |
| Multimeter: | Fluke 45 | 4995184 | 2/4/2020 | 1821321 |


**Casella CEL**
415 Lawrence Bell Dr.
Unit #4
Buffalo, NY 14221
U.S.A.

Toll Free: +1 (800) 366 2966
Fax +1 (716) 276 3043
E-mail: info@casellaUSA.com
Web: www.casellaUSA.com

**Casella CEL (U.K.)**
Regent House
Wolsely Road
Kempston
Bedford
MK42 7JY

Phone: +44 (0) 1234 844100
Fax:- +44(0) 1234 841490
E-mail: info@casellacel.com
Web: www.casellacel.com