803 Rockaway Avenue Rezoning

Environmental Assessment Statement

CEQR No. 19DCP220K

ULURP No. 200056 ZMK & N200057 ZRK

Prepared for:
Bridge Rockaway Housing Development Fund Company, Inc

Prepared by:
AKRF, Inc.

January 31, 2020

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

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

Part I: GENERAL INFORMATION

PROJECT NAME 803 Rockaway Avenue Rezoning

1. *Reference Numbers*

CEQR REFERENCE NUMBER (to be assigned by lead agency)	BSA REFERENCE NUMBER (if applicable)
19DCP220K	
ULURP REFERENCE NUMBER (if applicable)	OTHER REFERENCE NUMBER(S) (if applicable) (*e.g.*, legislative intro, CAPA)
200056 ZMK & N200057 ZRK	

2a. *Lead Agency Information*			**2b. *Applicant Information***		
NAME OF LEAD AGENCY New York City Department of City Planning			NAME OF APPLICANT Bridge Rockaway Housing Development Fund Company, Inc.		
NAME OF LEAD AGENCY CONTACT PERSON Olga Abinader, Acting Director of EARD			NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON Carole Gordon		
ADDRESS 120 Broadway, 31st Floor			ADDRESS 290 Lenox Avenue		
CITY New York	STATE NY	ZIP 10271	CITY New York	STATE NY	ZIP 10027
TELEPHONE 212-720-3493	EMAIL oabinad@planning.nyc.gov		TELEPHONE 212-663-3000 ext. 1378	EMAIL cgordon@thebridgeny.org	

3. *Action Classification and Type*

SEQRA Classification

☐ UNLISTED ☒ TYPE I: Specify Category (see 6 NYCRR 617.4 and NYC Executive Order 91 of 1977, as amended): 617.4(b)(10)

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

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

4. *Project Description*

The Bridge Rockaway Housing Development Fund Company, Inc. (the "Applicant") is seeking zoning map and text amendments (the "Proposed Actions") to facilitate the development of a mixed-use affordable and supportive housing development at 803 Rockaway Avenue in the Brownsville neighborhood of Brooklyn, Community District 16. The zoning map amendment would change an existing M1-1 zoning district to an MX district (M1-4/R6A and M1-4/R7A equivalent districts). The zoning text amendments would establish the Rezoning Area as a Mandatory Inclusionary Housing (MIH) Area in Appendix F of the Zoning Resolution (ZR), create a new MX district, allow the floor area ratios set forth in ZR Section 23-154 to apply to residential uses, and modify the use regulations in the proposed MX district. The Rezoning Area is generally bounded by Newport Street to the south, Rockaway Avenue to the west, and Thatford Avenue to the east, and consists of Block 3603, Lots 1, 7, 10, 19, 42, 45, 49, 53, and part of Lot 25.

The Applicant seeks to develop Lots 1, 10, 45, 49, and 53 (the "Project Site" or "Site A") with a new mixed-use building containing up to approximately 124 affordable dwelling units (DUs), 62 supportive housing units, 3,040 gross square feet (gsf) of ground-floor community facility space, and approximately 39,000 gsf of light manufacturing space (the "Proposed Project"). See Attachment A, "Project Description," for more detail.

Project Location

BOROUGH Brooklyn	COMMUNITY DISTRICT(S) 16	STREET ADDRESS 803 Rockaway Avenue
TAX BLOCK(S) AND LOT(S) Block 3603, Lots 1, 7, 10, 19, 42, 45, 49, 53, and part of Lot 25		ZIP CODE 11355

DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS Block bounded by Rockaway Avenue to the west, Thatford Avenue to the east, Newport Street to the south, and Riverdale Avenue to the north

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

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

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

☐ CITY MAP AMENDMENT ☐ ZONING CERTIFICATION ☐ CONCESSION

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

***Board of Standards and Appeals*:** ☐ YES ☒ NO
☐ VARIANCE (use)
☐ VARIANCE (bulk)
☐ SPECIAL PERMIT (if appropriate, specify type: ☐ modification; ☐ renewal; ☐ other); EXPIRATION DATE:
SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION

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

Other City Approvals Subject to CEQR (check all that apply)
☐ LEGISLATION
☒ FUNDING OF CONSTRUCTION, specify: The Applicant intends to seek funding from the New York City Department of Housing Preservation and Development's (HPD) Extremely Low- and Low-Income Affordability (ELLA) Program
☐ RULEMAKING
☐ POLICY OR PLAN, specify:
☐ CONSTRUCTION OF PUBLIC FACILITIES
☐ FUNDING OF PROGRAMS, specify:
☐ 384(b)(4) APPROVAL
☐ PERMITS, specify:
☐ OTHER, explain:

Other City Approvals Not Subject to CEQR (check all that apply)
☐ PERMITS FROM DOT'S OFFICE OF CONSTRUCTION MITIGATION AND COORDINATION (OCMC)
☐ LANDMARKS PRESERVATION COMMISSION APPROVAL
☐ OTHER, explain:

***State or Federal Actions/Approvals/Funding*:** ☒ YES ☐ NO If "yes," specify: The Applicant may seek NYS HCR bonds and 4% LIHTC, NYS Homeless Housing and Assistance Corporation funds, and New Markets Tax Credits

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

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

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

Physical Setting (both developed and undeveloped areas)
Total directly affected area (sq. ft.): 78,722
Waterbody area (sq. ft.) and type: 0
Roads, buildings, and other paved surfaces (sq. ft.): 78,722
Other, describe (sq. ft.): 0

7. *Physical Dimensions and Scale of Project* (if the project affects multiple sites, provide the total development facilitated by the action)
SIZE OF PROJECT TO BE DEVELOPED (gross square feet): 304,372
NUMBER OF BUILDINGS: 3
GROSS FLOOR AREA OF EACH BUILDING (sq. ft.): Site A=198,180; Site B=52,768; and Site C=53,424
HEIGHT OF EACH BUILDING (ft.): Site A=95/85; Site B=95; and Site C=85
NUMBER OF STORIES OF EACH BUILDING: Site A=9/8; Site B=9; and Site C=8

Does the proposed project involve changes in zoning on one or more sites? ☒ YES ☐ NO
If "yes," specify: The total square feet owned or controlled by the applicant: 46,000 (Site A)
The total square feet not owned or controlled by the applicant: 32,722 (Sites B, C, Lot 7 and p/o Lot 25

Does the proposed project involve in-ground excavation or subsurface disturbance, including, but not limited to foundation work, pilings, utility lines, or grading? ☒ YES ☐ NO
If "yes," indicate the estimated area and volume dimensions of subsurface disturbance (if known):
AREA OF TEMPORARY DISTURBANCE: 9,069 sq. ft. (width x length)
VOLUME OF DISTURBANCE: 126,966 cubic ft. (width x length x depth)
AREA OF PERMANENT DISTURBANCE: 9,069 sq. ft. (width x length)

8. *Analysis Year* CEQR Technical Manual Chapter 2

ANTICIPATED BUILD YEAR (date the project would be completed and operational): 2023

ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS: 23

WOULD THE PROJECT BE IMPLEMENTED IN A SINGLE PHASE? ☐ YES ☒ NO | IF MULTIPLE PHASES, HOW MANY? 2

BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE: The construction schedule assumes a 23-month construction phase for Site A. Construction of Sites B and C is assumed to take approximately 17 months. Because the buildings on Sites B and C would be smaller than the Applicant's Proposed Project, a shorter construction duration is assumed for those sites. See Attachment A for more details.

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

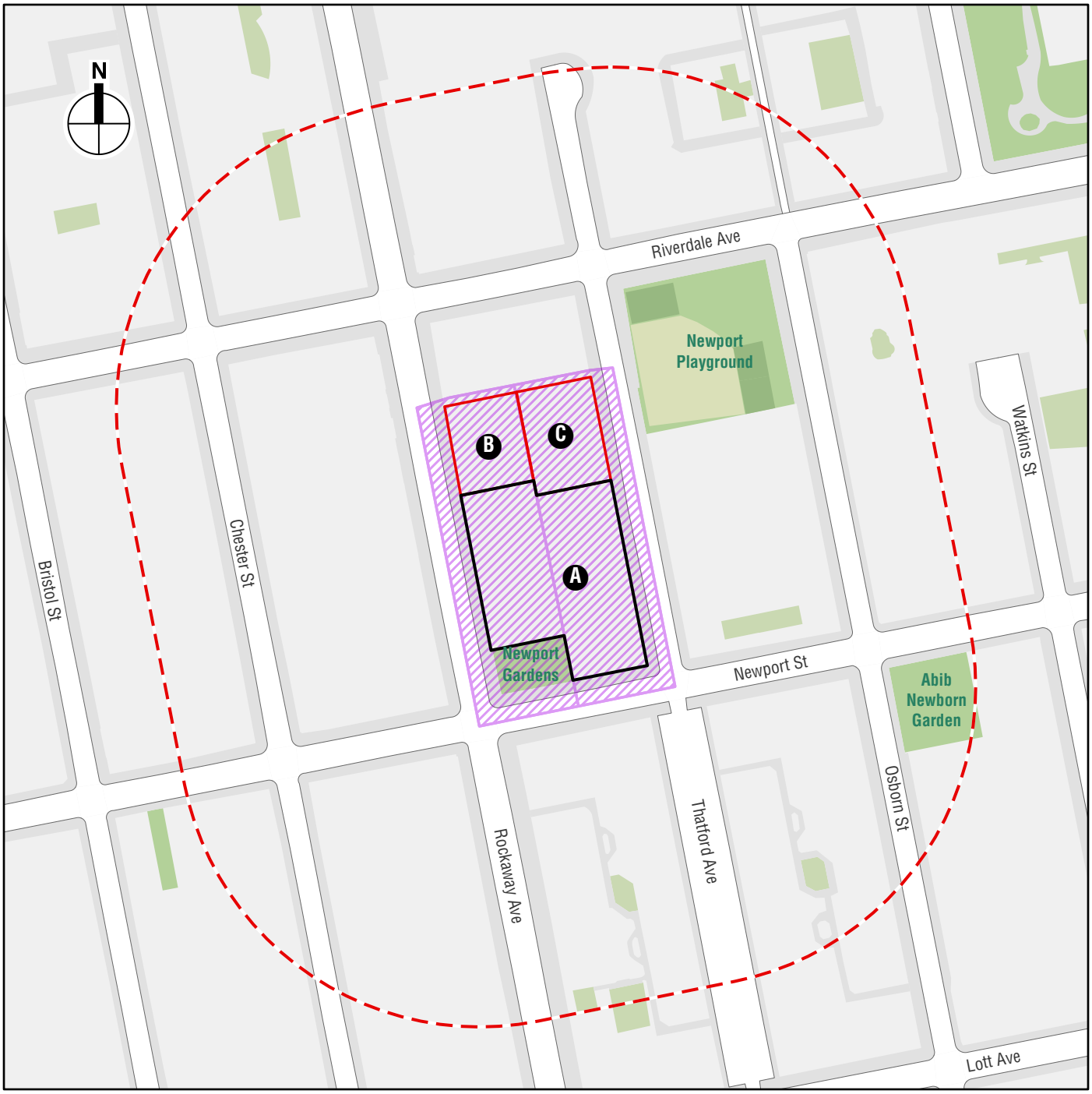
☒ RESIDENTIAL ☒ MANUFACTURING ☒ COMMERCIAL ☒ PARK/FOREST/OPEN SPACE ☒ OTHER, specify: Vacant; Community Facilities

DESCRIPTION OF EXISTING AND PROPOSED CONDITIONS

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

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
LAND USE				
Residential	☐ YES ☒ NO	☐ YES ☒ NO	☒ YES ☐ NO	
If "yes," specify the following:				
Describe type of residential structures	N/A	N/A	Multifamily apartment buildings	
No. of dwelling units	N/A	N/A	200	200
No. of low- to moderate-income units	N/A	N/A	147	147
Gross floor area (sq. ft.)	N/A	N/A	224,549	224,549
Commercial	☒ YES ☐ NO	☒ YES ☐ NO	☒ YES ☐ NO	
If "yes," specify the following:				
Describe type (retail, office, other)	Retail	Retail	Retail	
Gross floor area (sq. ft.)	8,400	8,400	11,471	3,071
Manufacturing/Industrial	☒ YES ☐ NO	☒ YES ☐ NO	☒ YES ☐ NO	
If "yes," specify the following:				
Type of use	Light Manufacturing	Light Manufacturing	Light Manufacturing	
Gross floor area (sq. ft.)	8,370	42,370	39,000	-3,370
Open storage area (sq. ft.)				
If any unenclosed activities, specify:				
Community Facility	☒ YES ☐ NO	☒ YES ☐ NO	☒ YES ☐ NO	
If "yes," specify the following:				
Type	House of Worship	House of Worship	General Community Facility	
Gross floor area (sq. ft.)	8,370	8,370	29,351	20,981
Vacant Land	☒ YES ☐ NO	☒ YES ☐ NO	☐ YES ☒ NO	
If "yes," describe:	vacant single-story manufacturing & vacant parking lot	vacant parking lot	0	-2,422
Publicly Accessible Open Space	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," specify type (mapped City, State, or Federal parkland, wetland—mapped or otherwise known, other):				
Other Land Uses	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," describe:				
PARKING				
Garages	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," specify the following:				
No. of public spaces				
No. of accessory spaces				
Operating hours				
Attended or non-attended				
Lots	☒ YES ☐ NO	☒ YES ☐ NO	☐ YES ☒ NO	
If "yes," specify the following:				
No. of public spaces				
No. of accessory spaces	10	10	0	-10
Operating hours				
Other (includes street parking)	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," describe:	N/A	N/A	N/A	

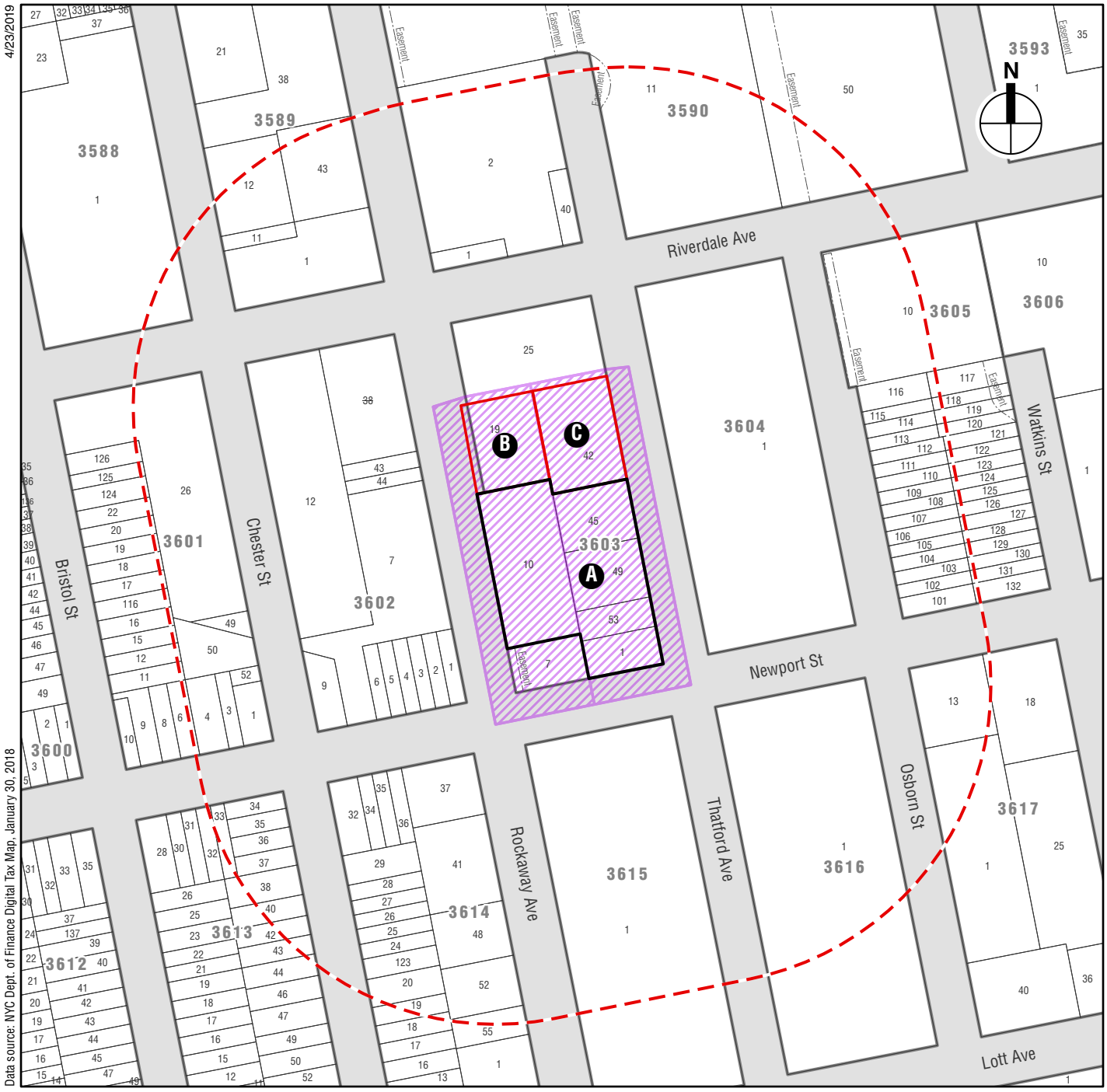
	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
POPULATION				
Residents	☐ YES ☒ NO	☐ YES ☒ NO	☒ YES ☐ NO	
If "yes," specify number:	N/A	N/A	648	648
Briefly explain how the number of residents was calculated:	200 DUs x 2.93 Persons per Household [from BK CD 16 Profile] + 62 SH units for individuals = 648 persons			
Businesses	☒ YES ☐ NO	☒ YES ☐ NO	☒ YES ☐ NO	
If "yes," specify the following:				
No. and type	4 Total: 1 laundromat, 1 nail salon (local retail); 1 storage facility; 1 house of worship	5 Total: 1 laundromat, 1 nail salon (local retail); 1 storage facility; 1 house of worship; 1 light mfg	8 Total: 5 community facility establishments; 2 retail establishments; 1 light mfg	3
No. and type of workers by business	28 Total: 8- laundromat; 4- nail salon; 8- light mfg; 8- house of worship	67 Total: 8- laundromat; 4- nail salon; 47- light mfg; 8- house of worship	108 Total: 39- light mfg; 29- community facility, 29- retail, 11- residential	41
No. and type of non-residents who are not workers				
Briefly explain how the number of businesses was calculated:	No Action assumes reactivation with 1 mfg business on Site A and continuation of existing businesses and church on Sites B and C. With Action assumes 1 cf establishment and 1 mfg establishment on Site A; 2 retail businesses and 2 cf establishments on Site B; and 2 cf establishments on Site C. Employment multipliers were applied to gross floor area of retail, light manufacturing/storage, and community facility space to determine number of workers.			
Other (students, visitors, concert-goers, *etc.*)	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If any, specify type and number:	N/A	N/A	N/A	
Briefly explain how the number was calculated:				
ZONING				
Zoning classification	M1-1	M1-1	MX (M1-4 / R7A & M1-4 / R6A	
Maximum amount of floor area that can be developed	70,822	70,822	472,781	401,959
Predominant land use and zoning classifications within land use study area(s) or a 400 ft. radius of proposed project	Residential, Commercial, Manufacturing, Public Facilties, Vacant Land; M1-1, R6, C1-3, C2-3, and C2-4 overlays	Residential, Commercial, Manufacturing, Public Facilties, Vacant Land; M1-1, R6, R7-2, C1-3, C2-3, and C2-4 overlays	Residential, Commercial, Manufacturing, Public Facilities, Vacant Land; MX (M1-4/R7A and M1-4/R6A), M1-1, R6, R7-2, C1-3, C2-3, and C2-4 overlays	MX (M1-4/R7-A and M1-4/R6A)
Attach any additional information that may be needed to describe the project. If your project involves changes that affect one or more sites not associated with a specific development, it is generally appropriate to include total development projections in the above table and attach separate tables outlining the reasonable development scenarios for each site.				



Project Location

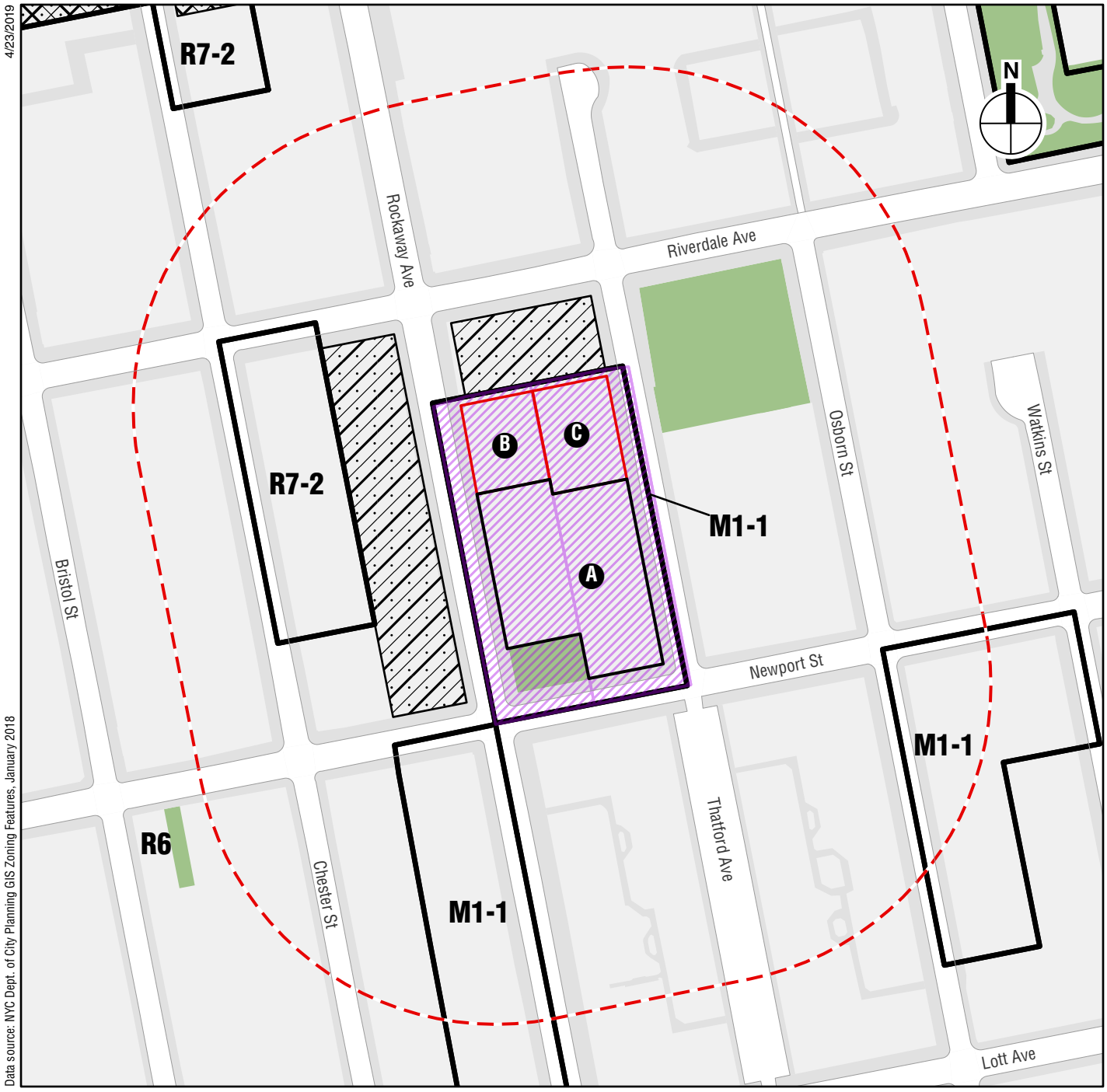
803 ROCKAWAY AVENUE REZONING

Figure 1



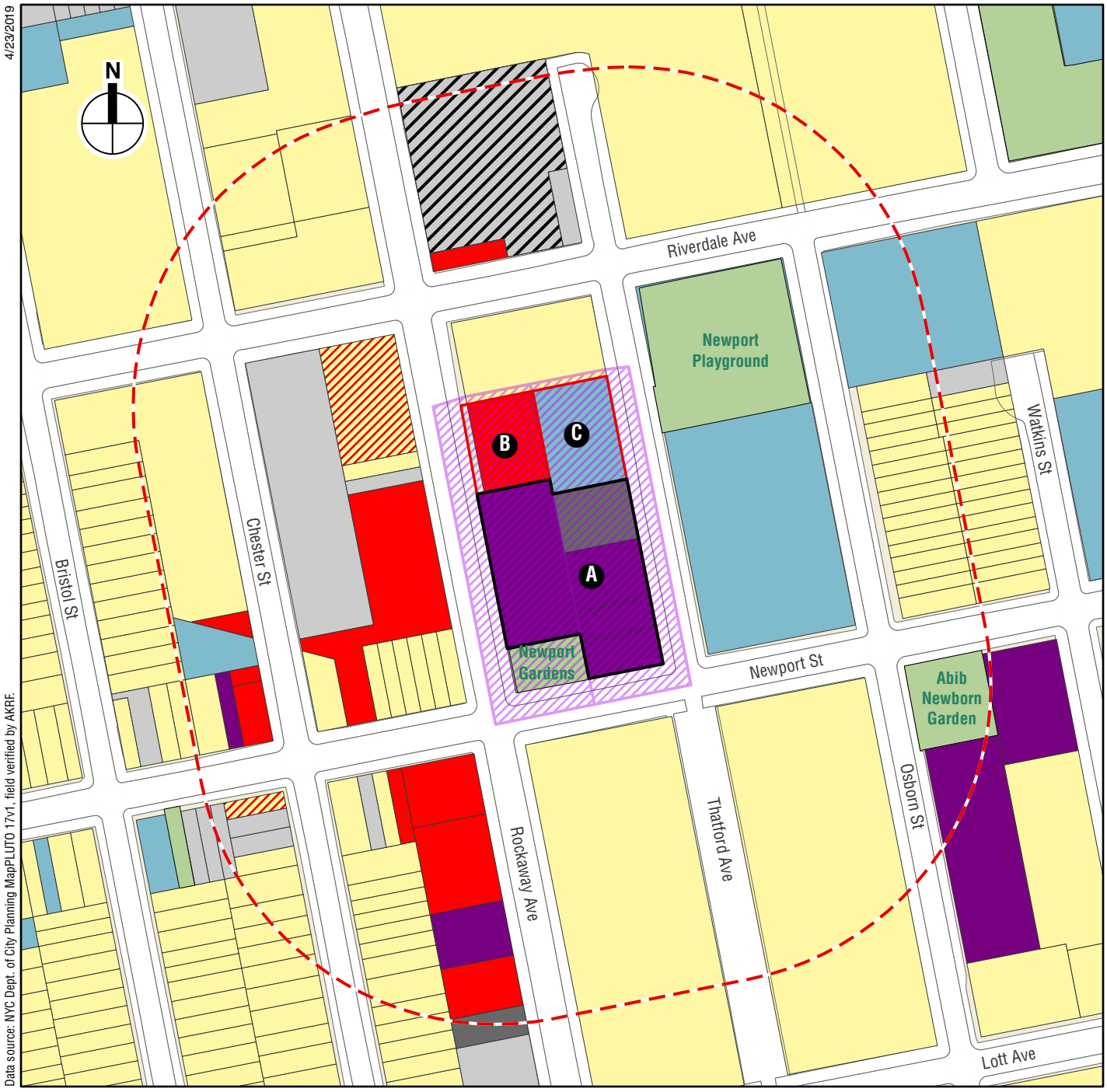
803 ROCKAWAY AVENUE REZONING

Tax Map
Figure 2



803 ROCKAWAY AVENUE REZONING

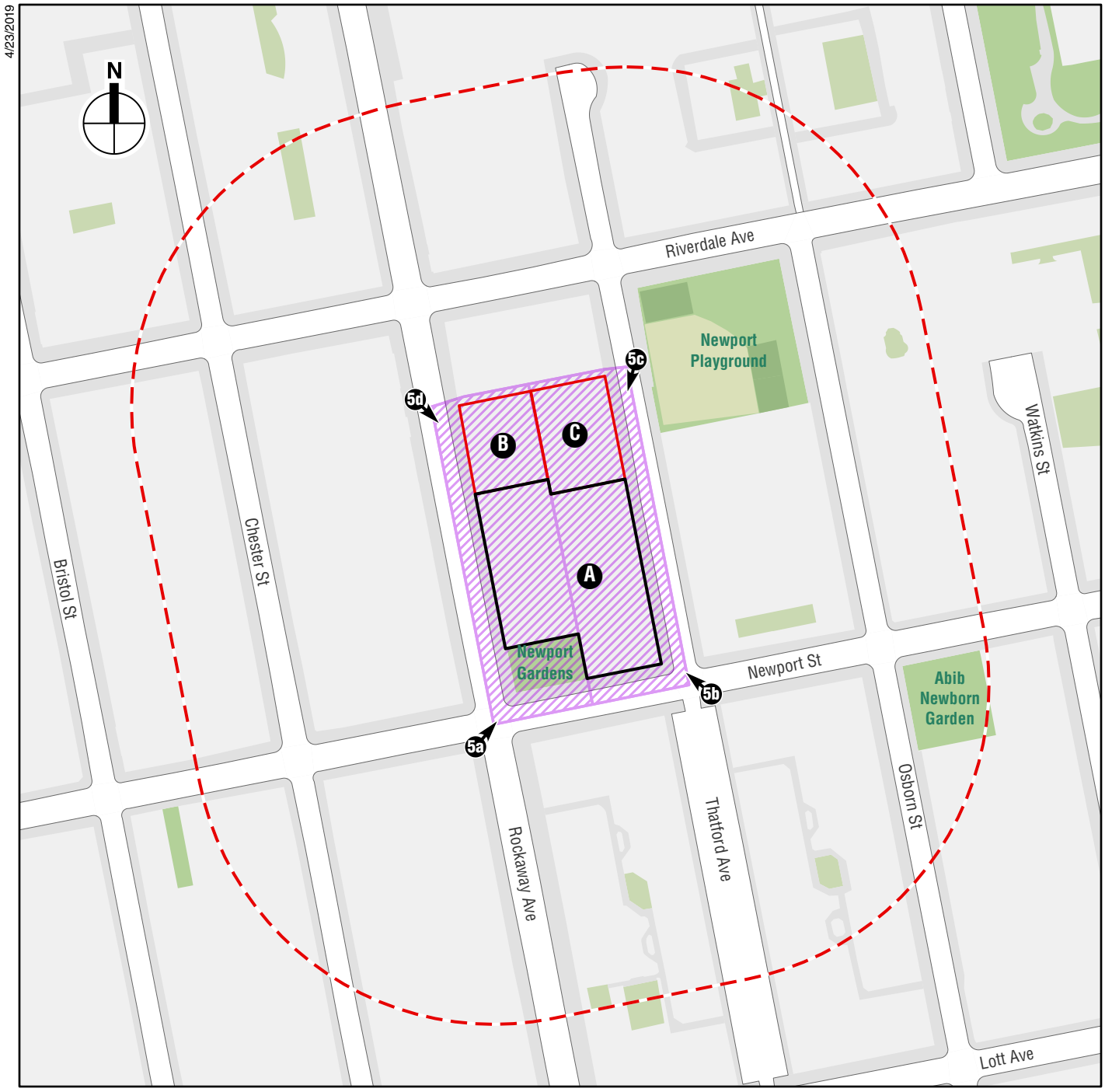
Zoning
Figure 3



Existing Land Use

803 ROCKAWAY AVENUE REZONING

Figure 4



Photograph Locations

803 ROCKAWAY AVENUE REZONING

Figure 5

5a - View northeast to Newport Community Garden and Site A from Newport Street and Rockaway Avenue

5b - View northwest to Site A from Newport Street and Thatford Avenue

5c - View southwest to Site B from Rockaway Avenue

5d - View southwest to Site C from Thatford Avenue

Part II: TECHNICAL ANALYSIS

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

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

	YES	NO
1. *LAND USE, ZONING, AND PUBLIC POLICY*: CEQR Technical Manual Chapter 4		
(a) Would the proposed project result in a change in land use different from surrounding land uses?	☐	☒
(b) Would the proposed project result in a change in zoning different from surrounding zoning?	☒	☐
(c) Is there the potential to affect an applicable public policy?	☒	☐
(d) If "yes," to (a), (b), and/or (c), complete a preliminary assessment and attach. See Attachment B		
(e) Is the project a large, publicly sponsored project?	☐	☒
○ If "yes," complete a PlaNYC assessment and attach.		
(f) Is any part of the directly affected area within the City's Waterfront Revitalization Program boundaries?	☐	☒
○ If "yes," complete the Consistency Assessment Form.		
2. *SOCIOECONOMIC CONDITIONS*: CEQR Technical Manual Chapter 5		
(a) Would the proposed project:		
○ Generate a net increase of more than 200 residential units *or* 200,000 square feet of commercial space?	☒	☐
▪ If "yes," answer *both* questions 2(b)(ii) and 2(b)(iv) below.		
○ Directly displace 500 or more residents?	☐	☒
▪ If "yes," answer questions 2(b)(i), 2(b)(ii), and 2(b)(iv) below.		
○ Directly displace more than 100 employees?	☐	☒
▪ If "yes," answer questions under 2(b)(iii) and 2(b)(iv) below.		
○ Affect conditions in a specific industry?	☐	☒
▪ If "yes," answer question 2(b)(v) below.		
(b) If "yes" to any of the above, attach supporting information to answer the relevant questions below. If "no" was checked for each category above, the remaining questions in this technical area do not need to be answered.		
i. Direct Residential Displacement		
○ If more than 500 residents would be displaced, would these residents represent more than 5% of the primary study area population?	☐	☐
○ If "yes," is the average income of the directly displaced population markedly lower than the average income of the rest of the study area population?	☐	☐
ii. Indirect Residential Displacement		
○ Would expected average incomes of the new population exceed the average incomes of study area populations?	☐	☒
○ If "yes:"		
▪ Would the population of the primary study area increase by more than 10 percent?	☐	☐
▪ Would the population of the primary study area increase by more than 5 percent in an area where there is the potential to accelerate trends toward increasing rents?	☐	☐
○ If "yes" to either of the preceding questions, would more than 5 percent of all housing units be renter-occupied and unprotected?	☐	☐
iii. Direct Business Displacement		
○ Do any of the displaced businesses provide goods or services that otherwise would not be found within the trade area, either under existing conditions or in the future with the proposed project?	☐	☐

	YES	NO
○ Is any category of business to be displaced the subject of other regulations or publicly adopted plans to preserve, enhance, or otherwise protect it?	☐	☐
iv. Indirect Business Displacement		
○ Would the project potentially introduce trends that make it difficult for businesses to remain in the area?	☐	☒
○ Would the project capture retail sales in a particular category of goods to the extent that the market for such goods would become saturated, potentially resulting in vacancies and disinvestment on neighborhood commercial streets?	☐	☒
v. Effects on Industry		
○ Would the project significantly affect business conditions in any industry or any category of businesses within or outside the study area?	☐	☐
○ Would the project indirectly substantially reduce employment or impair the economic viability in the industry or category of businesses?	☐	☐
3. *COMMUNITY FACILITIES*: CEQR Technical Manual Chapter 6		
(a) Direct Effects		
○ Would the project directly eliminate, displace, or alter public or publicly funded community facilities such as educational facilities, libraries, health care facilities, day care centers, police stations, or fire stations?	☐	☒
(b) Indirect Effects		
i. Child Care Centers		
○ Would the project result in 20 or more eligible children under age 6, based on the number of low or low/moderate income residential units? (See Table 6-1 in Chapter 6)	☒	☐
○ If "yes," would the project result in a collective utilization rate of the group child care/Head Start centers in the study area that is greater than 100 percent?	☐	☒
○ If "yes," would the project increase the collective utilization rate by 5 percent or more from the No-Action scenario?	☐	☐
ii. Libraries		
○ Would the project result in a 5 percent or more increase in the ratio of residential units to library branches? (See Table 6-1 in Chapter 6)	☐	☒
○ If "yes," would the project increase the study area population by 5 percent or more from the No-Action levels?	☐	☐
○ If "yes," would the additional population impair the delivery of library services in the study area?	☐	☐
iii. Public Schools		
○ Would the project result in 50 or more elementary or middle school students, or 150 or more high school students based on number of residential units? (See Table 6-1 in Chapter 6)	☐	☒
○ If "yes," would the project result in a collective utilization rate of the elementary and/or intermediate schools in the study area that is equal to or greater than 100 percent?	☐	☒
○ If "yes," would the project increase this collective utilization rate by 5 percent or more from the No-Action scenario?	☐	☐
iv. Health Care Facilities		
○ Would the project result in the introduction of a sizeable new neighborhood?	☐	☒
○ If "yes," would the project affect the operation of health care facilities in the area?	☐	☐
v. Fire and Police Protection		
○ Would the project result in the introduction of a sizeable new neighborhood?	☐	☒
○ If "yes," would the project affect the operation of fire or police protection in the area?	☐	☐
4. *OPEN SPACE*: CEQR Technical Manual Chapter 7		
(a) Would the project change or eliminate existing open space?	☐	☒
(b) Is the project located within an under-served area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island?	☐	☒
(c) If "yes," would the project generate more than 50 additional residents or 125 additional employees?	☐	☐
(d) Is the project located within a well-served area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island?	☐	☒
(e) If "yes," would the project generate more than 350 additional residents or 750 additional employees?	☐	☐
(f) If the project is located in an area that is neither under-served nor well-served, would it generate more than 200 additional residents or 500 additional employees?	☒	☐
(g) If "yes" to questions (c), (e), or (f) above, attach supporting information to answer the following:		

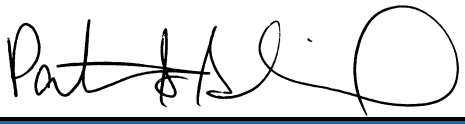
	YES	NO
○ If in an under-served area, would the project result in a decrease in the open space ratio by more than 1 percent?	☐	☐
○ If in an area that is not under-served, would the project result in a decrease in the open space ratio by more than 5 percent?	☐	☒
○ If "yes," are there qualitative considerations, such as the quality of open space, that need to be considered? Please specify: See Attachment D	☐	☒
5. *SHADOWS*: CEQR Technical Manual Chapter 8		
(a) Would the proposed project result in a net height increase of any structure of 50 feet or more?	☒	☐
(b) Would the proposed project result in any increase in structure height and be located adjacent to or across the street from a sunlight-sensitive resource?	☒	☐
(c) If "yes" to either of the above questions, attach supporting information explaining whether the project's shadow would reach any sunlight-sensitive resource at any time of the year. See Attachment E		
6. *HISTORIC AND CULTURAL RESOURCES*: CEQR Technical Manual Chapter 9		
(a) Does the proposed project site or an adjacent site contain any architectural and/or archaeological resource that is eligible for or has been designated (or is calendared for consideration) as a New York City Landmark, Interior Landmark or Scenic Landmark; that is listed or eligible for listing on the New York State or National Register of Historic Places; or that is within a designated or eligible New York City, New York State or National Register Historic District? (See the GIS System for Archaeology and National Register to confirm)	☐	☒
(b) Would the proposed project involve construction resulting in in-ground disturbance to an area not previously excavated?	☒	☐
(c) If "yes" to either of the above, list any identified architectural and/or archaeological resources and attach supporting information on whether the proposed project would potentially affect any architectural or archeological resources. See Attachment A		
7. *URBAN DESIGN AND VISUAL RESOURCES*: CEQR Technical Manual Chapter 10		
(a) Would the proposed project introduce a new building, a new building height, or result in any substantial physical alteration to the streetscape or public space in the vicinity of the proposed project that is not currently allowed by existing zoning?	☒	☐
(b) Would the proposed project result in obstruction of publicly accessible views to visual resources not currently allowed by existing zoning?	☐	☒
(c) If "yes" to either of the above, please provide the information requested in Chapter 10. See Attachment F		
8. *NATURAL RESOURCES*: CEQR Technical Manual Chapter 11		
(a) Does the proposed project site or a site adjacent to the project contain natural resources as defined in Section 100 of Chapter 11?	☐	☒
○ If "yes," list the resources and attach supporting information on whether the project would affect any of these resources.		
(b) Is any part of the directly affected area within the Jamaica Bay Watershed?	☒	☐
○ If "yes," complete the Jamaica Bay Watershed Form and submit according to its instructions.		
9. *HAZARDOUS MATERIALS*: CEQR Technical Manual Chapter 12		
(a) Would the proposed project allow commercial or residential uses in an area that is currently, or was historically, a manufacturing area that involved hazardous materials?	☒	☐
(b) Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to hazardous materials that preclude the potential for significant adverse impacts?	☐	☒
(c) Would the project require soil disturbance in a manufacturing area or any development on or near a manufacturing area or existing/historic facilities listed in Appendix 1 (including nonconforming uses)?	☒	☐
(d) Would the project result in the development of a site where there is reason to suspect the presence of hazardous materials, contamination, illegal dumping or fill, or fill material of unknown origin?	☒	☐
(e) Would the project result in development on or near a site that has or had underground and/or aboveground storage tanks (*e.g.*, gas stations, oil storage facilities, heating oil storage)?	☒	☐
(f) Would the project result in renovation of interior existing space on a site with the potential for compromised air quality; vapor intrusion from either on-site or off-site sources; or the presence of asbestos, PCBs, mercury or lead-based paint?	☐	☒
(g) Would the project result in development on or near a site with potential hazardous materials issues such as government-listed voluntary cleanup/brownfield site, current or former power generation/transmission facilities, coal gasification or gas storage sites, railroad tracks or rights-of-way, or municipal incinerators?	☐	☒
(h) Has a Phase I Environmental Site Assessment been performed for the site?	☒	☐
○ If "yes," were Recognized Environmental Conditions (RECs) identified? Briefly identify: On-site manufacturing, nearby dry cleaning	☒	☐
(i) Based on the Phase I Assessment, is a Phase II Investigation needed? see Attachment G	☒	☐
10. *WATER AND SEWER INFRASTRUCTURE*: CEQR Technical Manual Chapter 13		

	YES	NO
(a) Would the project result in water demand of more than one million gallons per day?	☐	☒
(b) If the proposed project located in a combined sewer area, would it result in at least 1,000 residential units or 250,000 square feet or more of commercial space in Manhattan, or at least 400 residential units or 150,000 square feet or more of commercial space in the Bronx, Brooklyn, Staten Island, or Queens?	☐	☒
(c) If the proposed project located in a separately sewered area, would it result in the same or greater development than that listed in Table 13-1 in Chapter 13?	☐	☐
(d) Would the project involve development on a site that is 5 acres or larger where the amount of impervious surface would increase?	☐	☒
(e) If the project is located within the Jamaica Bay Watershed or in certain specific drainage areas, including Bronx River, Coney Island Creek, Flushing Bay and Creek, Gowanus Canal, Hutchinson River, Newtown Creek, or Westchester Creek, would it involve development on a site that is 1 acre or larger where the amount of impervious surface would increase?	☐	☒
(f) Would the proposed project be located in an area that is partially sewered or currently unsewered?	☐	☒
(g) Is the project proposing an industrial facility or activity that would contribute industrial discharges to a Wastewater Treatment Plant and/or contribute contaminated stormwater to a separate storm sewer system?	☐	☒
(h) Would the project involve construction of a new stormwater outfall that requires federal and/or state permits?	☐	☒
(i) If "yes" to any of the above, conduct the appropriate preliminary analyses and attach supporting documentation.		
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): 17,195		
○ Would the proposed project have the potential to generate 100,000 pounds (50 tons) or more of solid waste per week?	☐	☒
(b) Would the proposed project involve a reduction in capacity at a solid waste management facility used for refuse or recyclables generated within the City?	☐	☒
○ If "yes," would the proposed project comply with the City's Solid Waste Management Plan?	☐	☐
12. *ENERGY*: CEQR Technical Manual Chapter 15		
(a) Using energy modeling or Table 15-1 in Chapter 15, the project's projected energy use is estimated to be (annual BTUs): 30,570,536,500		
(b) Would the proposed project affect the transmission or generation of energy?	☐	☒
13. *TRANSPORTATION*: CEQR Technical Manual Chapter 16		
(a) Would the proposed project exceed any threshold identified in Table 16-1 in Chapter 16?	☒	☐
(b) If "yes," conduct the appropriate screening analyses, attach back up data as needed for each stage, and answer the following questions:		
○ Would the proposed project result in 50 or more Passenger Car Equivalents (PCEs) per project peak hour?	☒	☐
If "yes," would the proposed project result in 50 or more vehicle trips per project peak hour at any given intersection? ***It should be noted that the lead agency may require further analysis of intersections of concern even when a project generates fewer than 50 vehicles in the peak hour. See Subsection 313 of Chapter 16 for more information.***	☐	☒
○ Would the proposed project result in more than 200 subway/rail or bus trips per project peak hour?	☐	☒
If "yes," would the proposed project result, per project peak hour, in 50 or more bus trips on a single line (in one direction) or 200 subway/rail trips per station or line?	☐	☐
○ Would the proposed project result in more than 200 pedestrian trips per project peak hour?	☒	☐
If "yes," would the proposed project result in more than 200 pedestrian trips per project peak hour to any given pedestrian or transit element, crosswalk, subway stair, or bus stop?	☐	☒
14. *AIR QUALITY*: CEQR Technical Manual Chapter 17		
(a) *Mobile Sources*: Would the proposed project result in the conditions outlined in Section 210 in Chapter 17?	☒	☐
(b) *Stationary Sources*: Would the proposed project result in the conditions outlined in Section 220 in Chapter 17?	☒	☐
○ If "yes," would the proposed project exceed the thresholds in Figure 17-3, Stationary Source Screen Graph in Chapter 17? (Attach graph as needed) See Attachment I	☐	☐
(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?	☐	☒
(f) If "yes" to any of the above, conduct the appropriate analyses and attach any supporting documentation. See Attachment I		
15. *GREENHOUSE GAS EMISSIONS*: CEQR Technical Manual Chapter 18		

	YES	NO
(a) Is the proposed project a city capital project or a power generation plant?	☐	☒
(b) Would the proposed project fundamentally change the City's solid waste management system?	☐	☒
(c) Would the proposed project result in the development of 350,000 square feet or more?	☐	☒
(d) If "yes" to any of the above, would the project require a GHG emissions assessment based on guidance in Chapter 18?	☐	☐
○ If "yes," would the project result in inconsistencies with the City's GHG reduction goal? (See Local Law 22 of 2008; § 24-803 of the Administrative Code of the City of New York). Please attach supporting documentation.	☐	☐
16. *NOISE*: CEQR Technical Manual Chapter 19		
(a) Would the proposed project generate or reroute vehicular traffic?	☒	☐
(b) Would the proposed project introduce new or additional receptors (see Section 124 in Chapter 19) near heavily trafficked roadways, within one horizontal mile of an existing or proposed flight path, or within 1,500 feet of an existing or proposed rail line with a direct line of site to that rail line?	☒	☐
(c) Would the proposed project cause a stationary noise source to operate within 1,500 feet of a receptor with a direct line of sight to that receptor or introduce receptors into an area with high ambient stationary noise?	☒	☐
(d) Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to noise that preclude the potential for significant adverse impacts?	☐	☒
(e) If "yes" to any of the above, conduct the appropriate analyses and attach any supporting documentation. See Attachment J		
17. *PUBLIC HEALTH*: CEQR Technical Manual Chapter 20		
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Air Quality; Hazardous Materials; Noise?	☐	☒
(b) If "yes," explain why an assessment of public health is or is not warranted based on the guidance in Chapter 20, "Public Health." Attach a preliminary analysis, if necessary.		
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. See Attachment A		
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. See Attachment A		

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 Patrick Blanchfield, AKRF, Inc.	SIGNATURE 	DATE January 31, 2020

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

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

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

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

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

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

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

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

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

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

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

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

TITLE	LEAD AGENCY
Director, Environmental Assessment and Review Division	Department of City Planning, acting on behalf of the City Planning Commission
NAME	DATE
Olga Abinader	1/31/2020

SIGNATURE

NEGATIVE DECLARATION (Use of this form is optional)

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 project. 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 project 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 have no significant effect on the quality of the environment. Reasons supporting this determination are noted below.

Hazardous Materials and Air Quality

An (E) designation (E-561) for hazardous materials and air quality has been incorporated into the proposed actions. Refer to "Determination of Significance Appendix: (E) Designation" for a list of the sites affected by the proposed (E) designation and applicable (E) designation requirements. With these measures in place, the proposed actions would not result in significant adverse impacts to hazardous materials or air quality.

Land Use, Zoning, and Public Policy

The EAS includes a detailed analysis of Land Use, Zoning, and Public Policy and determined that no significant adverse impacts would occur. A significant adverse impact would occur if a proposed action would generate a land use incompatible with the surrounding area. The proposed actions include a zoning map amendment to rezone Block 3603, Lots 1, 7, 10, 19, 42, 45, 49, 53, and part of Lot 25 (the “Rezoning Area”) in Brooklyn, Community District 16, from an existing M1-1 zoning district to an MX district (M1-4/R6A and M1-4/R7A equivalent districts). The zoning text amendments would establish the Rezoning Area as a Mandatory Inclusionary Housing Area in Appendix F of the Zoning Resolution (ZR), create a new MX zoning district, allow the floor area ratios set forth in ZR Section 23-154 to apply to residential uses, and modify the use regulations in the proposed MX district. The surrounding area contains a mix of residential, community facility, commercial, and manufacturing uses. The proposed actions would not introduce new land uses to the Rezoning Area or surrounding area, but would allow these uses to exist in a combination not permitted as-of-right. The proposed actions would facilitate the applicant’s proposed project which includes approximately 124 affordable dwelling units, 62 supportive housing single-occupancy units, 3,040 gross square feet (gsf) of ground-floor community facility space, approximately 39,000 gsf of ground-floor light manufacturing space. The zoning text amendment would allow light manufacturing uses within the proposed project upon the submission to the Department of Buildings of a restrictive declaration requiring the use of building design measures approved by the Department of Environmental Protection. As such, the proposed actions would not introduce a new land use, nor affect the existing mixed-use character of the area, which represent the thresholds of impact significance in the CEQR Technical Manual (TM). Furthermore, the proposed actions would have no adverse effect on zoning or public policy.

Community Facilities

The EAS includes a detailed analysis of publicly funded child care facilities. The proposed actions would facilitate the development of 147 affordable dwelling units, which would generate approximately 26 additional children under the age of six who would be eligible for publicly funded child care programs. The CEQR TM indicates that if the utilization rate exceeds 100 percent, and is reduced by over 5 percent, a significant adverse impact may be identified. A detailed analysis showed that, as a result of the Proposed Actions, child care facilities in the study area would operate at 106.6 percent utilization, with a deficit of 197 slots, which represents an increase in the child care facility utilization rate by 0.87 percentage points over the No Action condition. Although the utilization rate exceeds 100 percent in the With Action condition, the change in utilization rate would be less than 5 percentage points; therefore, the proposed actions would not result in a significant adverse impact on the utilization of child care facilities.

Shadows

The EAS includes a detailed shadows analysis, which focuses on incremental shadows cast on two sunlight-sensitive resources; Newport Community Garden and Newport Playground. The CEQR TM states that a significant adverse shadow impact could occur on a sunlight sensitive resource if that resource would receive less than four to six hours of direct sunlight per day during the growing season. The CEQR TM also states that the features of a natural resource indicate its sensitivity to shadows. The detailed analysis shows that incremental shadow would

increase shadow duration on Newport Community Garden and Newport Playground. All of Newport Community Garden, excluding the northeast corner, would receive at least 6.5 hours of direct sunlight per day throughout the growing season and no area would receive less than 4 hours of direct sunlight per day. With the proposed project, the majority of garden area would not experience a substantial reduction in direct sunlight and would support the same variety of plant life as in the existing condition. Within the growing season, almost all areas of Newport Playground affected by new shadow would continue to receive at least 6 hours of direct sunlight per day, a quantity sufficient to support the park's trees and a variety of other plant life, and would not reduce its usability. As such, the proposed actions would not result in a significant adverse shadows impact to nearby sunlight sensitive resources, and no further analysis is warranted.

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 Rachel Antelmi at (212) 720-3621.

TITLE Director, Environmental Assessment and Review Division	**LEAD AGENCY** Department of City Planning, acting on behalf of the City Planning Commission 120 Broadway, 31st Fl. New York, NY 10271 | (212) 720-3493
NAME Olga Abinader	**DATE** January 31, 2020
SIGNATURE	
TITLE Chair, City Planning Commission	
NAME Marisa Lago	**DATE** February 3, 2020
SIGNATURE	

Project Name: 803 Rockaway Avenue Rezoning
CEQR #: 19DCP220K
SEQRA Classification: Type I

Determination of Significance Appendix: (E) Designation (E-561)

Hazardous Materials

To ensure that there would be no significant adverse hazardous materials impacts associated with the proposed project, an E designation (E-561) will be placed on the project site as follows:

BLOCK 3603 LOT 19 (PROJECTED DEVELOPMENT SITE B)
BLOCK 3603, LOT 42 (PROJECTED DEVELOPMENT SITE C)

Task 1 - Sampling Protocol

The applicant submits to OER, for review and approval, a Phase 1 of the site along with a soil and groundwater testing protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented. If site sampling is necessary, no sampling should begin until written approval of a protocol is received from OER. The number and location of sample sites should be selected to adequately characterize the site, the specific source of suspected contamination (i.e., petroleum based contamination and non-petroleum based contamination), and the remainder of the site's condition. The characterization should be complete enough to determine what remediation strategy (if any) is necessary after review of sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by OER upon request.

Task 2 - Remediation Determination and Protocol

A written report with findings and a summary of the data must be submitted to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by OER if the results indicate that remediation is necessary. If OER determines that no remediation is necessary, written notice shall be given by OER. If remediation is indicated from the test results, a proposed remediation plan must be submitted to OER for review and approval. The applicant must complete such remediation as determined necessary by OER. The applicant should then provide proper documentation that the work has been satisfactorily completed. An OER-approved construction-related health and safety plan would be implemented during evacuation and construction and activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil and/or groundwater. This plan would be submitted to OER for review and approval prior to implementation.

Air Quality

To ensure that there would be no significant adverse hazardous materials impacts associated with the proposed project, an E designation (E-561) will be placed on the project site as follows:

BLOCK 3603, LOTS 1, 10, 45, 49, AND 53 (PROJECTED DEVELOPMENT SITE A)

Thatford Avenue Tower

Any new development on the Thatford Avenue Tower must utilize only natural gas in any fossil fuel-fired heating and hot water equipment, be fitted with low NOx (30 ppm) burners, have heating and hot water exhaust stacks located at least 85 feet above grade, no more than 78 feet from the lot line facing Newport Street, and no more than 46 feet from the lot line facing Thatford Avenue, to avoid potential significant air quality impacts.

Paint Spray Booth Make-Up Air Unit
Any new development on the Thatford Avenue Tower must utilize only natural gas in any fossil fuel-fired paint spray booth make-up unit, the exhaust must be located at least 78 feet above grade, and no more than 132 feet from the lot line facing Newport Street, to avoid potential significant air quality impacts.

Rockaway Avenue Tower
Any new development on the Rockaway Avenue Tower must utilize only natural gas in any fossil fuel-fired heating and hot water equipment, and have heating and hot water exhaust stacks located at least 95 feet above grade, and no more than 41 feet from the lot line facing Newport Street, to avoid potential significant air quality impacts.

BLOCK 3603 LOT 19 (PROJECTED DEVELOPMENT SITE B)
Any new development on Site B must utilize only natural gas in any fossil fuel-fired heating and hot water equipment, be fitted with low NOx (30 ppm) burners, and have heating and hot water exhaust stacks located at least 98 feet above grade, to avoid any potential significant air quality impacts.

BLOCK 3603, LOT 42 (PROJECTED DEVELOPMENT SITE C)
Any new development or enlargement on the above-referenced property must utilize only natural gas in any fossil fuel-fired heating and hot water equipment, be fitted with low NOx (30 ppm) burners, and ensure that heating and hot water exhaust stack(s) are located at least 88 feet above grade. Heating and hot water exhaust stack(s) must be located at least 60 feet from the lot line facing Rockaway Avenue, to avoid any potential significant air quality impacts.

A. INTRODUCTION

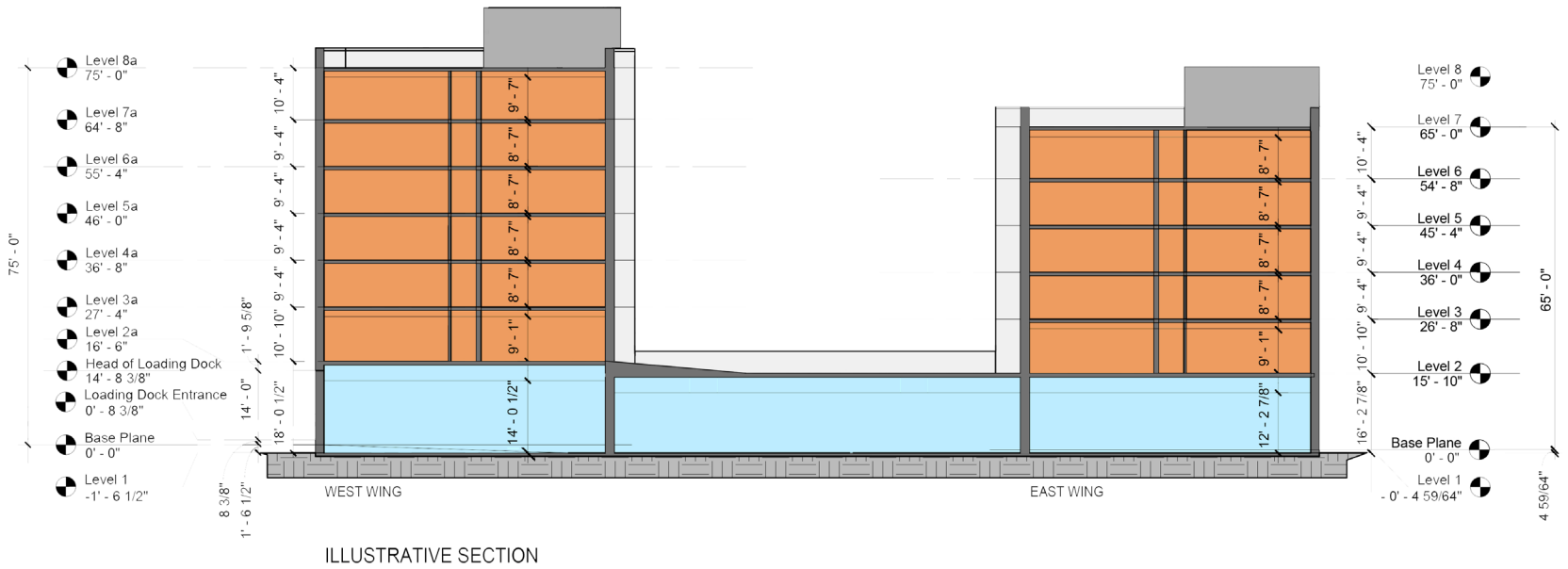
The Bridge Rockaway Housing Development Fund Company, Inc. (the "Applicant"), a nonprofit supportive housing provider, is seeking zoning map and text amendments (the "Proposed Actions") to facilitate the construction of a mixed-use affordable and supportive housing development containing ground-floor light manufacturing and community facility space at 803 Rockaway Avenue in the Brownsville neighborhood of Brooklyn, Community District 16. The zoning map amendment would change an existing M1-1 zoning district to an MX district (M1-4/R6A and M1-4/R7A equivalent districts). The zoning text amendments would establish the Rezoning Area as a Mandatory Inclusionary Housing (MIH) Area in Appendix F of the Zoning Resolution (ZR), create a new MX zoning district, allow the floor area ratios set forth in ZR Section 23-154 to apply to residential uses, and modify the use regulations in the proposed MX district.

The Rezoning Area is generally bounded by Newport Street to the south, Rockaway Avenue to west, and Thatford Avenue to the east, and consists of Block 3603, Lots 1, 7, 10, 19, 42, 45, 49, 53, and part of Lot 25. The Applicant seeks to develop Lots 1, 10, 45, 49, and 53 (the "Project Site" or "Site A") with a new mixed-use building containing up to approximately 124 affordable dwelling units (DUs), 62 supportive housing (SH) single-occupancy units, 3,040 gross square feet (gsf) of ground-floor community facility space, and approximately 39,000 gsf of light manufacturing space (the "Proposed Project").

DESCRIPTION OF THE PROPOSED PROJECT

The Proposed Project is an approximately 198,180-gsf mixed-use development composed of a single building with ground-floor manufacturing and community facility space, and two towers containing affordable and supportive housing beginning on the second floor (see **Figure A-1**). The proposed building on Site A would have a maximum building height of 85 feet (7 stories) along Rockaway Avenue with the portions of the proposed building fronting Thatford and Newport Avenues having a maximum height of 75 feet (6 stories) (see **Figure A-2 and Figure A-3**). The entrance for the light manufacturing space would be located on Rockaway Avenue and the residential and community facility entrance would be located on Newport Street near Thatford Avenue. No accessory parking would be provided. A landscaped roof garden would be located at the second story.

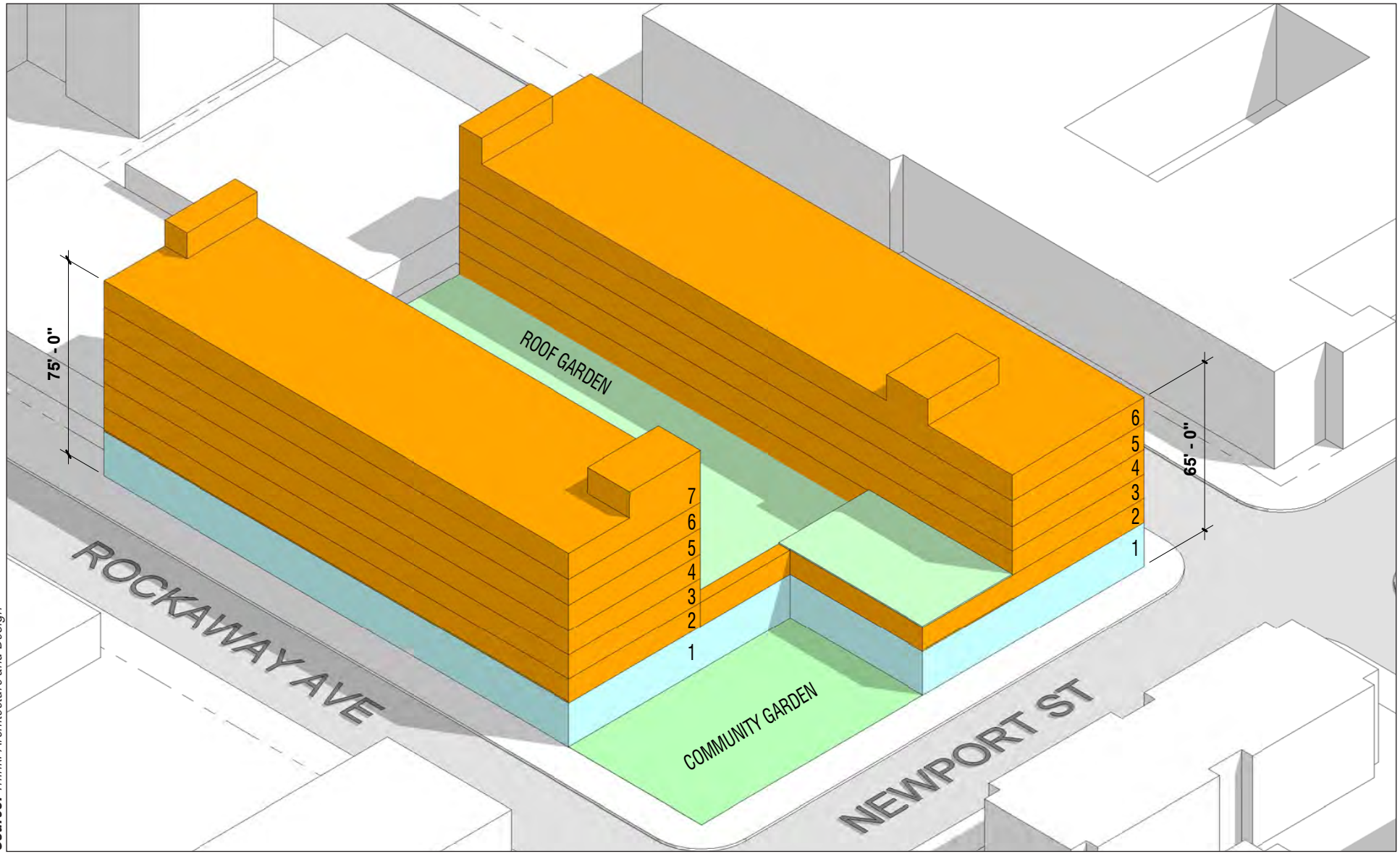
The Proposed Project would contain approximately 156,140 gsf of residential space, providing up to approximately 124 affordable DUs and 62 SH single-occupancy units. 124 affordable DUs are assessed in this Environmental Assessment Statement (EAS); however, the Applicant intends to



ILLUSTRATIVE SECTION

Illustrative Section
Figure A-1

1.31.20



Source: *Think! Architecture and Design*

Illustrative Massing

Figure A-2

1.31.20

Source: *Think! Architecture and Design*

Illustrative Rendering

Figure A-3

803 ROCKAWAY AVENUE REZONING

provide 100 affordable DUs. Approximately 3,040 gsf on the ground floor would be reserved for community facility space for a local nonprofit organization.[1]

The Proposed Project's supportive housing would be provided by The Bridge. The Bridge, founded in 1954, offers a comprehensive range of rehabilitative services, including mental health and substance abuse treatment, housing, vocational training, and job placement, health care, education, creative arts therapies, and care coordination. Supportive services for tenants of the Proposed Project would be provided by The Bridge.

The approximately 39,000 gsf of light manufacturing space on the ground floor would be divided among 10 spaces that would accommodate a range of light manufacturing tenants. These spaces would range in size from approximately 1,500 sf to 6,000 sf. The light manufacturing space would be managed by the Greenpoint Manufacturing and Design Center (GMDC). GMDC is the premier nonprofit industrial developer in New York City. Since its inception in 1992, GMDC has played a vital role in helping meet New York City's need for affordable, flexible production space for small- and medium-sized manufacturers and has rehabilitated seven manufacturing buildings in Brooklyn for occupancy by small manufacturing enterprises, artisans, and artists. GMDC's tenants generally tend to be fabricators that work with wood, metal, concrete, ceramics, paint, adhesives, or plaster, but may also include architecture studios, graphic design businesses, and other commercial establishments.

PROPOSED ACTIONS

The Proposed Project requires the following discretionary land use actions described below.

ZONING MAP AMENDMENT

The Applicant is seeking a zoning map amendment to change an existing M1-1 zoning district to an MX district (M1-4/R6A and M1-4/R7A equivalent districts) (see **Figure A-4**). The existing M1-1 district allows manufacturing and commercial developments to a floor area ratio (FAR) of 1. Community facility developments have a FAR of 2.4 in M1-1 districts. Residential use is not allowed in M1 districts. The proposed MX district would allow new residential development to FARs of 3.6 and 4.6, respectively. The R7A district would be mapped along Rockaway Avenue and the R6A district would be mapped along Thatford Avenue in order to maintain a consistent scale with the surrounding neighborhood. The M1-4 district would allow the light industrial uses expected to occupy the Proposed Project and would require no parking.

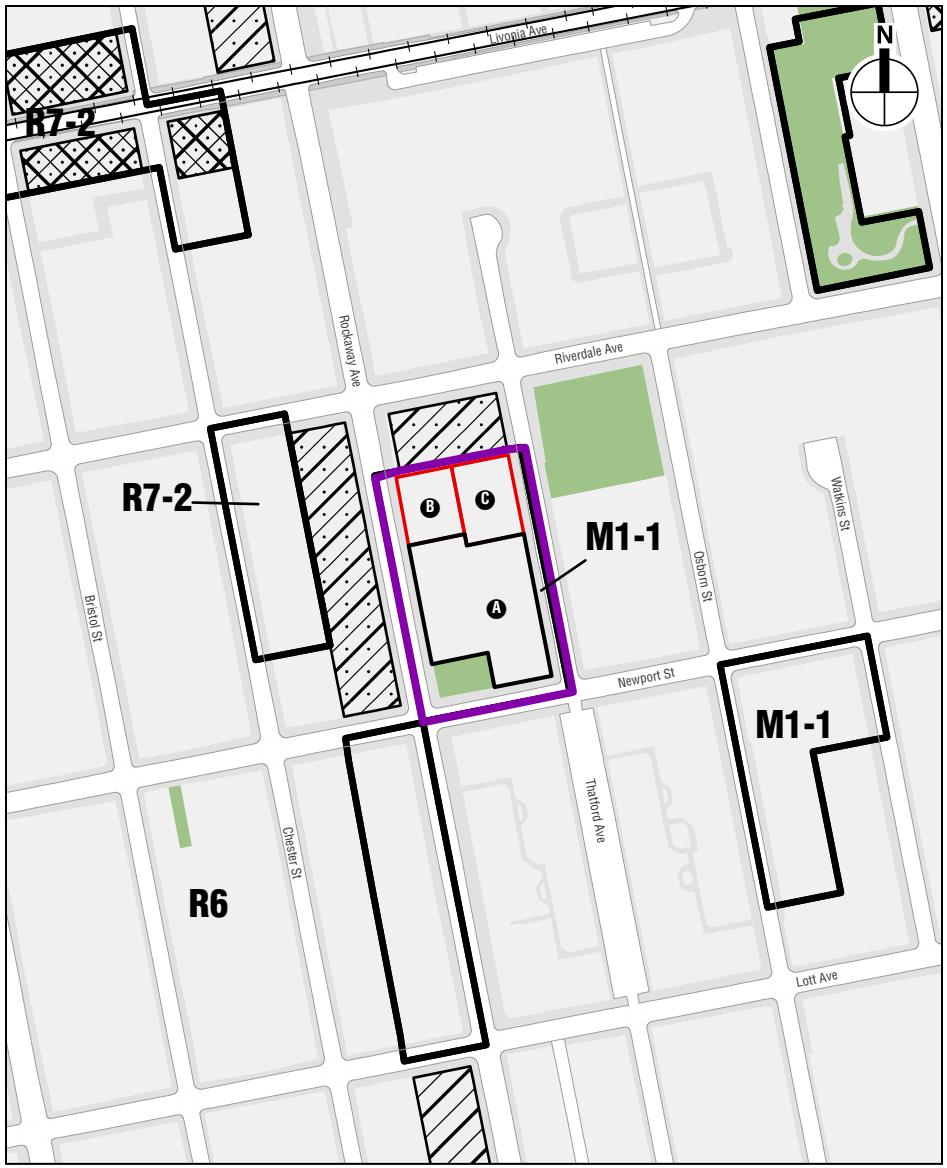
ZONING TEXT AMENDMENTS

The Applicant is seeking the following zoning text amendments:

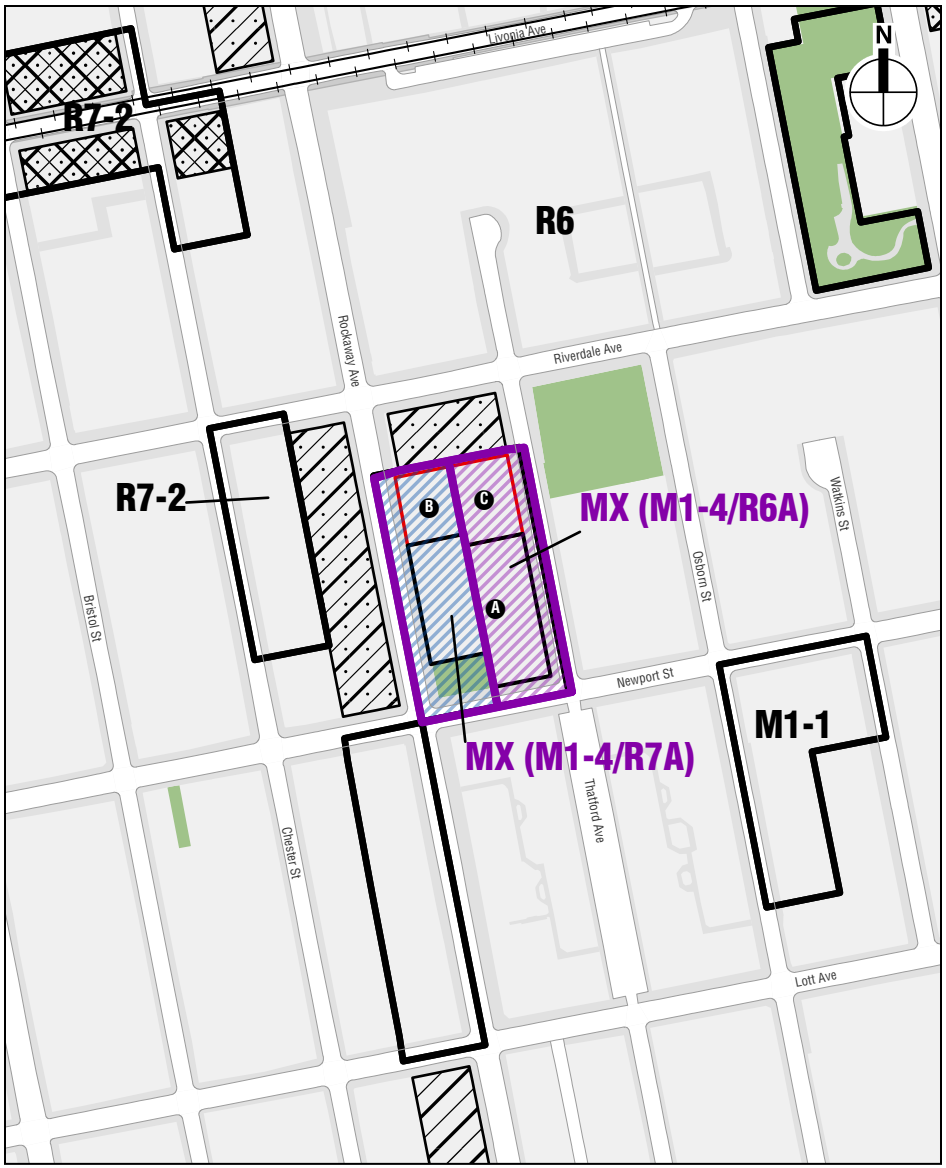
- Zoning text amendment to amend ZR Section 123-90 to create a new special mixed-use zoning district;
- Zoning text amendment to apply the floor area ratios set forth in ZR Section 23-154 to residential uses;
- Zoning text amendment to modify use regulations in the proposed MX district to allow a wider range of manufacturing uses in mixed-use buildings under certain conditions; and

[1] There may be de minimis changes between the Applicant's building program and the development analyzed in this EAS.

1/31/2020



Existing Zoning



Proposed Zoning

Data source: New York City Department of City Planning

Non-Applicant Controlled Development Site
Proposed Project Site
Rezoning Area
MX (M1-4/R6A)
MX (M1-4/R7A)
Zoning Districts
C1-3 Commercial Overlay District
C2-4 Commercial Overlay District
C2-3 Commercial Overlay District

0 400 FEET

803 ROCKAWAY AVENUE REZONING

Existing and Proposed Zoning
Figure A-4

- Zoning text amendment to ZR *Appendix F: Inclusionary Housing Designated Areas and Mandatory Inclusionary Housing Designated Areas* for Community District 16, Brooklyn to establish the Rezoning Area as an MIH Area.

The zoning text amendment would allow the location of the Use Groups 16 and 17 uses listed in ZR Section 123-222 within the Proposed Project upon the submission to the Department of Buildings of a restrictive declaration requiring the use of building design measures approved by the Department of Environmental Protection. For the Proposed Project on Site A, the building design requirements would include:

- Acoustic separation: two layers of 5/8" gypsum board suspended below structural beams with few plumbing penetrations, and inoperable windows for the ground-floor manufacturing spaces.
- Odor/vapor barrier and prevention: a mechanical ventilation system separate from the residential building will provide fresh air to and exhaust from the ground-floor, with vents running above the roof line of the residential towers. An odor/vapor barrier would also be applied to the structural slab separating the manufacturing and residential spaces.
- Vibration prevention: ceiling-mounted or high-impact equipment, as well as any equipment not located on the portion of the ground-floor building that is not slab-on-grade, will be installed on vibration isolators.

These measures have been developed carefully by the Applicant, GMDC, and a team of architects, engineers, construction managers, and code consultants to address any potential risk and nuisance posed by the combination of residential and manufacturing uses. In addition, the Proposed Project would be subject to all other applicable laws, including regulations concerning the storage and filing of specified substances and the New York City Building Code's structural slab requirements for fire separation between ground-floor manufacturing and upper-floor residential spaces.

In addition to the land use approvals listed above, the Applicant seeks funding from the New York City Department of Housing Preservation and Development's (HPD) Extremely Low- and Low-Income Affordability (ELLA) Program.

PURPOSE AND NEED

The Proposed Actions would facilitate the development of a mixed-use building providing needed affordable and supportive housing, along with community facility uses. In addition, new light manufacturing space would occupy the ground floor of the new building, providing needed employment opportunities.

The rezoning from an M1-1 district to an MX district (M1-4/R7A and M1-4/R6A districts) would allow for a mixed-use development that includes light manufacturing uses, community facility, and residential development. The mapping of the Rezoning Area as an MIH Area would ensure the provision of permanently affordable housing and advance New York City's goal of preserving and/or creating 300,000 affordable (including supportive) housing units by 2026.

The Rezoning Area is within the boundaries of the former Brownsville I Urban Renewal Area (URA). The Brownsville I Urban Renewal Plan (URP), which governed development on City-owned parcels within the URA, expired in 2007. Lot 7 (Newport Community Garden) and Lot 25 (Riverway Apartments) were former urban renewal sites. The development sites were never in City ownership.

In June 2017, HPD released the Brownsville Plan, which is the result of a community-based process to develop a shared vision and plan for the future of Brownsville. Working with residents,

elected officials, community-based organizations, and other government agencies, HPD held a series of public workshops and community meetings. The Brownsville Plan represents a $150 million investment that includes improvements to local parks and roadways, new housing opportunities on City-owned sites, new community space, retail space, a health center, and other improvements. Neighborhood strategies outlined in the Brownsville Plan include promoting active mixed-use corridors, improving connections within the neighborhood and to surrounding neighborhoods, creating active and safe public spaces, providing resources to support healthy lifestyles, connecting Brownsville residents to jobs and training, and supporting small businesses. The Brownville Plan identified Rockaway Avenue as a key corridor for mixed-use neighborhood development. The Proposed Project would support the revitalization of the Rockaway Avenue corridor with a vibrant mixed-use development.

FRAMEWORK FOR ANALYSIS

This document has been prepared in accordance with the guidelines presented in the 2014 *City Environmental Quality Review (CEQR) Technical Manual.* In addition to the Applicant's proposal, the zoning changes are projected to result in development on sites not controlled by the Applicant. Site B (Lot 19) is projected to be redeveloped with approximately 33 DUs, 11,471 gsf of ground-floor retail space and approximately 11,471 gsf of community facility space on the second floor. Site C (Lot 42) is projected to be developed with 43 DUs and approximately 14,840 sf of community facility space. In total, the Proposed Actions are projected to result in up to approximately 200 DUs (including 147 affordable DUs), 62 SH single-occupancy units, 39,000 gsf of light manufacturing space, 29,351 gsf of community facility space, and 11,471 gsf of local retail space (the "Projected Development"). Construction of the three projected developments is expected to be completed and fully occupied by 2023, which is the Build Year for the Proposed Actions. For each technical area, the analysis includes a description of the existing conditions, and an assessment of the conditions in the Future without the Proposed Actions (the "No Action" condition), and in the Future with the Proposed Actions (the "With Action" condition).

EXISTING CONDITIONS

The analysis framework begins with an assessment of existing conditions in the Rezoning Area, and in the relevant study areas because these can be most directly measured and observed. The assessment of the existing conditions does not represent the condition against which the Proposed Project is measured, but serves as a starting point for the projection of the No Action and With Action conditions, and the analysis of project impacts.

The Rezoning Area generally comprises Sites A, B, and C. The lot area of Site A is approximately 46,000 sf. The site is occupied with three, former industrial buildings on Lots 1, 10, 49, and 53 containing 34,000 sf of floor area and an unused parking lot on Lot 45. Site B is approximately 10,822 sf and contains 8,400 sf of retail space (a laundromat and nail salon). Site C is approximately 14,000 sf and is occupied by a building containing approximately 8,370 sf of manufacturing space and 8,370 sf of community facility space (a house of worship). In addition to Sites A, B, and C, the Rezoning Area includes a community garden (Newport Community Garden) on Lot 7 at the north east corner of Newport Street and Rockaway Avenue. Newport Community Garden is City-owned and maintained by the New York City Department of Parks and Recreation (NYC Parks). The garden is not identified as a development site because NYC Parks does not currently have plans to develop the site, therefore, it is not expected to be developed with the Proposed Actions.

The primary land use within 400 feet of the Rezoning Area is residential, with three-story attached row houses along Chester Street south of Newport Street, and three-story apartment buildings along Newport Street, and south of Newport Street between Rockaway Avenue and Osborn Street. Taller six-, seven-, and nine-story apartment houses are found along Riverdale Avenue between Chester and Osborn Streets. The site north-adjacent to the Rezoning Area (Lot 25) is occupied with Riverway Apartments, a 115-DU affordable housing development with on-site supportive services for seniors located on Riverdale Avenue between Thatford and Rockaway Avenues. Community facilities and institutional uses include P.S. 41, east of the Rezoning Area between Thatford Avenue and Osborn Street, and a house of worship midblock on Chester Street. Newport Playground, a New York City park, is located on Riverdale Avenue between Thatford Avenue and Osborn Street. Commercial uses are found along Rockaway Avenue, and to a lesser extent along Riverdale Avenue. Commercial uses generally include retail establishments such as grocery stores, laundromats, and convenience stores.

FUTURE WITHOUT THE PROPOSED ACTIONS

The No Action condition describes the future baseline condition to which the changes that are expected to result from the Proposed Actions are compared. In the No Action condition, it is assumed that the vacant former manufacturing building on Site A would be re-occupied with approximately 34,000 gsf of manufacturing uses. No other changes are expected within the Rezoning Area or within 400 feet of the Rezoning Area.

FUTURE WITH THE PROPOSED ACTIONS

The With Action condition describes the future condition in which the Proposed Actions are approved and implemented and the projected development generated under the zoning changes is operational. The Proposed Actions would result in the Projected Development on Sites A, B, and C totaling approximately 200 DUs (147 affordable DUs), 62 SH single-occupancy units, 11,471 gsf of retail space, 29,351 gsf of community facility space, and 39,000 gsf of light manufacturing space.

The Proposed Actions would rezone Site A to an R7A district along Rockaway Avenue and an R6A district along Thatford Avenue. Site A would be developed with a new mixed-use building containing up to approximately 124 affordable DUs, 62 SH single-occupancy units, 3,040 gsf of ground-floor community facility space, and approximately 39,000 gsf of light manufacturing space. The Proposed Project would include up to approximately 124 affordable DUs for families with household incomes at or below 60 percent of Area Median Income (AMI), and 62 SH single-occupancy units for formerly homeless individuals. The maximum permitted floor area under the Proposed Actions would be 186,670 zsf. The proposed total floor area would be approximately 186,289 zsf, including 105,157 zsf of residential space, 41,615 zsf of supportive housing space, 2,843 zsf of community facility space, and 36,674 zsf of light manufacturing space. The total gross floor area of the Proposed Project would be approximately 198,180 gsf, composed of 111,869 gsf of residential space, 44,271 gsf of supportive housing space, 3,040 gsf of community facility space, and 39,000 gsf of light manufacturing space.[2] The proposed building on Site A would have a maximum building height of 85 feet (7 stories) along Rockaway Avenue. The portion of the proposed building fronting Thatford and Newport Avenues would have a maximum height of 75 feet (6 stories). Site A would also include an approximately 12,000 sf planted roof garden (the

[2] There may be de minimis changes between the Applicant's building program and the development analyzed in this EAS.

"main garden") at the second story, and an approximately 3,000 sf terrace (the "upper garden") above the third story along Newport Street.

Site B would be rezoned to an MX district (M1-4/R7A with an FAR of 4.6) and contain an eight-story building with 33 DUs (including 10 affordable DUs), approximately 11,471 gsf of local retail space and approximately 11,471 gsf of community facility space on the second floor. Site C would be rezoned to an MX district (M1-4/R6A with an FAR of 3.6) and contain a seven-story building with 43 DUs (including 13 affordable DUs) and approximately 14,840 gsf of ground-floor community facility space.

The average DU size assumed for Sites A, B, and C is 900 sf. The average DU size for the SH units on Site A is approximately 700 sf. The height of the proposed building on Site A along Rockaway Avenue would be 85 feet and the height of the portion of the Proposed Project fronting on Thatford Avenue and Newport Street would be 75 feet; however, to ensure a conservative analysis, the EAS will assume the maximum building heights allowed under MIH. The building heights for Sites B and C assume the maximum height allowed for MIH buildings with qualifying ground floors, which is 95 feet for Site B (M1-4/R7A) and 85 feet for Site C (M1-4/R6A). The Reasonable Worst Case Development Scenario (RWCDS) is summarized below in **Table A-1**.

Table A-1
Reasonable Worst Case Development Scenario

Rezoning Area	No Action Condition				With Action Condition					Increment					
Sites	Retail	CF	MFG	PKG	Retail	SH	CF	MFG	DU	Retail	SH	CF	MFG	PKG	DU
Site A	0	0	34,000	0	0	62	3,040	39,000	124	0	62	3,040	5,000	0	124
Site B	8,400		0	2,422	11,471	0	11,471	0	33	3,071	0	11,471	0	-2,422	33
Site C	0	8,370	8,370	0	0	0	14,840	0	43	0	0	6,470	-8,370	0	34
Total	**8,400**	**8,370**	**42,370**	**2,422**	**11,471**	**62**	**29,351**	**39,000**	**200**	**3,071**	**62**	**20,981**	**-3,370**	**-2,422**	**200**

Source: AKRF, Inc.

B. SCREENING ASSESSMENTS

The identification of potential environmental impacts is based upon the comparison of the No Action and With Action conditions. In certain technical areas (e.g. traffic, air quality, and noise) the comparison can be quantified and the severity of impact rated in accordance with the *CEQR Technical Manual.* In other technical areas (e.g. urban design) the analysis is qualitative in nature. Because the supportive housing component of the Proposed Project would be restricted to individuals, the 62 SH single-occupancy units would not generate children and are not considered in the Community Facilities assessments of public schools and child care facilities. These assesments consider an increment of 200 DUs, as these family units are expected to generate children and place demand on schools and child care facilities. The methodology for each analysis is presented at the start of each technical analysis. As summarized below and in the following attachments to this EAS, the Proposed Actions would not result in any significant adverse environmental impacts.

LAND USE, ZONING, AND PUBLIC POLICY

See Attachment B, "Land Use, Zoning, and Public Policy."

SOCIOECONOMIC CONDITIONS

According to the *CEQR Technical Manual*, the six principal issues of concern with respect to socioeconomic conditions are whether a proposed action would result in significant adverse impacts due to (1) direct residential displacement; (2) direct business displacement; (3) indirect residential displacement; (4) indirect business displacement due to increased rents; (5) indirect business displacement due to retail market saturation; and (6) adverse effects on specific industries. A socioeconomic assessment should be conducted if an action may reasonably be expected to create substantial socioeconomic changes in an area. This can occur if an action would directly displace a residential population, affect substantial numbers of businesses or employees, or eliminate a business or institution that is unusually important to the community. It can also occur if an action would bring substantial new development that is markedly different from existing uses and activities in the neighborhood, and therefore would have the potential to lead to indirect displacement of businesses or residents from the area.

As detailed below, based on *CEQR Technical Manual* guidelines the Proposed Actions do not have the potential to result in significant adverse impacts with respect to any of the six socioeconomic issues of concern.

DIRECT RESIDENTIAL DISPLACEMENT

The Proposed Actions would not result in any direct displacement of residents because there are no residential DUs on the Proposed Project Site (Block 3603, Lots 1, 10, 45, 49, and 53) or projected development sites (Block 3603, Lots 19 and 42).

DIRECT BUSINESS DISPLACEMENT

The Proposed Actions would result in the direct displacement of four businesses with an estimated 21 workers from the projected development sites (Block 3603, Lots 19 and 42). The four businesses include a laundromat, a nail salon, a church, and a storage warehouse for a furniture store. The employment associated with the directly displaced businesses is not of an amount that could result in substantial socioeconomic changes (according to *CEQR Technical Manual* guidelines, projects that displace fewer than 100 employees do not warrant further assessment). In addition, the potentially displaced businesses are not uniquely dependent on their location, are not the subject of other regulations or publicly adopted plans aimed at their preservation, and do not serve a population uniquely dependent on their services at the development site. Therefore, further assessment of this concern is unwarranted.

INDIRECT RESIDENTIAL DISPLACEMENT

The CEQR concern with respect to indirect residential displacement is whether a project may introduce a trend or accelerate a trend of changing socioeconomic conditions that may potentially displace a vulnerable population to the extent that the socioeconomic character of the neighborhood would change. According to the *CEQR Technical Manual*, indirect effects can occur if a project would introduce a substantial new use that is markedly different from existing uses, development, and activities within the neighborhood. The *CEQR Technical Manual* also suggests that residential development of 200 units or less would typically not result in significant socioeconomic impacts. The Proposed Project is located in a dense residential neighborhood such that the population associated with an increment of 262 units of affordable and supportive housing, inclusive of62 single-occupanacy SH units, would not alter or accelerate socioeconomic trends. In addition, of the 200 incremental DUs, 147 would be affordable to households with an annual

income at or below 60 percent of AMI, and the supportive housing units would be for formerly homeless individuals. Therefore, the new households would not have substantially higher incomes than existing residents, and would not introduce a trend or accelerate a trend of changing socioeconomic conditions. Further analysis is not necessary as the Proposed Actions would not be expected to affect real estate market conditions.

INDIRECT BUSINESS DISPLACEMENT DUE TO INCREASED RENTS

The concern with respect to indirect business displacement due to increased rents is whether a project could lead to increases in property values, and thus rents, making it difficult for some businesses or institutions to remain in the area. According to the *CEQR Technical Manual*, indirect effects can occur if a project would introduce a substantial new use that is markedly different from existing uses, development, and activities within the neighborhood. Commercial development of 200,000 sf or less would typically not result in socioeconomic impacts. The Proposed Actions and associated RWCDS would result in an increment of 3,071 sf of commercial development. As such, a preliminary assessment of indirect business displacement due to increased rents is not warranted.

INDIRECT BUSINESS DISPLACEMENT DUE TO MARKET SATURATION

The concern with respect to indirect business displacement due to retail market saturation is whether a project would add to, or create, a retail concentration that may draw a substantial amount of sales from existing businesses within the study area to the extent that certain categories of business close and vacancies in the area increase, thus resulting in potential for disinvestment on local retail streets. Projects resulting in less than 200,000 gsf of retail on a single development site, or less than 200,000 gsf of retail that is regional-serving (not the type of retail that primarily serves the local population) on multiple sites would not typically result in socioeconomic impacts. The With Action condition includes a total of 11,471 gsf of retail space. Based on *CEQR Technical Manual* guidelines, an assessment of potential indirect business displacement due to retail market saturation (i.e., competition) is not warranted.

ADVERSE EFFECTS ON SPECIFIC INDUSTRIES

According to the *CEQR Technical Manual*, a significant adverse impact due to adverse effects on specific industries may occur if an action would quantifiably diminish the viability of a specific industry that has substantial economic value to the City's economy. The Proposed Actions would not significantly affect business conditions in any industry or any category of business within or outside the study area. Under the RWCDS, the Proposed Actions would directly displace four businesses with an estimated 21 employees. The potentially directly displaced businesses do not represent a critical mass of businesses within any City industry, category of business, or category of employment. Although all businesses are valuable to the City's economy, the goods and services offered by the potentially displaced uses (i.e., laundromat and storage) can be found elsewhere within the socioeconomic study area, within the broader trade area, and within the City as a whole. Furthermore, the products and services offered by the businesses that would potentially be displaced are not expected to be essential to the viability of other businesses within or outside the study area.

As described in the indirect business displacement discussion above, the Proposed Actions do not have the potential to result in significant indirect business displacement. Therefore, the Proposed Project would not indirectly substantially reduce employment or have an impact on the economic viability in any specific industry or category of business. As such, the Proposed Actions would not result in significant adverse impacts due to adverse effects on specific industries.

COMMUNITY FACILITIES AND SERVICES

See Attachment C, "Community Facilities and Services."

OPEN SPACE

See Attachment D, "Open Space."

SHADOWS

See Attachment E, "Shadows."

HISTORIC AND CULTURAL RESOURCES

Historic and cultural resources include both archaeological and architectural resources. The study area for archaeological resources is the Rezoning Area where disturbance from excavation and construction can be anticipated. In letters dated May 16, 2018 and December 11, 2019, the New York City Landmarks Preservation Commission (LPC) determined that the Rezoning Area is not archaeologically sensitive (see **Appendix 1**).

To evaluate potential effects due to on-site construction activities and to account for visual or contextual impacts, the study area for architectural resources is defined as extending 400 feet from the Rezoning Area. As defined in the New York City Department of Buildings' (DOB) *Technical Policy and Procedure Notice (TPPN) #10/88,* adjacent construction is defined as any construction activity that would occur within 90 feet of an architectural resource.[3] Consistent with the guidance of the *CEQR Technical Manual*, designated architectural resources that were analyzed include New York City Landmarks (NYCL), Interior Landmarks, Scenic Landmarks, and New York City Historic Districts (NYCHD); resources calendared for consideration as one of the above by the LPC; resources listed on or formally determined eligible for inclusion on the State and National Registers of Historic Places (S/NR) or contained within a district listed on or formally determined eligible for listing on the S/NR; resources recommended by the New York State Board for listing on the S/NR; and National Historic Landmarks (NHL). Additionally, a survey was conducted to identify any previously undesignated properties in the study area that appear to be potentially eligible for NYCL designation or S/NR listing ("potential architectural resources"). No such resources were identified.

The Rezoning Area comprises three sites (A, B, and C) and each site is occupied by one- or two-story brick buildings of utilitarian design. The buildings are not architecturally or historically significant and do not meet S/NR eligibility criteria. Therefore, there are no architectural resources in the Rezoning Area. In addition, there are no known architectural resources located within the 400-foot study area. No potential architectural resources (properties that appear to meet eligibility criteria for S/NR listing or NYCL designation) have been identified in the study area. The majority of buildings in the study area are a mix of newer construction and altered older structures, and the buildings in the study area do not meet S/NR eligibility criteria.

As there are no architectural resources in the Rezoning Area or the study area, there would be no significant adverse impacts on such resources. In a letter dated December 11, 2019, the New York

[3] *TPPN #10/88* was issued by DOB on June 6, 1988, to supplement New York City Building Code regulations with regard to historic structures. *TPPN #10/88* outlines procedures for the avoidance of damage to historic structures resulting from adjacent construction, defined as construction within a lateral distance of 90 feet from the historic resource.

City Landmarks Preservation Commission (LPC) confirmed that the Rezoning Area does not have any properties of architectural signifirance (see **Appendix 1**).

URBAN DESIGN AND VISUAL RESOURCES

See Attachment F, "Urban Design and Visual Resources."

NATURAL RESOURCES

A natural resources assessment is conducted when a natural resource is present on or near a project site and when an action involves the disturbance of that resource. The *CEQR Technical Manual* defines natural resources as water resources, including surface waterbodies and groundwater; wetland resources, including freshwater and tidal wetlands; upland resources, including beaches, dunes, and bluffs, thickets, grasslands, meadows and old fields, woodlands and forests, and gardens and other ornamental landscaping; and built resources, including piers and other waterfront structures. The Rezoning Area is occupied by single-story manufacturing buildings, vacant lots, and low-rise commercial buildings in a fully developed area of Brooklyn. There are no significant natural resources in the Rezoning Area, and the Proposed Project would not result in any significant adverse impacts on natural resources.

The Rezoning Area is located within the Jamaica Bay watershed (see **Appendix 2**).

HAZARDOUS MATERIALS

See Attachment G, "Hazardous Materials."

WATER AND SEWER INFRASTRUCTURE

The Proposed Actions would not result in an increase in the demand for water of more than 1 million gallons per day (gpd). In addition, the Proposed Actions would not result in development exceeding the thresholds of analysis for sewer infrastructure. The Rezoning Area is located in an area served by a combined sewer system, and the incremental development expected with the Proposed Actions would not exceed the applicable threshold for Brooklyn (400 DUs and/or 150,000 sf of commercial space). The Proposed Actions would therefore not result in any significant adverse impacts on water and sewer infrastructure.

SOLID WASTE AND SANITATION SERVICES

The *CEQR Technical Manual* specifies that few projects generate substantial amounts of solid waste (50 tons a week or more) that would result in a significant adverse impact. The Proposed Actions would result in development that generates less than 50 tons a week. Therefore, no further analysis is required. The Proposed Actions would not result in any significant adverse impacts to solid waste and sanitation services.

ENERGY

According to the *CEQR Technical Manual,* a detailed assessment of energy impacts would be limited to actions that could significantly affect the transmission or generation of energy or that generate significant consumption of energy. The Rezoning Area would be served by available energy suppliers, and the Proposed Actions are not expected to generate significant demand for energy. Therefore, no further analysis is required and the Proposed Project would not result in significant adverse impacts to the consumption or supply of energy.

TRANSPORTATION

See Attachment H, "Transportation."

AIR QUALITY

See Attachment I, "Air Quality."

GREENHOUSE GAS EMISSIONS

Increased greenhouse gas (GHG) emissions are changing the global climate, which is predicted to lead to wide-ranging effects on the environment, including rising sea levels, increases in temperature, and changes to precipitation levels. According to the *CEQR Technical Manual,* a GHG emissions assessment is typically included only for larger projects undergoing an Environmental Impact Statement (EIS), as well as certain cases when the project would undergo an EIS and would result in development of 350,000 sf or greater, is a City capital project, or includes large-scale power generation or has the potential to fundamentally change the City's solid waste management system. A GHG assessment has not been performed for the Proposed Actions because it does not meet the criteria which would warrant assessment.

NOISE

See Attachment J, "Noise."

PUBLIC HEALTH

The Proposed Actions would not result in any significant unmitigated adverse impacts to air quality, water quality, hazardous materials, noise, or any other CEQR analysis area. Therefore, no further analysis of public health is required, and no significant adverse impacts to public health are expected to occur.

NEIGHBORHOOD CHARACTER

As defined in the *CEQR Technical Manual,* neighborhood character is considered to be an amalgam of the various elements that define a neighborhood's distinct personality. These elements may include a neighborhood's land use, urban design, visual resources, historic resources, socioeconomics, traffic, and/or noise. An assessment of neighborhood character is generally needed when a Proposed Project has the potential to result in significant adverse impacts in any of the technical areas listed above, or when the Proposed Project may have moderate effects on several of the elements that define a neighborhood's character. The Proposed Actions would facilitate development of needed affordable and supportive housing, and increase employment opportunities by providing light manufacturing space for small- and medium-sized manufacturers. The Proposed Actions would enliven the streets surrounding the Project Sites by creating a consistent street wall, increasing pedestrian activity and supporting the expansion of commercial space along the Rockaway Avenue corridor. As discussed above and in the attachments to this EAS, the Proposed Actions would not have significant adverse impacts to or result in any moderate effects in these technical areas related to neighborhood character. Therefore, the Proposed Actions would not result in any significant adverse neighborhood character impacts and a detailed neighborhood character analysis is not warranted.

CONSTRUCTION

As with all construction projects, construction activities associated with the projected developments would result in temporary disruptions to the surrounding area, including occasional noise and dust. However, such effects would be temporary and would be limited to the construction period. Site preparation and predevelopment activities would entail the demolition of the buildings on the Project Site and subsequent construction of the Proposed Project. The construction components and logistics for the Proposed Project would be typical of the methods utilized in other building construction projects throughout New York City and not be substantially different than other construction done within the area. The proposed building would be constructed in a single phase with an anticipated construction period of approximately 23 months and would be considered short-term (i.e., fewer than two years) in accordance with the *CEQR Technical Manual*.

The Proposed Actions are also expected to result in new development on two projected developments sites in the Rezoning Area. The projected development on Sites B and C and the Proposed Project are expected to be completed and fully occupied by 2023. As described above, the buildings that would be developed at each of the two projected development sites would be smaller than the Proposed Project. It is anticipated that both of the projected development sites would be completed within an approximately 16 to 17 months construction period, and would therefore be considered short-term.

Construction resulting from the Proposed Actions would be carried out in accordance with New York City laws and regulations, which allow construction activities between 7:00 AM and 6:00 PM on weekdays. If work is required outside of normal construction hours, necessary approvals would be obtained from the appropriate agencies (i.e., DOB). During construction, all necessary measures would be implemented to ensure adherence to the New York City Air Pollution Control Code to minimize construction-related dust emissions. In addition, the construction under the Proposed Actions would comply with applicable control measures for construction noise. Construction noise is regulated by the New York City Noise Control Code and by the Environmental Protection Agency (EPA) noise emission standards for construction equipment. These federal and local requirements mandate that certain classifications of construction equipment and motor vehicles meet specified noise emissions standards. Furthermore, during construction, Maintenance and Protection of Traffic (MPT) plans would be developed for any necessary curb-lane and/or sidewalk closures that may be required. Approval of these plans and implementation of all temporary closures during construction would be coordinated with the New York City Department of Transportation's (DOT) Office of Construction Mitigation and Coordination (OCMC).

Overall, the duration and severity of potential construction effects would be short-term and adverse effects associated with the proposed construction activities would be minimized through implementation of the measures described above. Accordingly, the Proposed Actions would not result in significant adverse impacts during construction, and no further analysis is required. ✶

A. INTRODUCTION

This attachment assesses the potential impacts of the Proposed Actions on land use, zoning, and public policy as compared with conditions in the Future without the Proposed Actions (the "No Action" condition). As described in Attachment A, "Project Description," the Proposed Actions would facilitate the construction of affordable and supportive housing, light manufacturing space, retail space, and community facility space on Sites A, B, and C. The assessment concludes that the Proposed Project would be compatible with existing uses in the surrounding area, and would not result in any significant adverse impacts to land use, zoning, or public policy.

B. METHODOLOGY

The Rezoning Area is located in the Brownsville neighborhood of Brooklyn. The analysis of land use, zoning, and public policy assesses the area within 400 feet of the Rezoning Area, which is where the Proposed Actions could reasonably be expected to cause potential effects, according to the 2014 *City Environmental Quality Review (CEQR) Technical Manual*. The land use study area is generally bounded by Livonia Avenue to the north, Lott Avenue to the south, Bristol Street to the west, and Watkins Avenue to the east (see **Figure B-1**).

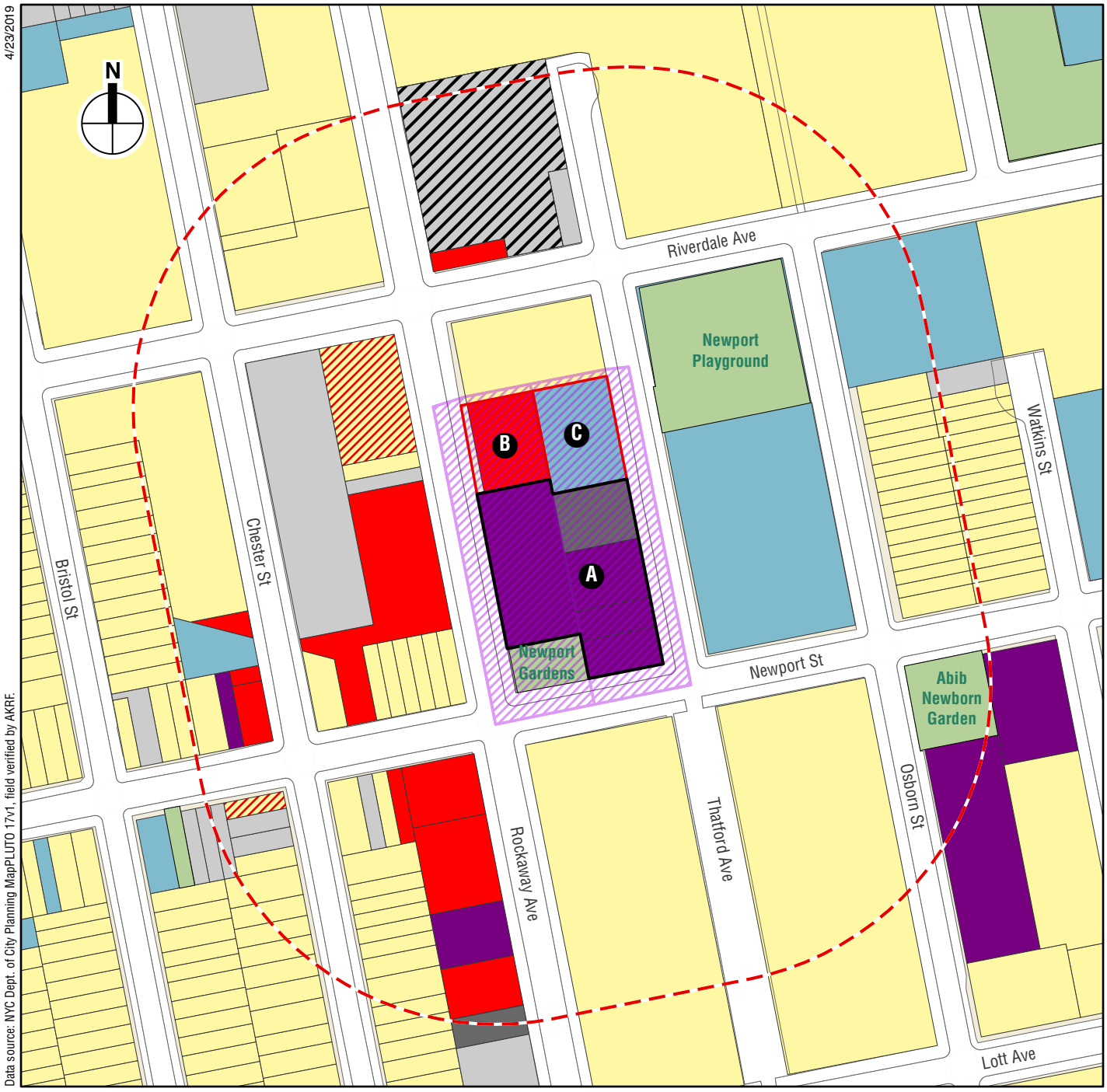
The analysis begins by considering existing conditions in the study area in terms of land use, zoning, and public policy. The analysis then considers land use, zoning, and public policy in the No Action condition in the 2023 Analysis Year by identifying developments and potential policy changes expected to occur within that timeframe. Probable impacts of the Proposed Actions are then identified by comparing conditions in the Future with the Proposed Actions (the "With Action" condition) with those conditions in No Action condition.

C. EXISTING CONDITIONS

LAND USE

REZONING AREA

The Rezoning Area is composed of Sites A, B, and C. Site A, bounded by Newport Street and Thatford and Rockaway Avenues, measures approximately 46,000 square feet (sf) and is occupied with three former industrial buildings on Lots 1, 10, 49, and 53 containing 34,000 sf of floor area and an unused parking lot on Lot 45. Site B, located on Rockaway Avenue, is approximately 10,822 sf and contains 8,400 sf of retail space (a laundromat and nail salon). Site C is approximately 14,000 sf and is occupied by a building containing approximately 8,370 sf of manufacturing space and 8,370 sf of community facility space (a house of worship). In addition to Sites A, B, and C, the Rezoning Area includes the Newport Community Garden on Lot 7 at the northeast corner of Newport Street and Rockaway Avenue. Newport Community Garden is City-



Existing Land Use

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Figure B-1

owned, and maintained by the New York City Department of Parks and Recreation (NYC Parks). A 10-foot wide swath of Lot 25 located north of Sites B and C is within the Rezoning Area. Lot 25 is occupied with Riverway Apartments, a 115-dwelling unit (DU) affordable housing development with on-site supportive services for seniors located on Riverdale Avenue between Thatford and Rockaway Avenues (see **Figure B-1**).

STUDY AREA

The primary land use within the 400-foot study area is residential, with three-story attached row houses along Chester Street south of Newport Street, and three-story apartment buildings along Newport Street, and south of Newport Street between Rockaway Avenue and Osborn Street. Taller six-, seven-, and nine-story apartment houses are located along Riverdale Avenue between Chester and Osborn Streets. The site north-adjacent to the Rezoning Area (Lot 25) is occupied with Riverway Apartments, a 115-DU affordable housing development with on-site supportive services for seniors located on Riverdale Avenue between Thatford and Rockaway Avenues. Community facilities and institutional uses include Public School 41, east of the Rezoning Area between Thatford and Osborn Street, and a house of worship located midblock on Chester Street. Newport Playground, a New York City park, is located on Riverdale Avenue between Thatford Avenue and Osborn Street. The block bounded by Riverdale and Rockaway Avenues and Newport and Chester Streets contains vacant land, retail space (a supermarket), residential, and mixed-residential with ground-floor retail space. The east side of Osborn Street is primarily residential; however, a Salvation Army community center, an institutional use, is located at the corner of Osborn Street and Riverdale Avenue. Commercial uses are located along Rockaway Avenue, and to a lesser extent along Riverdale Avenue. Commercial uses generally include retail establishments such as grocery stores, laundromats, and convenience stores (see **Figure B-1**).

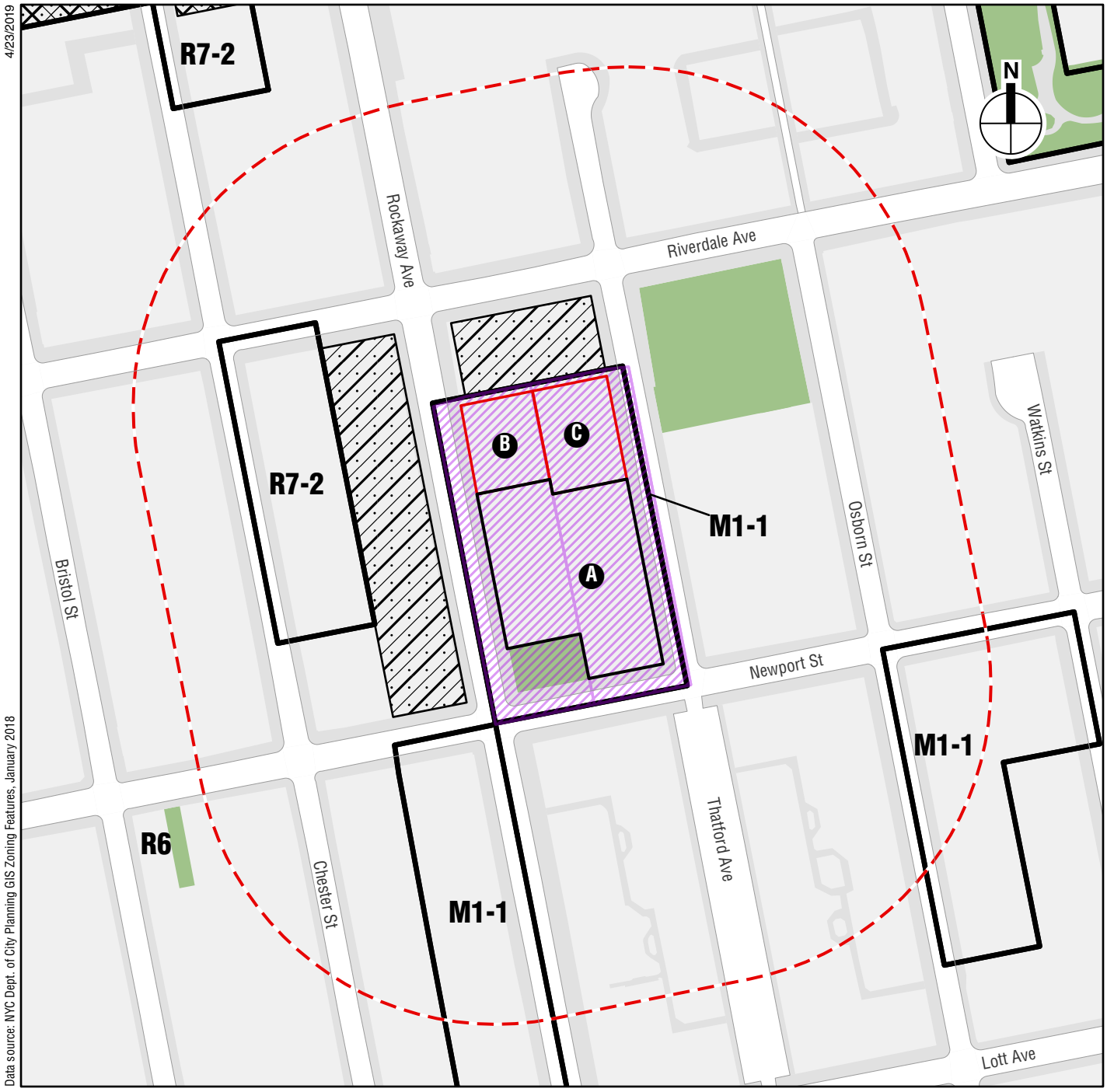
ZONING

REZONING AREA

The Rezoning Area is mapped with an M1-1 district. M1-1 zoning districts are manufacturing districts that typically include light industrial uses such as woodworking shops, repair shops, and wholesale service and storage facilities. Industrial uses are allowed in M1 districts provided they meet the stringent M1 performance standards. Office, hotels, and most retail uses are also permitted. M1-1 districts have a floor area ratio (FAR) of 1 for commercial and manufacturing uses and an FAR of 2.4 for community facility uses, with heights governed by a sky exposure plane. Parking is required. In December 2018, the New York City Council adopted a zoning text amendment to establish a New York City Planning Commission (CPC) Special Permit for new hotels in M1 districts citywide to limit the potential for conflicts between uses as well as achieve a balanced mix of uses and jobs in neighborhoods by ensuring that sufficient opportunities for industrial, commercial, and institutional growth remain. Existing zoning is shown in **Figure B-2**.

STUDY AREA

The study area is primarily mapped with an R6 district. A C2-3 commercial overlay is mapped along the east side of Rockaway Avenue, between Riverdale Avenue and Newport Street, and along the south side of Riverdale Avenue between Rockaway and Thatford Avenues. An R7-2 district is mapped on part of the west side of Chester Street, between Riverdale Avenue and Newport Street.



803 ROCKAWAY AVENUE REZONING

Existing Zoning
Figure B-2

R6 districts are medium-density residential districts that permit a wide variety of housing types. Buildings in R6 districts can be developed in accordance with either height factor or Quality Housing regulations. Standard height factor regulations produce small multifamily buildings on small zoning lots and, on larger lots, tall buildings that are set back from the street. Optional Quality Housing regulations produce high lot coverage buildings within height limits that often reflect the scale of older apartment buildings in the neighborhood that pre-date the New York City's 1961 Zoning Resolution.

Buildings developed pursuant to height factor regulations are often tall buildings set back from the street and surrounded by open space and on-site parking. The FAR in R6 districts ranges from 0.78 (for a single-story building) to 2.43 at a typical height of 13 stories; the open space ratio (OSR) ranges from 27.5 to 37.5. Generally, the more open space, the taller the building. There are no height limits for height factor buildings although they must be set within a sky exposure plane, which begins at a height of 60 feet above the street line and then slopes upward over the zoning lot.

The optional Quality Housing regulations produce high lot coverage buildings set at or near the street line. Height limitations ensure that these buildings are often more compatible with older buildings in the neighborhood. As an incentive for developers to choose the Quality Housing option outside the Manhattan Core, greater FAR is permitted for buildings on or within 100 feet of a wide street than would be permitted under height factor regulations. On a wide street, or a narrow street within 100 feet of a wide street, the FAR is 3.0; the maximum base height before setback is 65 feet with a maximum building height of 75 with a qualifying ground floor (70 feet without). On a narrow street (beyond 100 feet of a wide street), the maximum FAR is 2.2; the maximum base height before setback is 45 feet with a maximum building height of 55 feet. The area between a building's street wall and the street line must be planted and the buildings must have interior amenities for the residents pursuant to the Quality Housing Program. Higher maximum FAR and heights are available for buildings within MIH areas or that provide certain senior facilities.

Off-street parking is generally required for 70 percent of a building's DUs, but requirements are lower for income-restricted housing units (IRHUs) and are further modified in certain areas, such as within the Transit Zone and the Manhattan Core, or for lots less than 10,000 sf. Parking can be waived if five or fewer spaces are required.

C2-3 commercial overlay districts are mapped within residential districts along streets that serve local retail needs; they are found extensively throughout the City's lower- and medium-density areas and occasionally in higher-density districts. These districts preserve the underlying residential zoning regulations while allowing for ground-level retail uses in residential buildings. Typical retail uses include neighborhood grocery stores, restaurants, and beauty parlors, as well as a wider range of uses such as funeral homes. When mapped in R6 through R10 districts, the maximum commercial FAR is 2.0, and commercial buildings are subject to commercial bulk rules.

R7 districts are medium-density apartment house districts. Regulations for residential development in R7-1 and R7-2 districts are essentially the same except that R7-2 districts have lower parking requirements. Off-street parking is generally required for 50 percent of a building's DUs, but requirements are lower for income-restricted DUs and are further modified in certain areas, such as within the Transit Zone. The height factor regulations for R7 districts encourage lower apartment buildings on smaller zoning lots and, on larger lots, taller buildings with less lot coverage. As an alternative, developers may choose the optional Quality Housing regulations to build lower buildings with greater lot coverage.

Height factor buildings are often set back from the street and surrounded by open space and on-site parking. The FAR in R7 districts ranges from 0.87 to a high of 3.44; the OSR ranges from 15.5 to 25.5. As in other non-contextual districts, a taller building may be obtained by providing more open space. The maximum FAR is achievable only where the zoning lot is large enough to accommodate a practical building footprint as well as the required amount of open space. The building must be set within a sky exposure plane, which, in R7 districts, begins at a height of 60 feet above the street line and then slopes upward over the zoning lot.

The optional Quality Housing regulations in R7 districts utilize height limits to produce lower, high lot coverage buildings set at or near the street line. With floor area ratios that are equal to or greater than can be achieved in height factor buildings, the optional Quality Housing regulations produce new buildings in keeping with the scale of many traditional neighborhoods in New York City. Under the optional Quality Housing regulations, for buildings on wide streets, the FAR is 4.0 and the base height before setback is 40 feet to 75 feet with a maximum building height of 80 feet, or 85 feet if providing a qualifying ground floor. The maximum FAR on narrow streets is 3.44, and the base height before setback is 40 to 65 feet with a maximum building height of 75 feet. The area between a building's street wall and the street line must be planted, and the building must have interior amenities for residents pursuant to the Quality Housing Program. Under MIH, higher maximum FAR and building heights are allowed in R7-2 districts. For sites within 100 feet of a wide street, the R7-2 district allows a maximum FAR of 4.6 (3.6 is allowed beyond 100 feet of a wide street). A maximum height of 13 stories (or 135 feet) is allowed for buildings developed under MIH or that provide certain senior facilities.

PUBLIC POLICY

HOUSING NEW YORK 2.0

On May 5, 2014, the de Blasio administration released *Housing New York: A Five-Borough, Ten-Year Plan* (*Housing New York)*, a plan intended to build and preserve 200,000 affordable DUs over the coming decade to support New Yorkers with a range of incomes. The plan details the key policies and programs for implementation, including developing affordable housing on underused public and private sites. *Housing New York* calls for community engagement at the early stages of the planning process, so that community input informs land use and zoning changes intended to generate new affordable housing. Lastly, *Housing New York* calls for providing high-quality affordable housing to the most vulnerable residents of New York City. Investing in quality affordable housing for the City's special needs, homeless, and senior households, as well as for people with disabilities will reduce the demand for social expenditures in the long term and provide a more cost-efficient strategy for addressing a critical housing need. In October of 2017, the City released an update to the housing plan called *Housing New York 2.0*. With the update to the housing plan, the City announced a new goal of preserving and/or creating 300,000 affordable DUs by 2026.

ONE NEW YORK: THE PLAN FOR A STRONG AND JUST CITY

In April 2015, the de Blasio administration released *OneNYC*, a plan for growth, sustainability, resiliency, and equity. *OneNYC* is the update for the sustainability plan started under the Bloomberg administration, previously known as *PlaNYC 2030: A Greener, Greater New York.* While *OneNYC* still centers on growth, sustainability, and resiliency, the de Blasio administration added equity as a core principle to address the high poverty rate and rising income inequality. The new plan also addresses pressing issues such as population growth, aging infrastructure, and global

climate change. This plan is being fulfilled through multiple programs and initiatives, such as creating and preserving affordable housing.

FOOD RETAIL EXPANSION TO SUPPORT HEALTH PROGRAM

The Food Retail Expansion to Support Health (FRESH) program promotes the establishment and expansion of grocery stores in underserved communities through financial and zoning incentives for developers. These incentives include tax reductions, sales tax exemptions, additional development rights, and reductions in required parking. The Proposed Project is located in an area designated under the FRESH program as eligible for both zoning and discretionary tax incentives.

BROWNSVILLE PLAN

In June 2017, the New York City Department of Housing Preservation and Development (HPD) released the Brownsville Plan, which is the result of a community-based process to develop a shared vision and plan for the future of Brownsville. Working with residents, elected officials, community-based organizations, and other government agencies, HPD held a series of public workshops and community meetings. The Brownsville Plan represents a $150 million investment that includes improvements to local parks and roadways, new community space, retail space, a health center, and other improvements over the next 5 years. Neighborhood strategies outlined in the Brownsville Plan include promoting active mixed-use corridors, improving connections, creating active and safe public spaces, providing resources to support healthy lifestyles, connecting Brownsville residents to jobs and training, supporting small businesses and aspiring entrepreneurs, improving housing stability, and providing support and capacity building opportunities. Part of the plan included a Request for Proposals (RFPs) from developers to build on three groups of vacant, City-owned, sites in the neighborhood, including several along Livonia Avenue. In July 2018, HPD announced the designation of the development teams identified through the Brownsville RFP, which would provide for over 880 DUs to be built.

JAMAICA BAY WATERSHED PROTECTION PLAN

The Rezoning Area is located within the Jamaica Bay watershed. On July 20, 2005, Mayor Bloomberg signed a New York City Council bill requiring the New York City Department of Environmental Protection (DEP) to create a watershed protection plan for the watershed and sewershed of Jamaica Bay. The final *Jamaica Bay Watershed Protection Plan* was submitted to the City Council on October 1, 2007. The legislation established a pathway towards restoring and maintaining the water quality and ecological integrity of the Bay by evaluating threats to the Bay and coordinating environmental remediation and protection efforts in a focused and cost-effective manner.

D. THE FUTURE WITHOUT THE PROPOSED ACTIONS

LAND USE

In the No Action condition, it is assumed that the vacant former manufacturing building on Site A would be re-occupied with approximately 34,000 gsf of manufacturing space. No other changes are expected within the Rezoning Area, or within 400 feet of the Rezoning Area.

ZONING

No changes to zoning are expected within the Rezoning Area and study area.

PUBLIC POLICY

There are no changes to public policy that are expected to affect the Rezoning Area or the study area by 2023 in the No Action condition.

E. THE FUTURE WITH THE PROPOSED ACTIONS

LAND USE

REZONING AREA

With approval of the Proposed Actions, the Rezoning Area would change from being largely underutilized to a site containing three new mixed-use buildings. Site A would be developed with a six- and seven-story building containing affordable and supportive housing along with light manufacturing space and community facility space on the ground floor. Additional community facility within the Proposed Project would provide supportive services for supportive housing tenants, including mental health and substance abuse treatment, vocational training and job placement, health care, education, and creative arts therapies. The residential and ground-floor community facility entrance would be located on Newport Street. Light manufacturing uses would occupy the ground floor of the Proposed Project on Site A, with an entrance on Rockaway Avenue. Site B would contain a nine-story mixed-use building with ground-floor retail space, community facility space on the second floor, and housing above. The retail, light manufacturing, and community facility spaces would promote an active mixed-use corridor along Rockaway Avenue. Site C would contain an eight-story mixed-use building with community facility space on the ground floor and housing above.

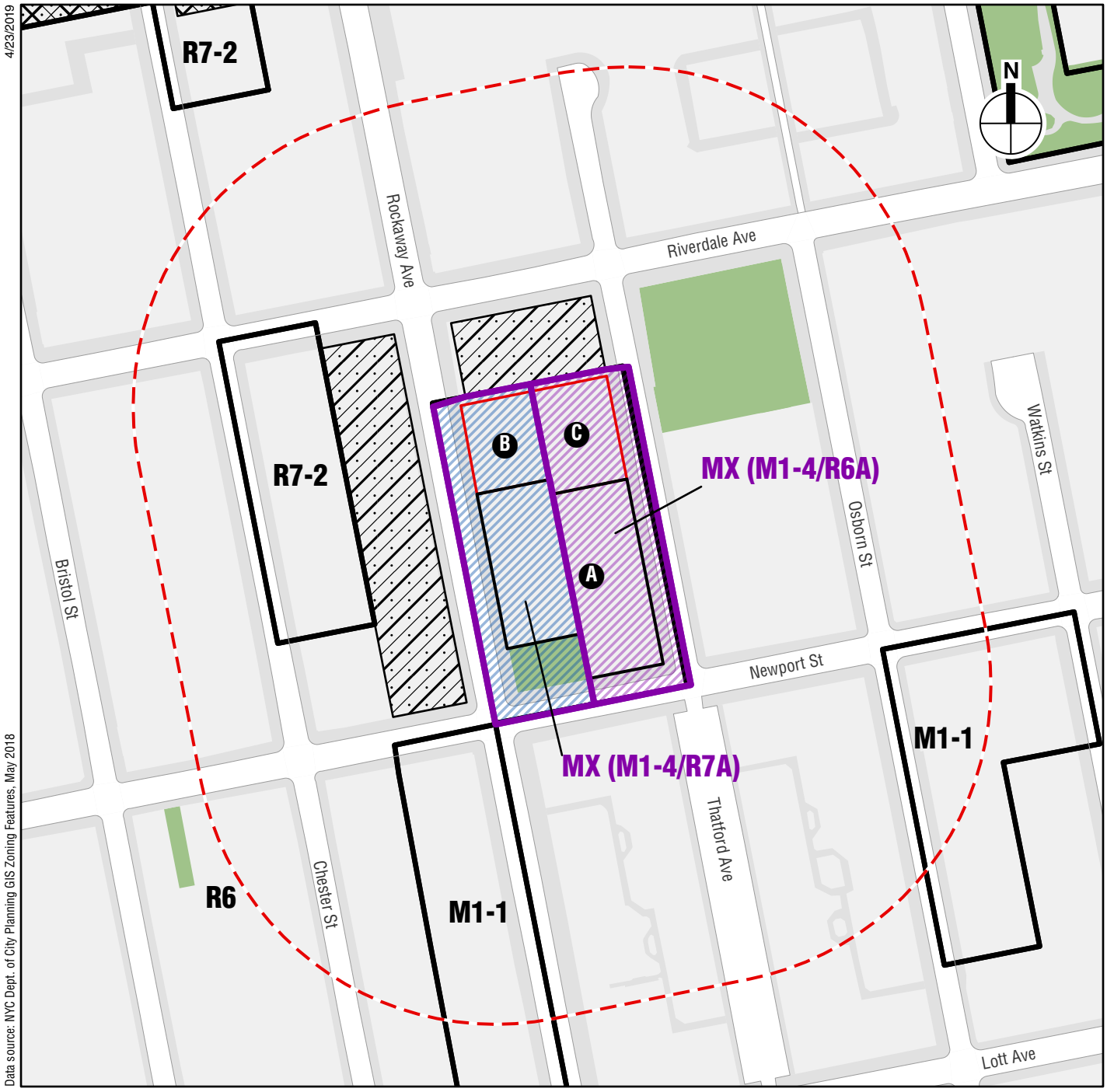
STUDY AREA

The land use changes generated by the Proposed Actions would be supportive of the largely residential character of the study area. The new land uses expected within the Rezoning Area would make more efficient use of the sites and provide public benefits in the form of new permanently affordable housing, supportive housing, and light manufacturing, retail and community facility space. The affordable and supportive housing would address an urgent need to house low-income families and formerly homeless individuals. On-site support services for formerly homeless individuals would help these individuals become successful and independent, providing a permanent solution to homelessness and thereby strengthening the community. The light manufacturing space provided with the Proposed Project would support economic activity by providing permanent manufacturing jobs for area residents and flexible production space for small and medium-sized manufacturers. The new light manufacturing and commercial space would enhance the commercial character of the Rockaway Avenue corridor.

ZONING

REZONING AREA

The Proposed Actions would change the existing M1-1 district to an MX district (M1-4/R6A and M1-4/R7A equivalent) (see **Figure B-3**). The existing M1-1 district allows manufacturing and commercial developments to an FAR of 1. Community facility developments have an FAR of 2.4 in M1-1 districts. Residential use is not allowed in M districts. The proposed M1-4/R6A and M1-4/R7A districts would allow new residential development to FARs of 3.6 and 4.6, respectively.



803 ROCKAWAY AVENUE REZONING

Proposed Zoning
Figure B-3

The R7A district would be mapped along Rockaway Avenue and the R6A district would be mapped along Thatford Avenue to maintain a consistent scale with the surrounding neighborhood. The M1-4 district would allow the light industrial uses expected to occupy the Proposed Project and would require no parking. In addition, no parking would be provided for the residential and supportive housing components of the Proposed Project. Zoning text amendments are being sought to create a new MX district, designate the Rezoning Area as an MIH Area in Appendix F of the Zoning Resolution, allow the floor area ratios set forth in ZR Section 23-154 to apply to residential uses, and modify use regulations in the proposed MX district to allow a wider range of manufacturing uses in mixed-use buildings under certain conditions.

An amendment to MX use regulations is necessary to permit a new mixed-use building with the types of manufacturing businesses anticipated to be tenants in the ground-floor manufacturing space. Current MX use regulations permit residential and community facility uses (Use Groups 2, 3, and 4) in the same building as or in a building sharing a wall with certain manufacturing uses as-of-right, and certain manufacturing uses only with restrictions (such restricted uses, the "Restricted MX Uses"). Specifically, Restricted MX Uses require certification by an architect or engineer to the Department of Buildings that such manufacturing use does not involve processes (a) with an environmental rating of A, B, or C under the New York City Administrative Code Section 24-153 or (b) require a Risk Management Plan under the City Right-to-Know Law. For example, a custom carpenter (Use Group 16A and one of the Restricted MX Uses) with dust collector equipment with a "C" rating on its air quality permit would not be permitted in the Proposed Project today. Many anticipated manufacturing tenants in the Proposed Project would be categorically excluded from occupying a mixed-use building in an MX district.

Existing MX use regulations, which were adopted in 1997, do not account for modern and environmentally conscious building design measures that would protect residents from industrial emissions and materials. The proposed zoning text amendment would permit tenants in Restricted MX Uses engaged in processes (a) with an environmental rating of A, B, or C under the New York City Administrative Code Section 24-153 and/or (b) that require a Risk Management Plan under the City Right-to-Know Law where the Department of Environmental Protection has approved a restrictive declaration, to be recorded against the property, requiring the mixed-use building to be constructed in accordance with certain building design requirements.

With respect to the Proposed Project, the proposed building design requirements include the following:

- Fire Separation: 2-hour structural slab separating ground floor manufacturing and upper-floor residential spaces.
- Acoustic Separation: In combination with the 2-hour structural slab, two layers of 5/8-inch gypsum board suspended below structural beams with few plumbing penetrations to achieve a noise criterion between NC 15 and NC 20 in order for the noise in the manufacturing areas to be unobtrusive. Inoperable windows at the ground-floor manufacturing spaces would also provide a noise barrier.
- Odor/Vapor Barrier: An odor/vapor barrier would be applied to the underside of the structural slab. Inoperable windows at ground-floor manufacturing space and separate mechanical ventilation would provide fresh air to and exhaust from the ground floor, with vents running above the roof line of the residential towers.
- Structure-Borne Vibration Measure: 75 percent of the ground floor would be slab-on-grade, such that there would be negligible transfer of vibration from typical floor-mounted equipment

to the building structure above. Ceiling mounted, or high-impact, equipment in this area would be mounted on vibration isolators.

The proposed text amendment would modify the uses that are permitted in the proposed MX district; however, the conditions for allowing such uses (i.e., the restrictive declaration requiring particular building design features) would minimize hazards and prevent the exposure of emissions, noise, odors, and vibration to residents of the Proposed Project and nearby residences. The proposed mix of uses would be compatible with surrounding land uses and would encourage investment in the neighborhood by permitting expansion and new development of a wider variety of manufacturing uses in a manner that ensures the health and safety of residents and workers. The proposed mix of uses would promote the opportunity for workers to live in the vicinity of their employment, and would enhance the vitality of the neighborhood.

STUDY AREA

The Proposed Actions would be consistent with the R6 and R7-2 zoning districts mapped within the study area. The density and bulk allowed under the proposed MX district (R6A and R7A residential equivalent districts) would be consistent with the FAR and bulk allowed under the R6 and R7-2 districts. The Proposed Actions would require residential uses to be developed pursuant to Quality Housing, producing residential and mixed-use buildings with street walls at the street line, consistent with recent development in the study area.

PUBLIC POLICY

HOUSING NEW YORK 2.0

As noted above, a major public policy goal in the City is to build or preserve 300,000 affordable DUs. The Proposed Project would help to achieve that goal by creating approximately 147 affordable DUs by 2023 for a range of household incomes, including permanent affordable housing through MIH. Therefore, the Proposed Project would be consistent with this policy. Further the Proposed Project would introduce 62 DUs of supportive housing and accompanying support services for formerly homeless individuals, providing unique housing opportunities for a subset of the population in need of, but often excluded from, housing.

ONE NEW YORK: THE PLAN FOR A STRONG AND JUST CITY

The mission of *OneNYC* is a plan for growth, sustainability, resiliency, and equity. The Proposed Actions would facilitate the development of three new buildings with 147 DUs of affordable housing, and another 62 units of supportive housing for formerly homeless individuals, who often find it very difficult to access quality housing. The creation of affordable housing and new jobs associated with the planned light manufacturing space would support *OneNYC*'s goals for growth. The proposed supportive housing and support services would be consistent with *OneNYC*'s goals of fostering a more equitable city. The new commercial and light manufacturing space along Rockaway Avenue would increase pedestrian activity, encouraging a healthier lifestyle, which would also support *OneNYC*'s goal of equity. For these reasons, the Proposed Actions would be supportive of *OneNYC*'s goals with respect to growth and equity.

BROWNSVILLE PLAN

The Proposed Actions would support the City's strategies for Brownsville as outlined in the Brownsville Plan by building new affordable housing, expanding retail opportunities, and creating

construction and permanent employment opportunities for neighborhood residents. The Proposed Project would activate the Rockaway Avenue corridor with ground-floor retail uses, consistent with the Brownsville Plan's neighborhood strategy of increasing access to services and amenities that bring activity to Brownsville's streets. The elimination of vacant lots and vacant antiquated manufacturing buildings entailed by the Proposed Project would also respond to the Brownsville Plan's strategy of improving connections throughout the neighborhood that reduce social isolation and improve safety by further integrating the neighborhood. The community facility space that would be provided by the Proposed Project would create high quality spaces for gathering, programming, and community building, as outlined in neighborhood strategy number three. Finally, the Applicant's commitment to long-term affordable housing under the Proposed Project would further the objectives of strategy number seven, "improving housing stability and support residents at risk of displacement." Through the Proposed Project, the Applicant intends to lay the groundwork for supporting a larger and more dynamic community in Brownsville.

Overall, the Proposed Actions would not result in significant adverse impacts to land use, zoning, or public policy. ✶

A. INTRODUCTION

This attachment assesses the potential impacts of the Proposed Actions on community facilities and services. The 2014 *City Environmental Quality Review (CEQR) Technical Manual* defines community facilities as public or publicly funded schools, child care centers, libraries, health care facilities, and fire and police protection services. The CEQR methodology focuses on direct effects on community facilities, such as when a facility is physically displaced or altered, and on indirect effects, which could come as a result of increased demand for community facilities and services generated by new users such as the new population that would result from the Proposed Actions.

The Proposed Actions would facilitate the creation of up to approximately 200 dwelling units (DUs) (including 147 affordable DUs), 62 single-occupancy supportive housing (SH) units, light manufacturing space, community facility space, and local retail space in the Brownsville neighborhood of Brooklyn, Community District 16. Because the supportive housing component of the Proposed Project would be restricted to individuals, the 62 SH single-occupancy units would not generate children and are not considered in the Community Facilities assessments of public schools and child care facilities. The Proposed Actions' net increment of 200 DUs would introduce a new residential population to the study area, which could result in increased demand for community facilities and services. Therefore, an assessment was conducted to determine whether the Proposed Actions would result in any indirect significant adverse impacts to community facilities. As detailed below, the Proposed Actions would not result in any significant adverse impacts on community facilities.

B. PRELIMINARY SCREENING

This analysis of community facilities has been conducted in accordance with *CEQR Technical Manual* methodologies and the latest data and guidance from agencies such as the New York City Department of Education (DOE) and the New York City Department of City Planning (DCP).

The purpose of the preliminary screening is to determine whether a community facilities assessment is warranted. As recommended by the *CEQR Technical Manual*, a community facilities assessment is warranted if a project has the potential to result in either direct or indirect effects on community facilities. If a project would physically alter a community facility, whether by displacement of the facility or other physical change, this "direct" effect triggers the need to assess the service delivery of the facility and the potential effect that the physical change may have on that service delivery. New population added to an area as a result of a project would use existing services, which may result in potential "indirect" effects on service delivery. Depending on the size, income characteristics, and age distribution of the new population, there may be indirect effects on public schools, libraries, or child care centers.

DIRECT EFFECTS

The Proposed Actions would not displace or otherwise directly affect any public schools, child care centers, libraries, health care facilities, or police and fire protection services facilities. Therefore, an analysis of direct effects is not warranted.

INDIRECT EFFECTS

The *CEQR Technical Manual* provides thresholds for guidance in making an initial determination of whether a detailed analysis is necessary to determine potential impacts due to indirect effects on community facilities. **Table C-1** lists those *CEQR Technical Manual* analysis thresholds for each community facility type. If a project exceeds the threshold for a specific facility type, a more detailed analysis is warranted. A preliminary screening analysis was conducted to determine if the Proposed Actions would exceed any of the *CEQR Technical Manual* thresholds.

Table C-1
Preliminary Screening Analysis Criteria

Community Facility	Threshold for Detailed Analysis
Public schools	More than 50 elementary/intermediate school or 150 high school students
Libraries	Greater than 5 percent increase in the ratio of DUs to libraries in the borough
Health care facilities (outpatient)	Introduction of a sizeable new neighborhood where none existed before[1]
Child care centers (publicly funded)	More than 20 eligible children based on the number of low- and low/moderate-income units by borough
Fire protection	Introduction of a sizeable new neighborhood where none existed before[1]
Police protection	Introduction of a sizeable new neighborhood where none existed before[1]

Note:
[1] The *CEQR Technical Manual* cites the Hunter's Point South project as an example of a project that would introduce a sizeable new neighborhood where none existed before. The Hunter's Point South project would introduce approximately 5,000 new DUs to the Hunter's Point South waterfront in Long Island City, Queens.
Source:
2014 *CEQR Technical Manual*

The Proposed Actions would result in new mixed-use development containing residential, retail, light manufacturing, and community facility uses. The Proposed Actions would result in the development of up to approximately 200 DUs, an increment of 200 DUs above the Future without the Proposed Actions (the "No Action" condition).

As described below, based on the screening criteria in **Table C-1**, detailed assessments of public schools (elementary and intermediate) and child care facilities are warranted. The Proposed Actions would not have the potential to create a significant adverse impact on public schools, libraries, health care facilities, or police and fire services; therefore, detailed analyses of indirect effects on high schools, libraries, health care facilities, and police and fire services are not warranted.

PUBLIC SCHOOLS

The *CEQR Technical Manual* recommends conducting a detailed analysis of public schools if a project would generate more than 50 elementary/intermediate school students and/or more than 150 high school students. The Proposed Actions would introduce an increment of 200 new DUs. The 62 SH single-occupancy units are not accounted for in the public schools assessment as they would not have the potential to generate school children. Based on the student generation rates

provided (0.14 elementary, 0.06 intermediate, and 0.05 high school students per DU in Brooklyn Community School District 23),[1] the Proposed Actions would generate approximately 28 elementary school students, 12 intermediate school students, and 10 high school students. The number of elementary/intermediate and high school students that would be added by the Proposed Actions does not exceed the *CEQR Technical Manual* threshold for analysis of potential effects on public schools; therefore, a detailed assessment of public schools is not warranted.

LIBRARIES

Potential impacts on libraries can result from an increased user population. According to the *CEQR Technical Manual*, a project that results in a 5 percent increase in the average number of DUs served per branch may cause a significant impact on library services and require further analysis. Table 6-1 of the *CEQR Technical Manual* identifies the minimum number of DUs in Brooklyn that trigger a detailed analysis of libraries, which is 743 DUs. The Proposed Actions would introduce an increment of 200 DUs and 62 supportive housing (SH) units. Therefore, as the Proposed Actions would not result in development above the CEQR threshold, a detailed analysis of libraries is not warranted.

CHILD CARE CENTERS

According to the *CEQR Technical Manual*, if a project would add more than 20 children eligible for child care to the study area's child care facilities, a detailed analysis of its impact on publicly funded child care facilities is warranted. This threshold is based on the number of low-income and low/moderate-income DUs introduced by a project. Low-income and low/moderate-income affordability levels are intended to approximate the financial eligibility criteria for publicly funded child care facilities established by the New York City Administration for Children's Services (ACS), which generally corresponds to 200 percent of the Federal Poverty Level (FPL) or 80 percent of Area Median Income (AMI). In Brooklyn, projects introducing 110 or more low- to moderate-income DUs would meet the threshold for analysis of introducing 20 or more children eligible for child care services. The Proposed Actions would introduce an increment of 147 new affordable DUs; therefore, a detailed assessment of child care centers is warranted.

HEALTH CARE FACILITIES

Health care facilities include public, proprietary, and nonprofit facilities that accept government funds (usually in the form of Medicare and Medicaid reimbursements) and that are available to any member of the community. Examples of these types of facilities include hospitals, nursing homes, clinics, and other facilities providing outpatient health services.

According to the *CEQR Technical Manual*, if a project would create a sizeable new neighborhood where none existed before, there may be increased demand on local public health care facilities, which may warrant further analysis of the potential for indirect impacts on outpatient health care facilities. The Proposed Project is located within Brownsville, which is a well-established residential neighborhood in central Brooklyn, and therefore would not result in the creation of a sizeable new neighborhood where none existed. In addition, the Proposed Actions would only

[1] The Projected Public School Ratio was developed utilizing the 2012–2016 American Community Survey Public Use Microdata Sample, and provided to AKRF by DCP Capital Planning in November of 2018.

introduce an increment of 262 new DUs (including SH units). Therefore, a detailed analysis of indirect effects on health care facilities is not warranted.

POLICE AND FIRE SERVICES

The *CEQR Technical Manual* recommends detailed analyses of impacts on police and fire service in cases where a project would affect the physical operations of, or direct access to and from, a precinct house or fire station, or where a project would create a sizeable new neighborhood where none existed. The Proposed Actions would not result in direct effects on either police or fire services, nor would it create a sizeable new neighborhood where none existed; therefore, no further analysis is warranted.

C. PUBLICLY FUNDED CHILD CARE CENTERS

METHODOLOGY

ACS provides subsidized child care in center-based group child care, family-based child care, informal child care, and Head Start programs. Publicly financed child care services are available for income-eligible children up to the age of 13 years. In order for a family to receive subsidized child care services, the family must meet specific financial and social eligibility criteria that are determined by federal, state, and local regulations. In general, children in families that have incomes at or below 200 percent FPL, depending on family size, are financially eligible, although in some cases eligibility can go up to 275 percent FPL. ACS has also noted that 60 percent of the population utilizing subsidized child care services are in receipt of Cash Assistance and have incomes below 100 percent FPL. The family must also have an approved "reason for care," such as involvement in a child welfare case or participation in a "welfare-to-work" program. Head Start is a federally funded child care program that provides children with half-day or full-day early childhood education; program eligibility is limited to families with incomes 130 percent or less FPL.

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

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

Since there are no locational requirements for enrollment in child care centers, and some parents or guardians choose a child care center close to their place of employment rather than their residence, the service areas of these facilities can be quite large and are not subject to strict delineation in order to identify a study area. According to the current methodology for child care

analyses in the *CEQR Technical Manual*, in general, the locations of publicly funded group child care centers within 1.5 miles of a development site should be shown, reflecting the fact that the centers closest to a given site are more likely to be subject to increased demand. Current enrollment data for the child care centers closest to the Rezoning Area were gathered from ACS.

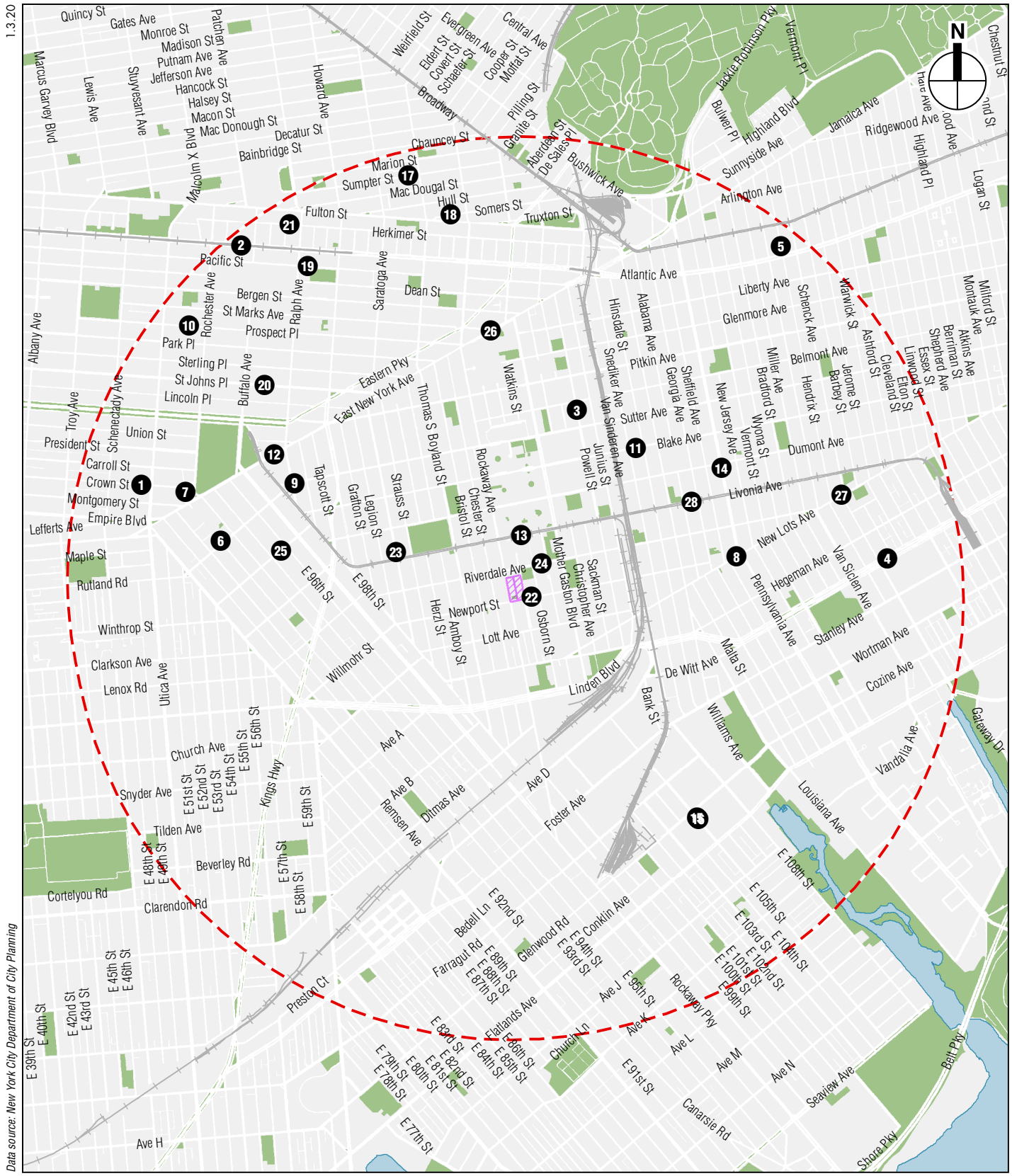
The child care enrollment in the No Action condition was estimated by multiplying the number of new low-income and low/moderate-income housing DUs expected in the 1.5-mile study area by the *CEQR Technical Manual* multipliers for estimating the number of children under age 6 eligible for publicly funded child care services (see *CEQR Technical Manual* Table 6-1b). For Brooklyn, the multiplier estimates 0.178 public child care-eligible children under age 6 per affordable housing DU.[2] The estimate of new public child care-eligible children was added to the existing child care enrollment to estimate enrollment in the No Action condition.

The child care-eligible population introduced by the Proposed Actions was also estimated using the *CEQR Technical Manual* child care multipliers. The population of public child care-eligible children under age 6 was added to the child care enrollment calculated in the No Action condition to determine the With Action enrollment population. According to the *CEQR Technical Manual*, if an action would result in a demand for slots greater than the remaining capacity of child care facilities, and if that demand constitutes an increase of 5 percentage points or more of the collective capacity of the child care facilities serving the respective study area, a significant adverse impact may result.

EXISTING CONDITIONS

There are 28 publicly funded child care facilities within the 1.5-mile study area (see **Figure C-1**). The child care and Head Start facilities have a total capacity of 2,974 slots and have a surplus of 436 slots (85.3 percent utilization). **Table C-2** shows the current capacity and enrollment for these facilities. Family-based child care facilities and informal care arrangements provide additional slots in the study area, but these slots are not included in the quantitative analysis.

[2] Low-income and low/moderate-income are the affordability levels used in the *CEQR Technical Manual*; and are intended to approximate the financial eligibility criteria established by ACS, which generally corresponds to 200 percent FPL or 80 percent of AMI.



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Child Care Facilities
Figure C-1

Table C-2
Publicly Funded Child Care Facilities Serving the Study Area

Map ID[1]	Name	Address	Enrollment	Capacity	Available Slots	Utilization
1	All My Children Daycare	771 Crown St	43	45	2	95%
2	Brooklyn Bureau Of Comm SVC	1825 Atlantic Ave	32	54	22	59%
3	Brooklyn Kindergarten SOC	232 Powell St	88	90	2	98%
4	Boulevard Nursery School Inc	2150 Linden Blvd	40	50	10	80%
5	Catholic Char N'hood Svc Inc	220 Hendrix St	28	31	3	89%
6	Community Parents Inc	60 East 93rd St	105	109	4	96%
7	Friends Of Crown Hgts Educ	36 Ford St	126	145	19	87%
8	Friends Of Crown Hgts Educ	370 New Lots Ave	100	114	14	88%
9	Friends of Crown Hgts Educ	20 Sutter Ave	74	95	21	78%
10	Friends of Crown Hgts Educ	1435 Prospect Pl	95	114	19	83%
11	Help Day Care	515 Blake Ave	84	88	4	96%
12	Inner Force Tots Inc	1181 East New York Ave	311	420	109	74%
13	Police Athletic League	280 Livonia Ave	185	206	21	90%
14	Police Athletic League	452 Pennsylvania Ave	103	120	17	86%
15	Recreation Rooms and Settlement	715 East 105th St	34	34	0	100%
16	Recreation Rooms and Settlement	717 East 105th St	70	78	8	90%
17	Shirley Chisholm DCC Inc	265 Sumpter St	52	54	2	96%
18	Shirley Chisholm DCC Inc	33 Somers St	118	122	4	97%
19	Shirley Chisholm DCC Inc	2023 Pacific St	116	129	13	90%
20	St Johns Place Family Ctr	1620 St John's Pl	37	76	39	49%
21	St Marks UMC Head Start Ctr	933 Herkimer St	116	120	4	97%
22	St Christopher-Ottilie	225 Newport St	65	65	0	100%
23	St Christopher-Ottilie	774 Saratoga Ave	96	112	16	86%
24	The Salvation Army	280 Riverdale Ave	63	72	9	87%
25	Traditional Day Care Ctr	1112 Winthrop St	59	64	5	92%
26	YWCA Of The City of NY	1592 East New York	30	36	6	83%
27	United Community DCC Inc	613 New Lots Ave	94	113	19	83%
28	University Settl SOC Of NY	565 Livonia Ave	174	218	44	80%
		Total	**2,538**	**2,974**	**436**	**85.3%**

Note: [1] See **Figure C-1**.
Source: ACS, June 2018.

THE FUTURE WITHOUT THE PROPOSED ACTIONS

By 2023, within the 1.5-mile study area, planned or proposed development projects will introduce approximately 3,411 new affordable housing DUs.[3] Based on the CEQR generation rates for the projection of children eligible for publicly funded day care multipliers, these developments would

[3] This estimate includes affordable units in categories of extremely low, very low, low, and moderate income found on HPD's Housing New York Mapper http://hpd.maps.arcgis.com/apps/webappviewer/index.html?id=192d198f84e04b8896e6b9cad8760f22, which would be occupied by households meeting the financial and social criteria for publicly funded child care, and also includes the number of affordable DUs (702 DUs) estimated to be built by the planned Marcus Garvey Expansion project by the analysis year.

introduce approximately 607 new children under the age of six who would be eligible for publicly funded child care programs.

Based on these assumptions, as seen in **Table C-3,** the number of available slots within the study area will decrease, resulting in a deficit of171 available slots. Consequently, utilization will increase to 105.7 percent.

Table C-3
Estimated Public Child Care Facility Enrollment, Capacity, and Utilization: No Action Condition

Analysis Period	Enrollment	Capacity	Available Slots	Utilization
Existing conditions	2,538	2,974	436	85.3%
No Action condition	3,145	2,974	-171	105.7%
Sources: ACS, June 2018; AKRF, Inc.				

THE FUTURE WITH THE PROPOSED ACTIONS

The Proposed Actions would introduce approximately 147 affordable DUs by 2023. As described above, eligibility for subsidized child care is established by ACS, and generally corresponds to 200 percent FPL or 80 percent of AMI or below. All 147 DUs would be affordable for families with a household income at or below 60 percent of AMI. Based on *CEQR Technical Manual* child care multipliers, the Proposed Actions would generate approximately 26 additional children under the age of six who would be eligible for publicly funded child care programs.

As shown in **Table C-4**, with the addition of these children under the age of six to the study area as a result of the Proposed Actions, child care facilities in the study area would operate at 106.6 percent utilization, with a deficit of 197 slots. Total enrollment in the study area would increase to 3,171 children, compared with a capacity of 2,974 slots, which represents an increase in the child care facility utilization rate by 0.87 percentage points over the No Action condition.

Table C-4
Estimated Public Child Care Facility Enrollment, Capacity, and Utilization: With Action Condition

Analysis Period	Enrollment	Capacity	Available Slots	Utilization	Change in Utilization
No Action condition	3,145	2,974	-171	105.7%	N/A
With Action condition	3,171	2,974	-197	106.6%	0.87%
Sources: ACS, June 2018; AKRF, Inc.					

As noted above, the *CEQR Technical Manual* indicates that if demand for child care slots is greater than the remaining capacity of child care facilities, and changes the utilization of facilities by over 5 percent, a significant adverse impact may be identified. Although the utilization rate exceeds 100 percent in the With Action condition, the change in utilization rate would be less than 5 percentage points; therefore, the Proposed Actions would not result in a significant adverse impact on the utilization of child care facilities. ✷

A. INTRODUCTION

This attachment assesses the potential impacts of the Proposed Actions on open space resources. Open space is defined in the 2014 *City Environmental Quality Review (CEQR) Technical Manual* as publicly accessible, publicly or privately owned land that is available for leisure, play, or sport, or serves to protect and enhance the natural environment. An open space assessment should be conducted if a project would have a direct effect on open space, such as eliminating or altering a public open space, or an indirect effect, such as when a substantial new population could place an added demand on an area's open spaces.

As discussed in Attachment A, "Project Description," the Proposed Actions would result in new residential and supportive housing and retail, manufacturing, and community facility space. As described below, the Proposed Actions would introduce development that would increase the residential population in the Rezoning Area. Therefore, in accordance with *CEQR Technical Manual* guidance, an open space assessment was conducted to determine whether the Proposed Actions would result in significant adverse open space impacts. This assessment finds that the Proposed Actions would not result in significant adverse open space impacts.

B. METHODOLOGY

As defined by the *CEQR Technical Manual*, public open space is accessible to the public on a constant and regular basis, including for designated daily periods. Public open space may be under government or private jurisdiction and typically includes city, state, and federal parkland, esplanades, and plazas designated through regulatory approvals such as zoning. Private open space is not publicly accessible or is available only to limited users. It is not available to the public on a regular or constant basis. Examples of private open space are natural areas with no public access, front and rear yards, rooftop recreational facilities, and stoops or landscaped grounds used by community facilities, such as public and private educational institutions, where the open space is accessible only to the institution-related population.

Open spaces can be characterized as either active or passive depending on the activities the space allows. In many cases, open space may be used for both active and passive recreation. Active open spaces are used for sports, exercise, or active play and consist primarily of recreational facilities. Passive open spaces are used for relaxation, such as sitting or strolling. Active and passive open spaces are further defined in Section C, "Existing Conditions."

DIRECT EFFECTS

According to the *CEQR Technical Manual*, a project would directly affect open space conditions if it causes the loss of public open space, changes the use of an open space so that it no longer serves the same user population, limits public access to an open space, or results in increased noise or air pollutant emissions, odor, or shadows that would temporarily or permanently affect the

utility of a public open space. This attachment will determine whether the Proposed Actions would directly impact any open spaces within, or in close proximity to, the Rezoning Area.

INDIRECT EFFECTS

As described in the *CEQR Technical Manual*, open space can be indirectly affected by a proposed action if a project would add enough population, either residential or non-residential, to noticeably diminish the capacity of open space in the area to serve the future population. Typically, an assessment of indirect effects is conducted when a project would introduce more than 200 residents or 500 workers to an area unless the project is located in an area well served or underserved in regards to open space. As the Rezoning Area is not located within an area that has been identified as either underserved or well served, the 200-resident and 500-worker thresholds for analysis were used.

In accordance with *CEQR Technical Manual* guidelines, the open space analysis and impact assessment is based on the anticipated development from the projected development sites. The Proposed Actions would generate a net increase of up to approximately 200 dwelling units (DUs) and 62 supportive housing (SH) units, which would introduce an estimated 648 residents[1] to the Rezoning Area as compared with the Future without the Proposed Actions (the "No Action" condition), exceeding CEQR thresholds for a quantitative open space analysis for the residential population. The Proposed Actions would introduce approximately 41 new workers,[2] which falls below the CEQR threshold of 500 new workers.

STUDY AREA

The *CEQR Technical Manual* recommends establishing a study area or areas as the first step in an open space assessment. The study areas are based on the distances that the respective users—workers and residents—are likely to walk to an open space. According to the *CEQR Technical Manual*, workers are assumed to walk approximately 10 minutes, or ¼-mile, from their place of work to an open space, while residents are assumed to walk approximately 20 minutes, or ½-mile, to an open space.

Because the Proposed Actions would only introduce new residential population above the 200-resident threshold, the adequacy of open space resources was assessed for the ½-mile (residential) study area. This study area was adjusted to include all census tracts with at least 50 percent of their area within the ½-mile boundary. In this way, the study area allows for analysis of both the open spaces in the area as well as information regarding the population most likely to utilize these open spaces. As shown in **Figure D-1**, the ½-mile residential study area includes the area within Census Tracts 890, 894, 896, 898, 910, 912, 916, 918, 920, 922, 924, and 1132.

As shown in **Figure D-1**, the residential study area is generally bounded by East New York Avenue to the north, Van Sinderen Avenue and Hinsdale Street to the east, Linden Boulevard to the south, and Rockaway Parkway to the west.

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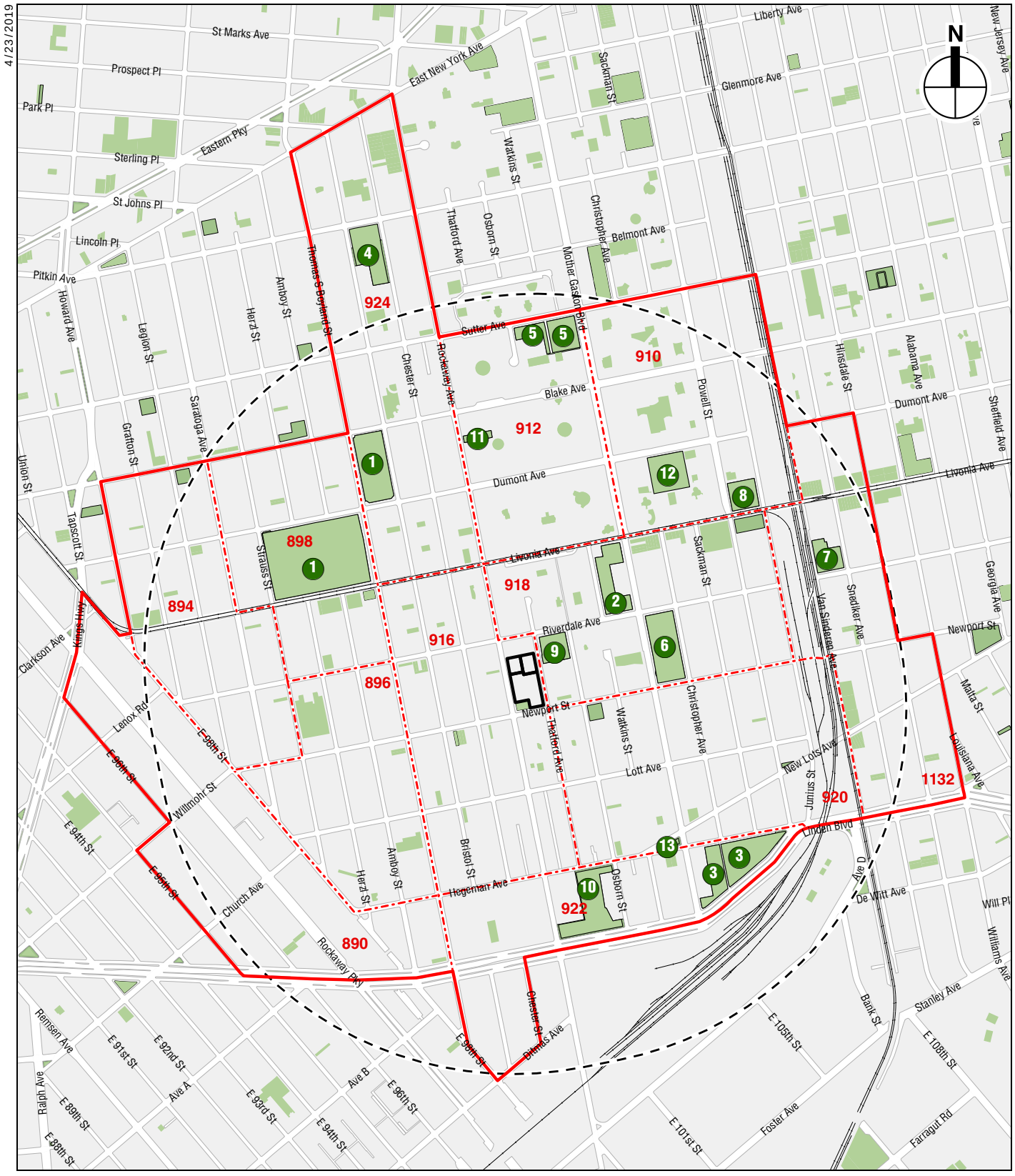
[1] Projected residential population is based on an estimated average household size of 2.93 persons per household (*Brooklyn Community District 16 Community Profile*, New York City Department of City Planning [DCP]) for non-SH units, and 1 person per household for SH units.

[2] Projected worker population is based on employment multipliers articulated in the Environmental Assessment Statement (EAS) form.



Open Space Study Area

Figure D-1

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ANALYSIS FRAMEWORK

The *CEQR Technical Manual* methodology suggests conducting an initial quantitative assessment to determine whether more detailed analyses are appropriate; however, it also recognizes that for projects that introduce a large population in an area that is neither well served nor underserved by open space, it may be clear that a full, detailed analysis should be conducted. Because the Proposed Actions would introduce a sizeable new residential population to the study area, a preliminary analysis was not performed and instead a detailed analysis was conducted.

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

- Characteristics of the open space study area residents. To determine the number of residents in the study areas, 2012–2016 American Community Survey (ACS) data have been compiled for census tracts composing the residential open space study areas.
- An inventory of all publicly accessible passive and active recreational facilities in the residential open space study area.
- An assessment of the quantitative ratio of open space in the study area conducted by computing the ratio of open space acreage to the residential population in the study area and comparing this open space ratio with certain guidelines. In New York City, local open space ratios vary widely, and the median ratio at the Citywide Community District (CD) level is 1.5 acres of open space per 1,000 residents. Typically, for the assessment of both direct and indirect effects, citywide local norms have been calculated for comparison and analysis. As a planning goal, a ratio of 2.5 acres per 1,000 residents represents an area well served by open spaces and is consequently used as an optimal benchmark for residential populations in large-scale proposals. Ideally, this would comprise 0.50 acres of passive space and 2.0 acres of active open space per 1,000 residents. For such large-scale projects (and for planning purposes), the City also seeks to attain its planning goal of a balance of 80 percent active open space and 20 percent passive open space. The City's planning goal is based, in part, on National Recreation and Park Association guidelines of 1.25 to 2.50 acres per 1,000 residents of neighborhood parks within ½-mile, 5.0 to 8.0 acres per 1,000 residents of community parks within 1 to 2 miles, and 5.0 to 10.0 acres per 1,000 residents of regional parks within a 1-hour drive of urban areas.
- An evaluation of qualitative factors affecting open space use.
- A determination of the adequacy of open space in the residential open space study area in the existing conditions and No Action condition and Future with the Proposed Actions (the "With Action" condition).
- An assessment of expected changes in future levels of open space supply and demand in the 2023 Analysis Year, based on other planned development projects within the open space study area. To estimate the population expected in the study areas in the No Action condition, an average household size of 2.93 persons is applied to the number of new housing DUs expected

in the study area located within Brooklyn CD 16.[3] Any new open space or recreational facilities that are anticipated to be operational by the Analysis Year are also accounted for. Open space ratios are calculated for the No Action and With Action conditions and then compared to determine changes in future levels of adequacy.

IMPACT ASSESSMENT

Impacts are based in part on how a project would change the open space ratios in the study areas. According to the *CEQR Technical Manual*, a decrease in the open space ratio is generally considered to be a significant adverse impact if it would approach or exceed 5 percent. If a study area exhibits a low open space ratio, indicating a shortfall of open space, smaller decreases in that ratio as a result of a proposed action may constitute significant adverse impacts. In addition to the quantitative factors cited above, the *CEQR Technical Manual* also recommends consideration of qualitative factors in assessing the potential for open space impacts. These include the availability of nearby destination resources, the beneficial effects of new open space resources provided by a project, and the comparison of projected open space ratios with established City guidelines. It is recognized that the open space ratios of the City guidelines presented are not feasible for many areas of the City, and they are not considered impact thresholds on their own. Rather, these are benchmarks that indicate how well an area is served by open space. When assessing the effects of a change in the open space ratio, the assessment should consider the balance of passive and active open space resources appropriate to support the affected population and the condition of existing open spaces within the study area.

Determinations as to what constitutes a significant adverse open space impact are not based solely on the results of the quantitative assessment. Qualitative considerations such as the distribution of open space, whether an area is considered well served or underserved by open space, the distance to regional parks, the connectivity of open space, and if any additional open space is provided by a project, should be considered in a determination of significance.

C. EXISTING CONDITIONS

STUDY AREA POPULATION

As shown in **Table D-1**, 2012–2016 ACS data indicate that the study area has a residential population of approximately 45,784.

[3] Assumes 2.93 persons per household in Brooklyn CD 16 (*Brooklyn Community District 16 Community Profile*, DCP).

Table D-1
Study Area Residential Population[1]

Census Tract	Residential Population
890	6,370
894	3,794
896	3,471
898	1,676
910	5,201
912	6,920
916	4,202
918	2,759
920	3,229
922	2,909
924	3,314
1132	1,939
Study Area Total	**45,784**

Note:
[1] See **Figure D-1** for a map of census tracts included in the study area.
Sources:
U.S. Census Bureau, ACS 2012–2016 5-Year Estimates

AGE DISTRIBUTION

The age distribution of the residential population affects the way open spaces are utilized and the various recreational facilities needed for the community. As outlined in the *CEQR Technical Manual,* children 4 years old or younger typically use traditional playgrounds that have play equipment for toddlers and preschool children. Children 5 years old through 9 years old use traditional playgrounds as well as grassy and hard-surfaced open spaces, which are important for activities, such as ball playing, running, and skipping rope. Children 10 years old through 14 years old use playground equipment, court spaces, little league fields, and other sports fields. Teenagers and young adults use court game facilities such as handball and basketball courts, and larger open spaces for field sports. Adults 20 years old through 64 years old continue to use court game facilities and fields for sports, and also engage in more individualized recreation activities, such as cycling and jogging, which require bike paths, promenades, and other vehicle-free roadways. For these activities, adults have greater mobility to seek active recreation outside of the ½-mile study area. Adults also gather with families for picnicking, ad hoc active sports, such as Frisbee, as well as recreational activities in which all ages can participate. Seniors engage in active recreation, such as handball, tennis, and swimming, as well as recreation that requires passive facilities.

Table D-2 summarizes the distribution of the study area's residential population by age group and compares this age distribution to those of Brooklyn and New York City. As shown below, the study area's age distribution is broadly in line with those of Brooklyn and New York City. Roughly 6 percent of the population in the study area, Brooklyn, and New York City are between 5 years old and 9 years old. The study area has a slightly higher percentage of its population between 10 years old and 17 years old (12.0 percent) compared to Brooklyn or New York City (9.5 and 8.9 percent, respectively). Correspondingly, the study area has a slightly lower percentage of the population between 18 years old and 64 years old (61.3 percent) compared to Brooklyn and New York City (64.5 and 65.8 percent, respectively).

Table D-2
Study Area Residential Population Age Distribution

Age Category	Study Area		Brooklyn		New York City	
	Persons	Percent	Persons	Percent	Persons	Percent
Under 5 Years	3,604	7.9%	193,851	7.4%	555,383	6.6%
5 to 9 Years	2,894	6.3%	166,770	6.4%	487,643	5.8%
10 to 17 Years	5,494	12.0%	247,748	9.5%	750,835	8.9%
18 to 64 Years	28,058	61.3%	1,680,908	64.5%	5,568,784	65.8%
65 Years and Over	5,734	12.5%	317,575	12.2%	1,099,330	12.0%
Total	**45,784**	**100.0%**	**2,606,852**	**100.00%**	**8,461,975**	**100%**

Source: U.S. Census Bureau, ACS 2012–2016 5-Year Estimates

INVENTORY OF PUBLICLY ACCESSIBLE OPEN SPACE

According to the *CEQR Technical Manual*, open space may be publicly or privately owned and utilized for active or passive recreation. In accordance with the *CEQR Technical Manual*, publicly accessible open space is defined as facilities open to the public at designated hours on a regular basis and is assessed for impacts using both quantitative and qualitative analysis. Private open space is not accessible to the general public on a regular basis and is only considered qualitatively. In addition to residential buildings, most New York City Housing Authority (NYCHA) developments contain ancillary facilities for residents, including community centers, child care facilities, and recreational amenities, such as basketball courts, seating areas, and play structures. Because these open spaces are accessory to the residential use of NYCHA developments, they are not included in the quantitative analysis and only discussed in the qualitative analysis. Similarly, community gardens located within the study area, including gardens operated by the New York City Department of Parks and Recreation (NYC Parks) GreenThumb program, or gardens or other open spaces located on property operated by a private entity, such as a foundation or local community development organization, are considered in the qualitative analysis only. Field surveys and secondary sources were used to determine the number, utilization, and condition of publicly accessible open space resources within the study area.

An open space is determined to be active or passive by the uses that the space is designed to allow. Active open space is part of a facility used for active play, such as organized sports, or other exercise, that may include features such as playground equipment, swimming pools, baseball fields, skating rinks, and handball courts. Passive open space is used for activities like sitting or strolling and is designed for relaxation with features such as benches, chess tables, walkways, and picnicking areas. Some open spaces can be utilized for both active and passive recreation; a riverfront walkway can be used for passive activities, such as walking, and can also be used for more active activities, such as cycling.

RESIDENTIAL (½-MILE STUDY AREA)

As shown in **Table D-3** and **Figure D-1**, the study area contains a total of approximately 26.60 acres of publicly accessible open space. Of this total space, approximately 23.25 acres can be classified as active open space and approximately 3.35 acres can be classified as passive open space.

Table D-3
Inventory of Publicly Accessible Open Space

Map ID No.	Name	Location	Owner	Total Acres	Active		Passive		Condition	Utilization	Amenities
					Acres	Percent	Acres	Percent			
1	Betsy Head Memorial Park and Imagination Playground*	Blake Avenue, Dumont Avenue, and Livonia Avenue between Strauss Street, Hopkinson Avenue, and Bristol Street	NYC Parks	10.55	10.02	95%	0.53	5%	Under Renovation	N/A	Baseball fields, bathrooms, handball courts, playgrounds, running tracks, recreational centers, basketball courts, football fields, outdoor pool
2	Nehemiah Park	Watkins Street, Mother Gaston Boulevard, Livonia Avenue, and Riverdale Avenue	NYC Parks	1.65	1.24	75%	0.41	25%	Fair	Moderate	Handball courts, playground, spray showers
3	Brownsville Playground	Hegeman Avenue, Linden Boulevard between Powell Street and Mother Gaston Boulevard	NYC Parks	3.02	2.72	90%	0.30	10%	Good	Moderate	Basketball courts, turf field, handball courts, seating area, playgrounds, picnic tables, recreation center, blacktop, Wi-Fi hot spots, fitness equipment, indoor pool
4	Chester Playground	Chester Street to Bristol Street between Sutter Avenue and Pitkin Avenue	DOE and NYC Parks	1.00	0.90	90%	0.10	10%	Fair	Low	Baby swings, basketball court, benches, chess tables, concrete field, handball court, play structures, playground, restrooms, trees, water fountain
5	Dr. Green Playground	Mother Gaston Boulevard and Sutter Avenue	DOE and NYC Parks	1.79	1.52	85%	0.27	15%	Good	High	Baseball field, basketball court, benches, chess tables, concrete field, handball court, play structures, playground, restrooms, water elements, water fountain
6	Floyd Patterson Ballfields	Christopher Avenue, Riverdale Avenue, Newport Street, and Mother Gaston Boulevard	NYC Parks	2.30	2.30	100%	0.00	0%	Fair	Low	Baseball field, landscaping, water fountain
7	Lion's Pride Playground	Van Sinderen Avenue	NYC Parks	0.86	0.69	80%	0.17	20%	Fair	Low	Baby swings, benches, picnic tables, play structures, playground, water elements, water fountain
8	Livonia Park	Livonia Avenue between Powell Street and Junius Street	NYC Parks	0.92	0.0	0%	0.92	100%	Fair	Low	Benches, chess tables, landscaping, trees
9	Newport Playground*	Riverdale Avenue between Thatford Avenue and Osborn Street	NYC Parks	0.92	0.83	90%	0.09	10%	Under Renovation	N/A	Children's play area, comfort station, synthetic turf, running track, basketball court, spray showers
10	Osborn Playground	Linden Boulevard, Osborn Street, Rockaway Avenue, and Hegeman Avenue	NYC Parks	1.90	1.52	80%	0.38	20%	Fair	Moderate	Baby swings, basketball court, benches, chess tables, concrete field, handball court, picnic tables, play structures, playground, restrooms
11	P.S. 125 Playground	Rockaway Avenue between Blake Avenue and Dumont Avenue	DOE and NYC Parks	0.21	0.21	100%	0.00	0%	Fair	Moderate	Basketball court, benches, play structures
12	Van Dyke Playground	Dumont Avenue between Powell Street and Mother Gaston Boulevard	NYC Parks	1.40	1.28	90%	0.14	10%	Good	Moderate	Baby swings, basketball court, chess tables, handball court, landscaping, picnic tables, play structures, playground, tables/chairs, trees, water fountain
13	Veterans Triangle	Hegeman Avenue and New Lots Avenue between Watkins Street and Mother Gaston Boulevard	NYC Parks	0.03	0.03	0%	0.03	100%	Fair	Moderate	Benches, chess tables, landscaping
Existing Condition Totals				**26.55**	**23.21**	**87%**	**3.34**	**13%**	—	—	—

Notes:
* Resources expected to undergo planned renovation by Build Year. Future active and passive open space acreage on these resources is assumed to remain unchanged from existing conditions.
See **Figure D-1** for a map of open space resources.
Sources:
NYC Parks, NYC MapPLUTO, AKRF Fieldwork conducted in May 2018

The largest open spaces within the study area are Betsy Head Memorial Park ("Betsy Head Park") and the adjacent Imagination Playground at Betsy Head Park. Together these two sites encompass approximately 11 acres of publicly accessible open space (with Betsy Head Memorial Park totaling 8.32 acres and the Imagination Playground totaling 2.47 acres). Betsy Head Park is bounded by Dumont Avenue to the north, Thomas S. Boyland Street to the east, Livonia Avenue to the south, and Strauss Street to the west; the nearby Imagination Playground at Betsy Head Park is bounded by Blake Avenue to the north, Bristol Street to the east, Dumont Avenue to the south, and Thomas S. Boyland Street to the west. Together the two parks contain two baseball fields, bathroom facilities, eight handball courts, two basketball courts, a running track, a children's play structure, and an outdoor pool.

Beyond Betsy Head Park, only the Brownsville Playground and Floyd Patterson Ballfields offer recreational spaces in excess of 2 acres. The 3-acre Brownsville Playground is primarily designed for active recreation and contains basketball courts, handball courts, a baseball court, a turf field, and a blacktop play space. The Brownsville Playground also features passive amenities, including benches, chess tables, and provides public Wi-Fi. The Floyd Patterson Ballfields is 2.30 acres and contains two baseball fields and benches for spectators. In addition, on the southern portion of the site, there is a small seating area and historic marker providing information on the history of Floyd Patterson and the park.

The remaining open space resources range in size from small single lot open spaces to larger neighborhood playgrounds. These resources include the 1.90-acre Osborn Playground, the 1.79-acre Dr. Green Playground, the 1.65-acre Nehemiah Park, the 1.40-acre Van Dyke Playground, and the 0.92-acre Newport Playground. Amenities found within the publicly accessible open spaces within the study area include basketball courts, children's play equipment, benches and other seating areas, children's swings, landscaped green spaces, spray showers, and other amenities for both active and passive recreation. Individual amenities at each open space are described in **Table D-3**.

In addition to the open spaces addressed quantitatively in **Table D-3**, there are other open space resources available to study area residents, including open spaces found on NYCHA properties and community gardens. These open spaces are discussed qualitatively below.

ASSESSMENT OF OPEN SPACE ADEQUACY

The following analysis of the adequacy of open space resources within the residential study area takes into consideration the ratios of active, passive, and total open space resources per 1,000 residents, as well as a qualitative review of publicly accessible open spaces within the ½-mile study area.

QUANTITATIVE ASSESSMENT

The study area contains a total of 26.55 acres of public open space, of which approximately 23.21 acres (87 percent) are classified as active open space and 3.34 acres (13 percent) are classified as passive open space. In the existing condition, the study area has a population of 45,784 and, based on this total study area population, the total study area open space ratio is 0.580 acres per 1,000 residents, the active open space ratio is 0.507 acres per 1,000 residents, and the passive open space ratio is 0.073 acres per 1,000 residents (see **Table D-4**). These open space ratios are lower than the City's planning guidelines of 2.5 acres of combined active and passive open space per 1,000 residents, 2.0 acres of active space per 1,000 residents, and 0.5 acres of passive open space per 1,000 residents.

Table D-4
Adequacy of Open Space Resources: Existing Condition

	Population	Open Space Acreage			Open Space Ratios per 1,000 Persons			*CEQR Technical Manual* Open Space Guidelines		
		Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Residential (½-Mile) Study Area										
Residents	45,784	26.55	23.21	3.34	0.580	0.507	0.073	2.50	2.00	0.50

QUALITATIVE ASSESSMENT

As shown in **Table D-3**, open spaces within the study area include a wide variety of activities and programmed spaces appropriate for a range of residential user groups, including children, young adults, and seniors. These facilities include basketball courts, handball courts, and baseball fields. In addition to these active recreation facilities, there are numerous passive spaces, including seating areas with chess tables and benches and other seating areas.

The condition of most open spaces within the study area can be characterized as fair to good. Many open spaces, including Van Dyke Playground, Dr. Green Playground, and Chester Playground, are utilized by the community, including school-aged children, but also by seniors and others utilizing the passive open space amenities found within the parks.

The quantified deficiency of open space resources found within the residential study area in the existing condition is partially ameliorated by the presence of additional open spaces within the study area, including those within the several NYCHA developments found throughout the eastern portion of the study area. Further, as noted above there are several community gardens, such as Newport Community Garden adjacent to Site A, that have not been included in the quantitative assessment, which may be used by portions of the study area population (see **Table D-5**). These community gardens are generally utilized for passive recreation and may contain amenities such as shaded seating areas, tables, water features, and landscaped areas. Some community gardens are also utilized for more active urban agriculture and these spaces feature raised planting beds and greenhouses.

Table D-5
Community Gardens and Other Study Area Open Spaces

Id No.	Park Name	Location	Owner / Operator	Acres
1	Fantasy Garden	181 Legion Street	GreenThumb	0.25
2	Community Garden	508 Rockaway Avenue	Private	0.04
3	Amboy Neighborhood Garden	199 Amboy Street	GreenThumb	0.36
4	Jes Good Rewards Children's Garden	155 Amboy Street	GreenThumb	0.24
5	Hoparkinson R&L Block Association Garden	754 Thomas S. Boyland Street	Private	0.15
6	Gethsemane Garden	144 Newport Street	Private	0.05
7	Newport Community Garden	Newport Street and Rockaway Avenue	GreenThumb	0.14
8	Abib Newborn Learning Garden	495 Osborn Street	GreenThumb	0.28
9	Community Garden	Powell Street	NYC Parks	0.02
10	Powell Street Garden	434 Livonia Avenue	GreenThumb	0.46
11	NYCHA Tilden Houses Recreation Areas	630 Mother Gaston Boulevard	NYCHA	0.52
12	NYCHA Brownsville Houses Recreation Areas	284 Sutter Avenue	NYCHA	0.91
Sources: NYC Parks, GreenThumb, MapPLUTO, AKRF Field Survey May 2018				

D. THE FUTURE WITHOUT THE PROPOSED ACTIONS

As detailed in Attachment A, "Project Description," it is anticipated that in the absence of the Proposed Actions, the vacant building on Site A would be re-occupied with manufacturing space. No other changes are anticipated within the Rezoning Area. In the No Action condition, the Rezoning Area would remain the same as described in the existing condition.

DIRECT EFFECTS

In the No Action condition, no direct effects are anticipated to occur to study area open spaces.

INDIRECT EFFECTS

STUDY AREA POPULATION

In the No Action condition, approximately 1,142 DUs are anticipated to be constructed in the study area by the 2023 Analysis Year. Based on the average household size for Brooklyn CD 16 of 2.93, these new DUs are anticipated to add an additional 3,346 residents to the study area population. In the No Action condition, it is anticipated that the residential study area population would be approximately 49,130.

ASSESSMENT OF OPEN SPACE ADEQUACY

QUANTITATIVE ASSESSMENT

As shown in **Table D-6**, in the No Action condition, the study area open space ratio is projected to fall from 0.580 acres per 1,000 residents to 0.540 acres per 1,000 residents. Similarly, the active and passive open space ratios are expected to fall—the active open space ratio from 0.507 acres per 1,000 to 0.472 acres and the passive open space ration from 0.073 acres per 1,000 to 0.068 acres per 1,000. Similar to in the existing condition, these open space ratios fall below the City guidelines of 2.5 acres of total open space, 2.0 acres of active open space, and 0.5 acres of passive open space per 1,000 residents.

Table D-6
Adequacy of Open Space Resources: No Action Condition

		Open Space Acreage			Open Space Ratios per 1,000 Persons			*CEQR Technical Manual* Open Space Guidelines		
	Population	Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Residential (½-Mile) Study Area										
Residents	49,130	26.55	23.21	3.34	0.540	0.472	0.068	2.50	2.00	0.50

QUALITATIVE ASSESSMENT

In the No Action condition, two open spaces are expected to undergo renovation. The 10.5-acre Betsy Head Park will undergo an extensive multi-phased renovation that will include a new multipurpose play area, basketball courts, active fitness area, and a new skate park. Phase 1 is anticipated to open in 2020.[4] Newport Playground is currently being reconstructed. The design of

[4] https://www.nycgovparks.org/parks/betsy-head-memorial-playground/pressrelease/21648

the new park includes a basketball court, track, synthetic turf field, picnic tables, benches, and new landscaping that will incorporate the park's existing mature trees.[5]

No other changes to the open spaces within the study area are anticipated and the qualitative conditions would be similar to those described under the existing condition. Several additional open spaces, such as community gardens and NYCHA open spaces that were not analyzed in the qualitative assessment, would continue to be available for residents for their use in the No Action condition.

E. THE FUTURE WITH THE PROPOSED ACTIONS

DIRECT EFFECTS

According to the *CEQR Technical Manual*, a proposed action may result in a significant direct impact on open space resources if there would be direct displacement and/or alteration of existing open space within the study area that would have a significant adverse effect on existing users, or an imposition of noise, air pollutant emissions, odors, or shadows on public open space that may alter its usability. The Proposed Actions would impose noise, odors, or emissions on nearby open space resources. Although the Proposed Actions would result in buildings that would cast additional shadow on Newport Playground and Newport Garden, it has been determined that the additional shadow would not significantly affect these open spaces.

NEWPORT COMMUNITY GARDEN

Newport Community Garden is a 0.14-acre community garden adjacent to Site A at the corner of Rockaway Avenue and Newport Street. The garden contains planted vegetation, trees, garden plots, and seating. With the Proposed Actions, Newport Community Garden would be cast in incremental shadow on 3 of 4 analysis days. As discussed in Attachment E, "Shadows," in the spring and summer, most of the new shadow cast would fall early in the morning and would not significantly alter the utilization of the resource. Spring and summer shadow cast later in the day would affect the northeast portion of the resource, which features seating areas. With the Proposed Actions, these areas would continue to receive between 5 and 10 hours of direct sunlight throughout each spring and summer day. Therefore, their use would not be significantly altered by the introduction of project-generated shadow.

NEWPORT PLAYGROUND

Newport Playground is an approximately 1-acre park located adjacent to the Rezoning Area and within the northern half of the block bounded by Newport and Osborn Streets and Thatford and Riverdale Avenues. As discussed above, the open space will undergo a planned renovation that includes new passive and active facilities. The Proposed Actions would cast incremental shadow on Newport Playground on all 4 analysis days; however, project-generated shadows would not affect the utilization of the resource and planted areas are expected to receive enough sunlight to support plant life. Therefore, as discussed in Attachment E, "Shadows," the Proposed Actions would not result in a significant adverse shadow impact on the utilization of Newport Playground or its vegetation.

[5] https://www.nycgovparks.org/planning-and-building/capital-project-tracker/project/8677

INDIRECT EFFECTS

According to the *CEQR Technical Manual,* a proposed action may result in significant indirect impacts on open space resources if the proposed action reduced the open space ratios and consequently resulted in the overburdening of existing facilities or further exacerbated a previously identified deficiency in open space.

STUDY AREA POPULATION

As detailed in Attachment A, "Project Description," the Proposed Actions would facilitate the construction of three developments: Site A, which is controlled by the Applicant, would include ground-floor manufacturing and community facility space with additional community facility space and affordable and supportive housing above and Sites B and C are projected to be mixed-use developments with ground-floor retail and community facility space and DUs above. In total, the Proposed Actions are anticipated to result in the construction of 262 DUs, of which 200 would be family units and 62 would be single-person occupancy SH units. Based on the 2.93 average household size for Brooklyn CD 16, it is anticipated that the Proposed Actions would generate an incremental increase in the study area population of 648 residents. In the With Action condition, it is anticipated that the residential study area population would be approximately 49,778.

ASSESSMENT OF OPEN SPACE ADEQUACY

QUANTITATIVE ASSESSMENT

As shown in **Table D-7**, the Proposed Actions are projected to reduce the overall open space ratio from 0.540 acres per 1,000 residents in the No Action condition to 0.533 acres per 1,000 residents. In addition, the active and passive open space ratios in the With Action condition are projected to decrease. Active open space is anticipated to decrease from 0.472 acres per 1,000 residents in the No Action condition to 0.466 acres per 1,000 residents in the With Action condition. Passive open space is anticipated to decrease from 0.068 acres per 1,000 in the No Action condition to 0.067 acres per 1,000 in the With Action condition.

Table D-7
Adequacy of Open Space Resources: With Action Condition

		Open Space Acreage			Open Space Ratios per 1,000 Persons			*CEQR Technical Manual* Open Space Guidelines		
	Population	Total	Active	Passive	Total	Active	Passive	Total	Passive	Active
Residential (½-Mile) Study Area										
Residents	49,778	26.55	23.21	3..34	0.533	0.466	0.067	2.50	0.50	2.00

QUALITATIVE ASSESSMENT

In the With Action condition, no major changes to the open spaces within the study area are anticipated. Similar to the No Action condition, several resources, such as community gardens and NYCHA open spaces that were not analyzed in the quantitative assessment, would be available for residents within the open space study area.

In addition, the Proposed Project would include passive recreation space, including a potential roof garden at the second story, which would be made available for use by building residents. This

private open space would provide passive recreational space for the additional population introduced by the Proposed Actions and would include seating areas and landscaping.

DETERMINING IMPACT SIGNIFICANCE

A significant adverse impact may occur if a proposed action would reduce the open space ratio by more than 5 percent in areas that are currently below the City's median community district open space ratio of 1.5 acres per 1,000 residents as these reductions may result in the overburdening of existing open space resources or further exacerbate an identified deficiency in open space. As shown in **Table D-8**, the percent change in total open space ratio between the No Action and With Action conditions within the ½-mile open space study area decreased by 1.296 percent, with the active open space ratio decreasing by 1.271 percent and passive ratio decreasing by 1.471 percent. These reductions in the total, active, and passive open space ratios identified within the study area are well below the 5 percent *CEQR Technical Manual* threshold.

Table D-8
Open Space Ratio Summary

Ratio	*CEQR Technical Manual* Open Space Guideline	Open Space Ratios per 1,000			Percent Change
		Existing	No Action	With Action	
Residential (½-Mile) Study Area					
Total—Residents	2.5	0.580	0.540	0.533	-1.296
Active—Residents	2.0	0.507	0.472	0.466	-1.271
Passive—Residents	0.5	0.073	0.068	0.067	-1.471

In addition to the quantitative assessment, the *CEQR Technical Manual* recommends that qualitative considerations be considered in determining impact significance. Open spaces within the study area are in fair to good condition. Furthermore, these open spaces are amenity rich with a variety of active and passive recreation elements and have moderate utilization by residents. In addition to the open spaces included in the quantitative analysis, additional community gardens and NYCHA open spaces within the study area would be available for use by some residents within the study area. Landscaped, private open space for residents of the Proposed Project would be available on a rooftop terrace and recreational facilities would be located inside the building for use by tenants. Taken together, these additional open space resources and recreational amenities could offset some of the demand for open space introduced by the Proposed Actions. Based on the above assessment, the Proposed Actions would not result in a significant adverse impact on open space. ✷

Attachment E: Shadows

A. INTRODUCTION

This attachment examines whether the Proposed Actions would result in a significant adverse shadow impact on any sunlight-sensitive resources. According to the 2014 *City Environmental Quality Review (CEQR) Technical Manual*, sunlight-sensitive resources of concern include public open space, Greenstreets, sunlight-dependent features of historic architectural resources, and natural resources that depend on sunlight. A shadow assessment is required for actions that would result in new structures or additions to existing structures at least 50 feet in height or when the structure or addition is located adjacent to a sunlight-sensitive resource.

As discussed in Attachment A, "Project Description," the Proposed Actions would facilitate a mixed-use development containing ground-floor light manufacturing and community facility space and supportive and affordable housing above (the "Proposed Project"). The Proposed Project on Site A would have a maximum building height of 85 feet (7 stories) along Rockaway Avenue with the portions of the proposed building fronting Thatford and Newport Avenues having a maximum height of 75 feet (6 stories). In addition, the Proposed Actions would facilitate development on two adjacent sites not controlled by the Applicant (Sites B and C). The building heights for Sites B and C assume the maximum height allowed for Mandatory Inclusionary Housing (MIH) buildings with qualifying ground floors, which is 95 feet for Site B and 85 feet for Site C. Although the Proposed Project would not be constructed to the maximum height allowed under the proposed zoning, to ensure a conservative analysis of potential shadow effects the assessment assumes that the Rockaway Avenue frontage of the Proposed Project would have a maximum height of 95 feet and the Thatford Avenue frontage would have a maximum height of 85 feet.

As the Proposed Actions would result in incremental building heights greater than 50 feet, a shadow assessment has been prepared for all three sites. The detailed shadow analysis below determined that the Proposed Actions would result in new shadow on two sunlight-sensitive resources: Newport Community Garden and Newport Playground, a publicly accessible park. New shadow would fall on Newport Community Garden in the morning of all but the shortest days of the year, and in the afternoon in the spring and summer, and on Newport Playground in the afternoon throughout the year. However, both resources would continue to receive significant durations of direct sunlight throughout either the morning or afternoon of all seasons and the new shadow would not significantly impact the utilization of the resources or their vegetation. Therefore, the Proposed Actions would not result in a significant shadow impact on any sunlight-sensitive resources.

B. DEFINITIONS AND METHODOLOGY

This analysis has been prepared in accordance with the guidelines of the *CEQR Technical Manual*.

DEFINITIONS

Incremental shadow is the additional, or new, shadow that a structure resulting from a proposed project would cast on a sunlight-sensitive resource.

Sunlight-sensitive resources are those resources that depend on sunlight or for which direct sunlight is necessary to maintain the resource's usability or architectural integrity. Such resources generally include the following:

- *Public open space* such as parks, beaches, playgrounds, plazas, schoolyards (if open to the public during non-school hours), greenways, and landscaped medians with seating. Planted areas within unused portions of roadbeds that are part of the Greenstreets program are also considered sunlight-sensitive resources.
- *Features of architectural resources that depend on sunlight for their enjoyment by the public.* Only the sunlight-sensitive features need be considered as opposed to the entire resource. Such sunlight-sensitive features might include design elements that depend on the contrast between light and dark (e.g., recessed balconies, arcades, deep window reveals); elaborate, highly carved ornamentation; stained glass windows; historic landscapes and scenic landmarks; and features for which the effect of direct sunlight is described as playing a significant role in the structure's importance as a historic landmark.
- *Natural resources* where the introduction of shadows could alter the resource's condition or microclimate. Such resources could include surface waterbodies, wetlands, or designated resources such as coastal fish and wildlife habitats.

Non-sunlight-sensitive resources include, for the purposes of CEQR, the following:

- *City streets and sidewalks* (except Greenstreets);
- *Private open space* (e.g., front and back yards, stoops, vacant lots, and any private, non-publicly accessible open space);
- *Project-generated open space* because it cannot experience a significant adverse shadow impact from the project, according to CEQR, because without the project, the open space would not exist.

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, thereby significantly altering the public's use of the resource or threatening the viability of vegetation or other resources. Each case must be considered on its own merits based on the extent and duration of new shadow and an analysis of the resource's sensitivity to reduced sunlight.

METHODOLOGY

Following the guidelines of the *CEQR Technical Manual*, a preliminary screening assessment is first conducted to ascertain whether a project's shadow could reach any sunlight-sensitive resources at any time of year. The preliminary screening assessment consists of three tiers of analysis. The first tier determines a simple radius around the development site representing the longest shadow that could be cast. If there are sunlight-sensitive resources within this radius, the analysis proceeds to the second tier, which reduces the area that could be affected by project-generated shadow by accounting for the fact that shadows can never be cast between a certain

range of angles south of the development site due to the path of the sun through the sky at the latitude of New York City.

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 project-generated shadow by looking at specific representative days in each season and determining the maximum extent of shadow over the course of each representative day.

If the third tier of analysis does not eliminate the possibility of new shadows on sunlight-sensitive resources, a detailed shadow analysis is required to determine the extent and duration of the incremental shadow. The detailed analysis provides the data needed to assess the shadow impacts. The effects of the new shadows on the sunlight-sensitive resources are described and their degree of significance is considered. The results of the analysis and assessment are documented with graphics, a table of incremental shadow durations, and narrative text.

To ensure a conservative analysis, the maximum bulk allowed within the zoning envelopes of each development site and within the proposed rezoning was modeled as the Future with the Proposed Actions (the "With Action" condition). To account for rooftop mechanical equipment, an additional 15 feet of vertical bulk was added to the highest setback of each structure. For buildings the size of the projected developments, a 15-foot bulkhead is a reasonable assumption regarding height. Furthermore, it is a conservative assumption because more bulk is analyzed in the shadow analysis than would be placed at the top of the buildings (a building bulkhead would not cover the entire roof). In addition, as noted previously, the 3D shadows model assumes the maximum building height allowed under the proposed zoning, which is 10 feet greater than planned building height of the Proposed Project. The resulting model used in the analysis casts a denser shadow with a more extensive footprint than the structures than would actually be developed with the Proposed Actions.

C. PRELIMINARY SCREENING ASSESSMENT

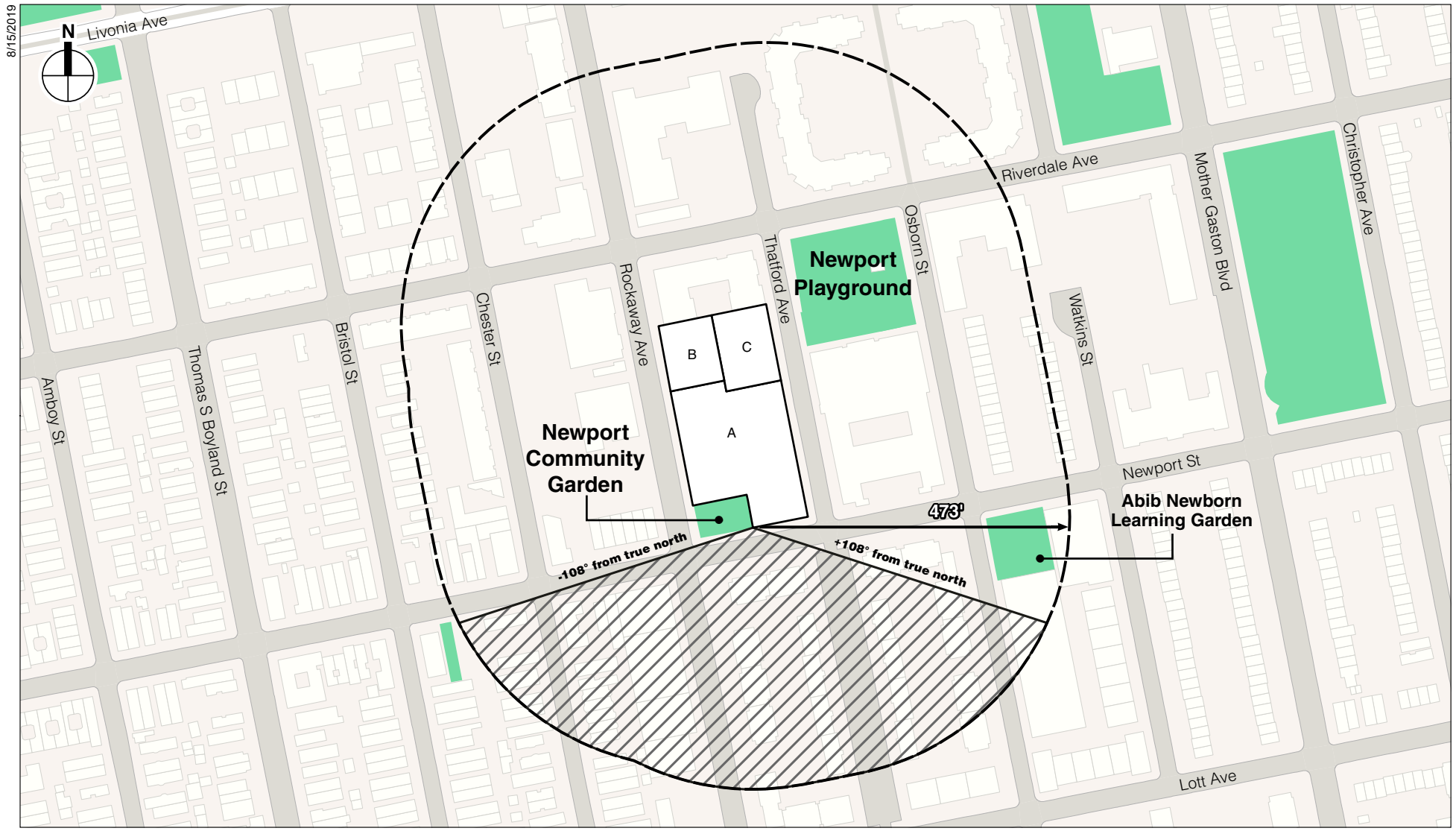
A base map was developed using Geographic Information Systems (GIS)[1] showing the location of Sites A, B, and C and the surrounding street layout (see **Figure E-1**). In coordination with the land use and historic and cultural resources assessments presented in other attachments of this Environmental Assessment Statement (EAS), potential sunlight-sensitive resources were identified and shown on the map.

TIER 1 SCREENING ASSESSMENT

For the Tier 1 assessment, the longest shadow that could cast by the projected developments was calculated, and, using this length as the radius, a perimeter was drawn around the development site. Anything outside this perimeter representing the longest possible shadow could never be affected by project-generated shadow while anything inside the perimeter needs additional assessment. According to the *CEQR Technical Manual*, the longest shadow that a structure can cast at the latitude of New York City occurs on December 21, the winter solstice, at the start of the analysis day at 8:51 AM, and is equal to 4.3 times the height of the structure.

The maximum height of the proposed buildings would be between 100 feet and 110 feet above street level (including mechanical space) and would produce shadows up to 4.3 times as long, or

[1] Software: Esri ArcGIS 10.3; Data: New York City Department of Information Technology and Telecommunications (DoITT) and other City agencies, and AKRF site visits.



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Tier 1 and Tier 2 Assessments

Figure E-1

472 feet long. Using this length as the radius, a perimeter was drawn around the development sites (see **Figure E-1**). Three open space resources (Abib Newborn Community Garden, Newport Community Garden, and Newport Playground) are located within the longest shadow study area. Therefore, a Tier 2 assessment was required.

TIER 2 SCREENING ASSESSMENT

Because of the path that the sun travels across the sky in the northern hemisphere, no shadow can be cast in a triangular area south of any given project site. In New York City, this area lies between -108 and +108 degrees from true north. **Figure E-1** illustrates this triangular area south of the development sites. The complementing area to the north within the longest shadow study areas represents the remaining area that could potentially experience new shadow from the projected developments. As illustrated in **Figure E-1**, the three open space resources with sunlight-sensitive features noted above were identified by the Tier 2 study. A Tier 3 assessment was required to model new shadow on these resources on specific representative days of the year.

TIER 3 SCREENING ASSESSMENT

The direction and length of shadows vary throughout the course of the day and differ depending on the season. Shadows move constantly but more quickly at the start and the end of the day than they do in the middle of the day. In order to determine whether project-generated shadow could fall on a sunlight-sensitive resource, three-dimensional (3D) computer mapping software was used in the Tier 3 assessment to calculate and display the incremental shadows from the structures built in the reasonable worst-case development scenario (RWCDS). A computer model was developed that contained 3D representations of the elements in the base map used in the preceding assessments, topographic information of the study area, and the massing of buildings that would fill the entire zoning envelope allowed in the RWCDS.

REPRESENTATIVE DAYS FOR ANALYSIS

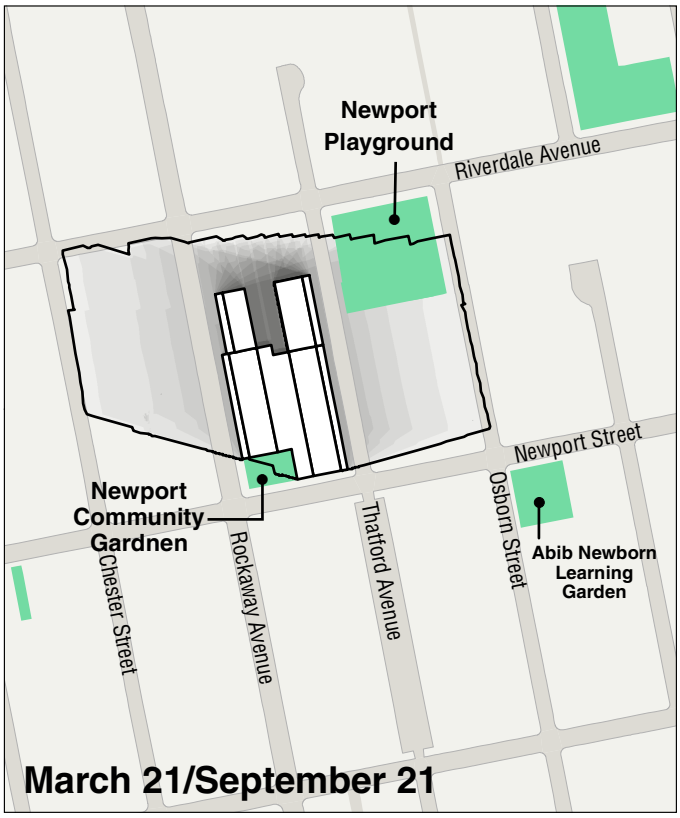
Following the guidance of the *CEQR Technical Manual*, shadows on the summer solstice (June 21), winter solstice (December 21), and spring and fall equinoxes (March 21 and September 21, which are approximately the same in terms of shadow patterns) are modeled to represent the range of shadows over the course of the year. An additional representative day during the growing season is also modeled—the day halfway between the summer solstice and the equinoxes (i.e., May 6 or August 6, which have approximately the same shadow patterns).

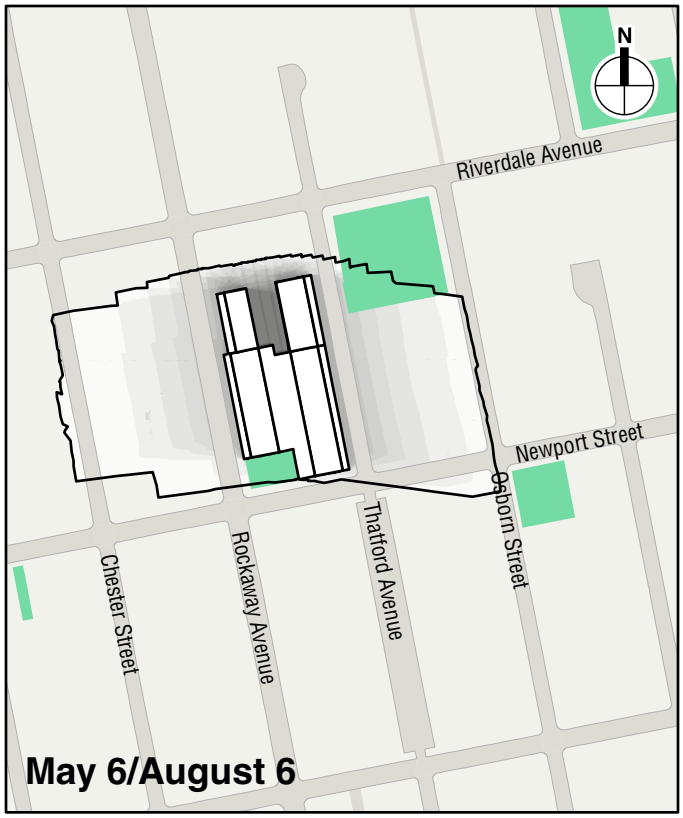
TIMEFRAME WINDOW OF ANALYSIS

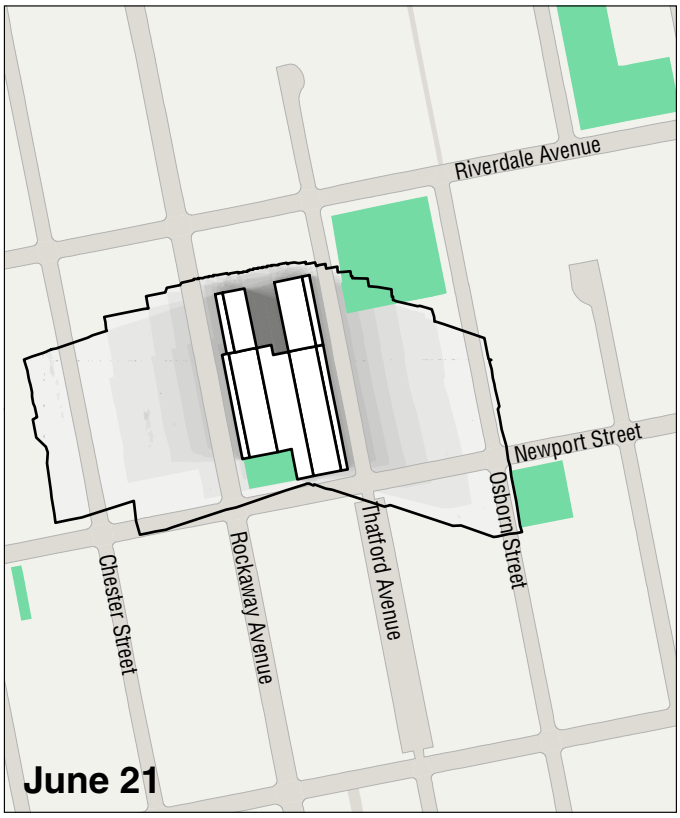
The shadow assessment considers shadows occurring between 90 minutes after sunrise and 90 minutes before sunset. Within the 90 minutes after sunrise and the 90 minutes before sunset, the sun is low on the horizon, and its rays reach the vicinity of the development site at low angles, producing shadows that are very long, fast moving, and generally blend with shadows from existing structures until the sun reaches the horizon and sets. Consequently, shadows occurring in these two 90-minute periods are not considered significant under CEQR and their assessment is not required.

TIER 3 SCREENING ASSESSMENT RESULTS

Figure E-2 illustrates the range of shadows that would occur (in the absence of intervening buildings) from the projected developments on the four representative analysis days. The extent







RWCDS Development Massing

Sunlight Sensitive Open Space Resource

Notes:
1. Daylight Saving Time not used.
2. Shadows are shown occurring at approximately one hour intervals from the start of the analysis day (one and a half hours after sunrise) to the end of the analysis day (one and a half hours before sunset). The Tier 3 assessment serves to illustrate the daily path or "sweep" of the proposed project's shadow across the landscape, without accounting for any existing buildings and their shadows.

0 500 FEET

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Tier 3 Assessment
Figure E-2

of shadow is shown between the start of the analysis day (90 minutes after sunrise) and the end of the analysis day (90 minutes before sunset). The Tier 3 assessment found that the shadows would reach Newport Community Garden and Newport Playground but would not be long enough to fall on the Abib Newborn Community Garden. Therefore, the extent and duration of incremental shadows originating from the projected developments on Newport Community Garden and Newport Playground were determined with a detailed shadow analysis.

D. DETAILED ANALYSIS

The purpose of the detailed shadow analysis is to determine the extent and duration of incremental shadows that would fall on the sunlight-sensitive resources identified in the Tier 3 assessment. To complete the analysis, 3D representations of the existing buildings within the longest shadow study area, including those occupying the development sites, are appended to the Tier 3 assessment model. The shadows cast in the With Action condition are then compared with those cast in the Future without the Proposed Actions (the "No Action" condition).

ANALYSIS RESULTS

The detailed shadow analysis finds that the RWCDS would result in incremental shadow on the two sunlight-sensitive open space resources. **Table E-1** shows the entry and exit times and total duration of incremental shadow on the affected resources.

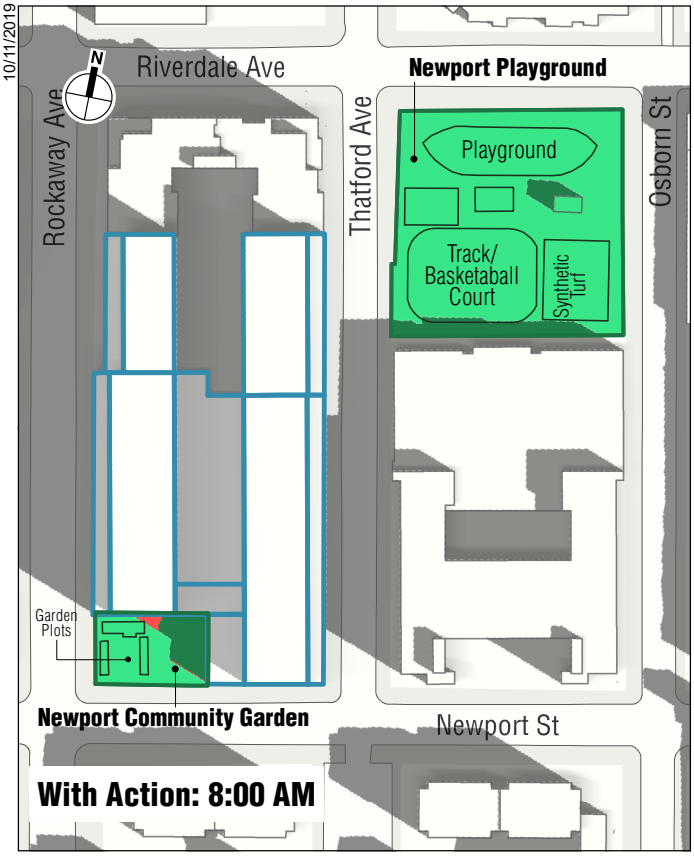
Table E-1
Incremental Shadow Durations (Shadow Assessment Scenario)

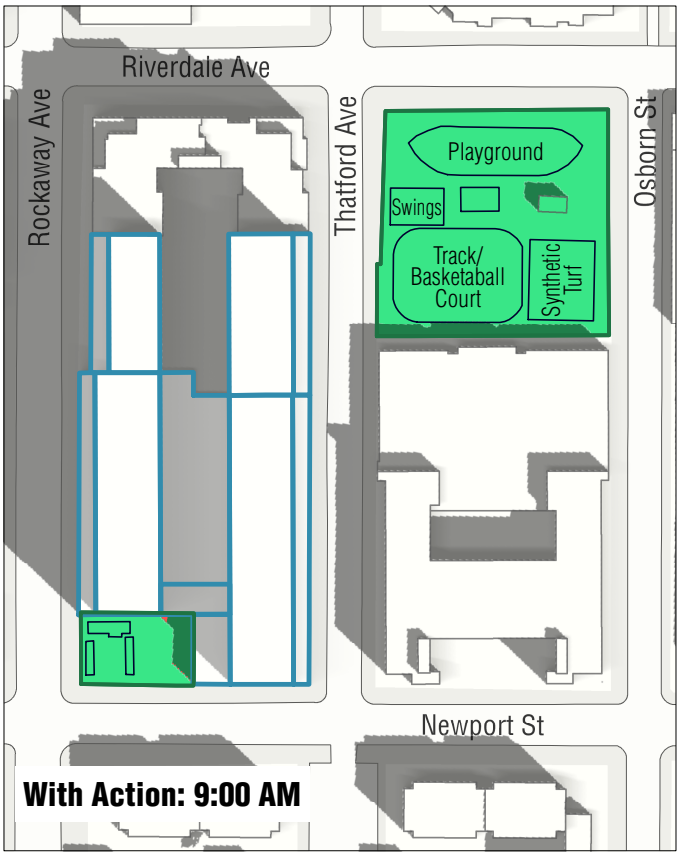
Analysis Day and Timeframe Window	March 21 / Sept. 21 7:36 AM–4:29 PM	May 6 / August 6 6:27 AM–5:18 PM	June 21 5:57 AM–6:01 PM	December 21 8:51 AM–2:53 PM
Newport Community Garden	7:36 AM–9:15 AM Total Duration: 1 hr 39 min	6:27 AM–10:00 AM 3:40 PM–5:18 PM Total Duration: 5 hr 11 min	5:57 AM–10:00 AM 3:05 PM–6:01 PM Total Duration: 7 hr 59 min	—
Newport Playground	1:45 PM–4:29 PM Total Duration: 2 hr 44 min	2:15 PM–5:18 PM Total Duration: 3 hr 3 min	2:30 PM–6:01 PM Total Duration: 3 hr 31 min	12:30 PM–2:53 PM Total Duration: 2 hr 23 min

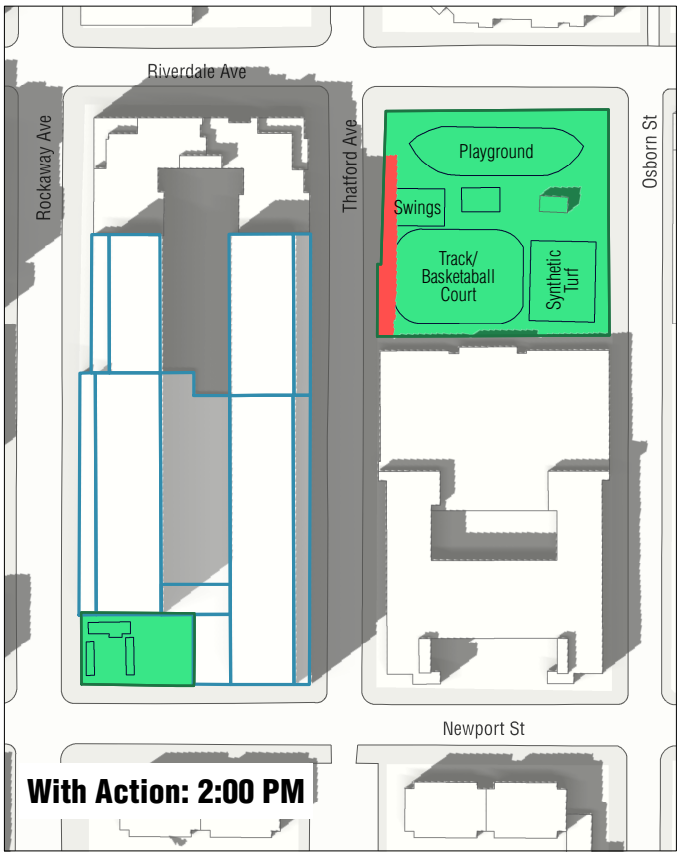
Notes:
Table indicates entry and exit times and total duration of incremental shadow for each sunlight-sensitive resource. The shadow assessment considers shadows occurring between 90 minutes after sunrise and 90 minutes before sunset. Within the 90 minutes after sunrise and the 90 minutes before sunset, the sun is low on the horizon, and its rays reach the vicinity of the Project Site at low angles, producing shadows that are very long, fast moving, and generally blend with shadows from existing structures until the sun reaches the horizon and sets. Consequently, shadows occurring in these two 90-minute periods are not considered significant under CEQR and their assessment is not required.
Daylight saving time is not used—times are Eastern Standard Time, per *CEQR Technical Manual* guidelines. However, as Eastern Daylight Time is in effect for the March/September, May/August, and June analysis periods, add 1 hour to the given times to determine the actual clock time.

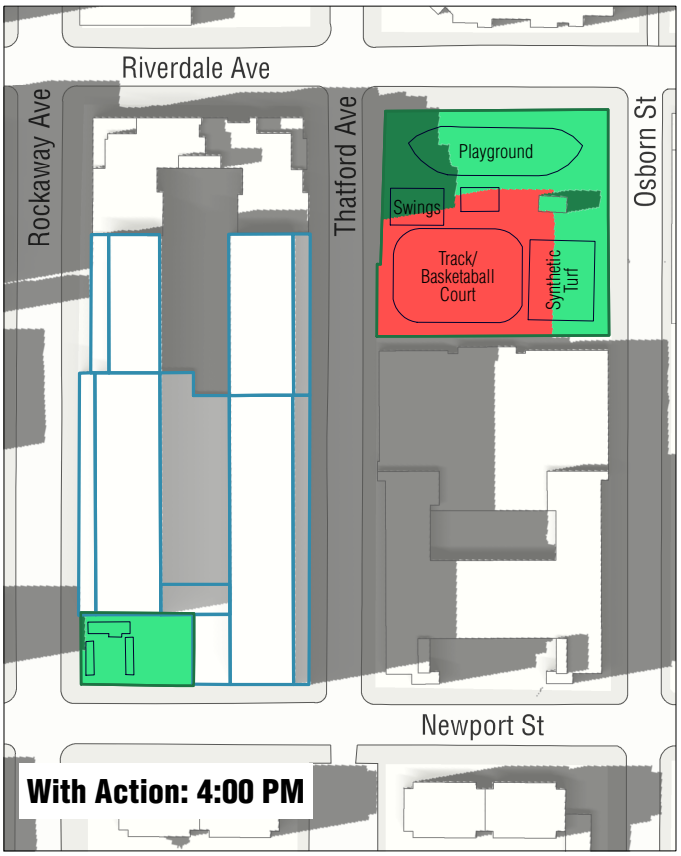
Figures E-3 through E-6 illustrate the placement and geographic extent of new shadow at specific times during the analysis days. The area of the resource affected by incremental shadow is illustrated in red. Below is a description of the resources and the duration and extent of incremental shadow.

10/11/2019









Projected Developments

Open Space Resource

Area of Open Space in Direct Sunlight

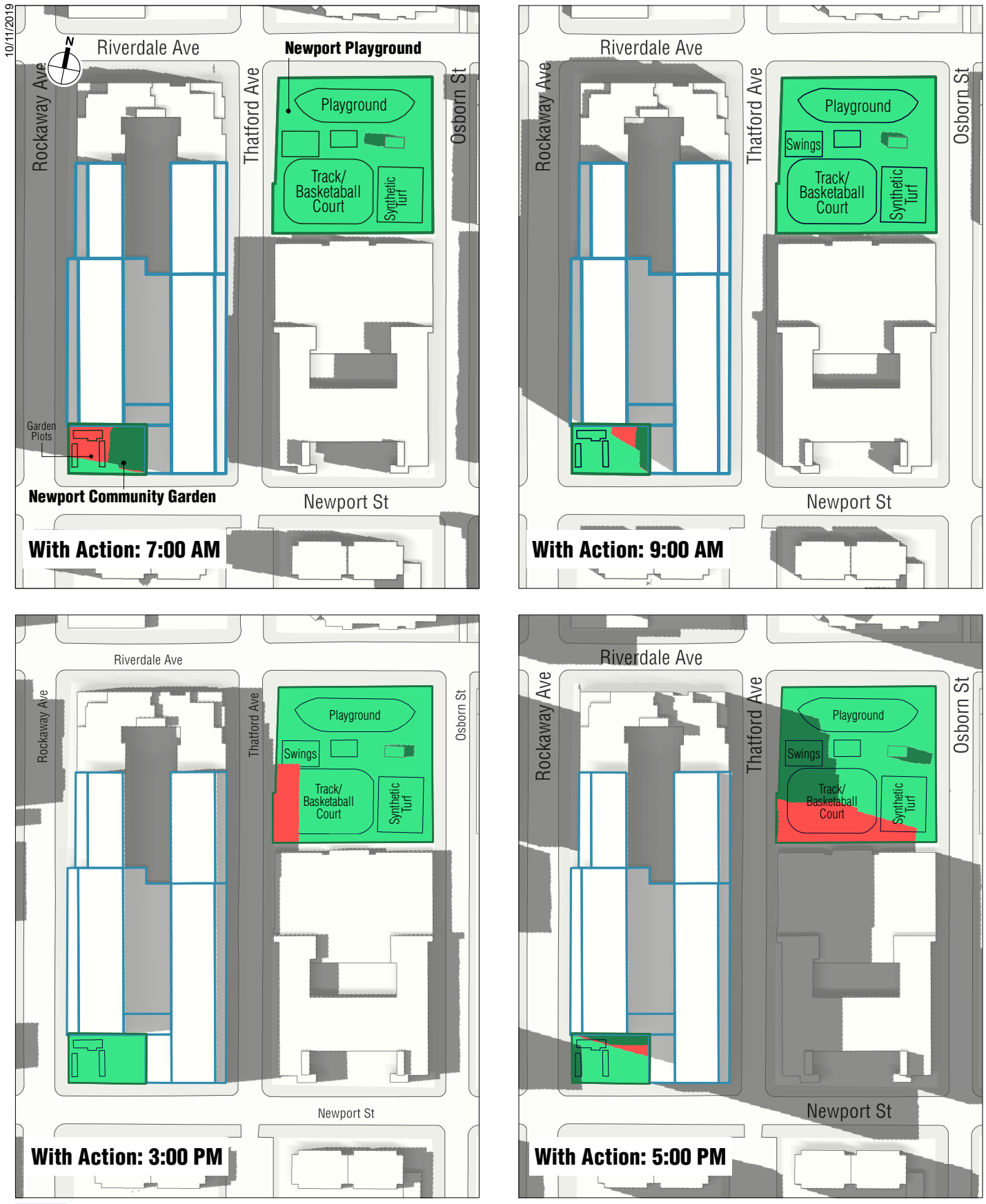
Area of Open Space in New Shadow

Area of Open Space in Existing Shadow

0 100 FEET

Detailed Shadow Analysis
March 21/September 21
Figure E-3

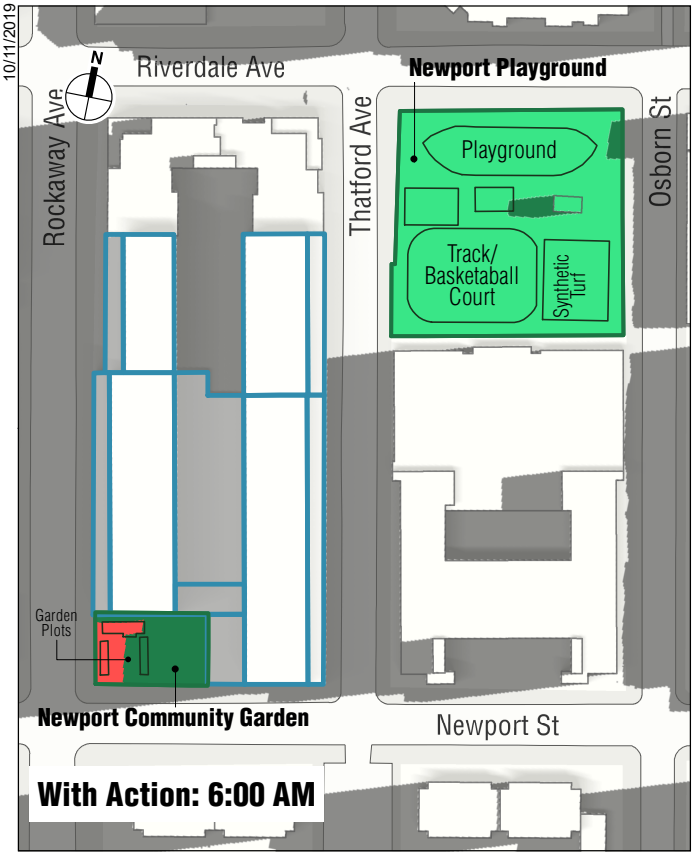
803 ROCKAWAY AVENUE REZONING

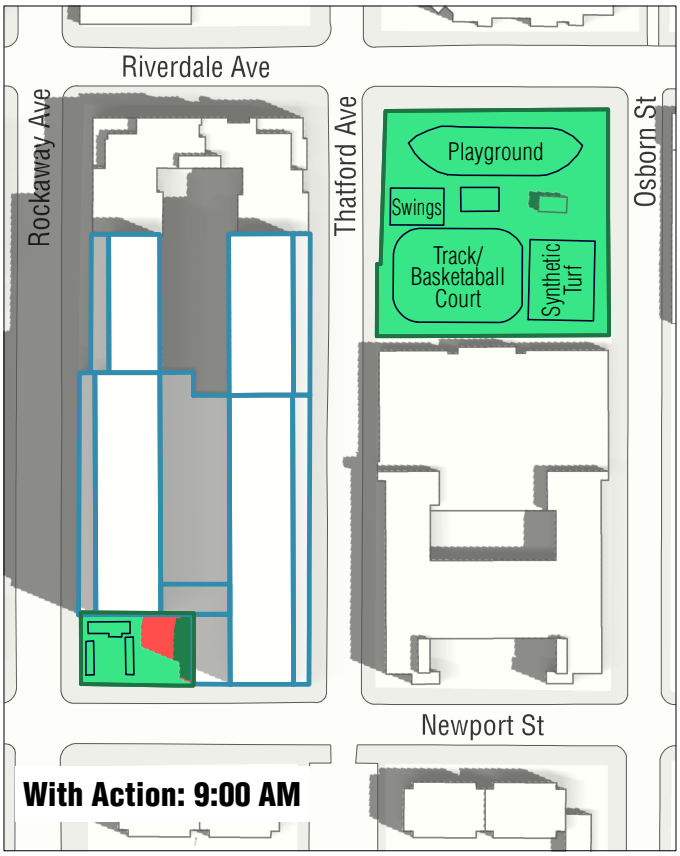


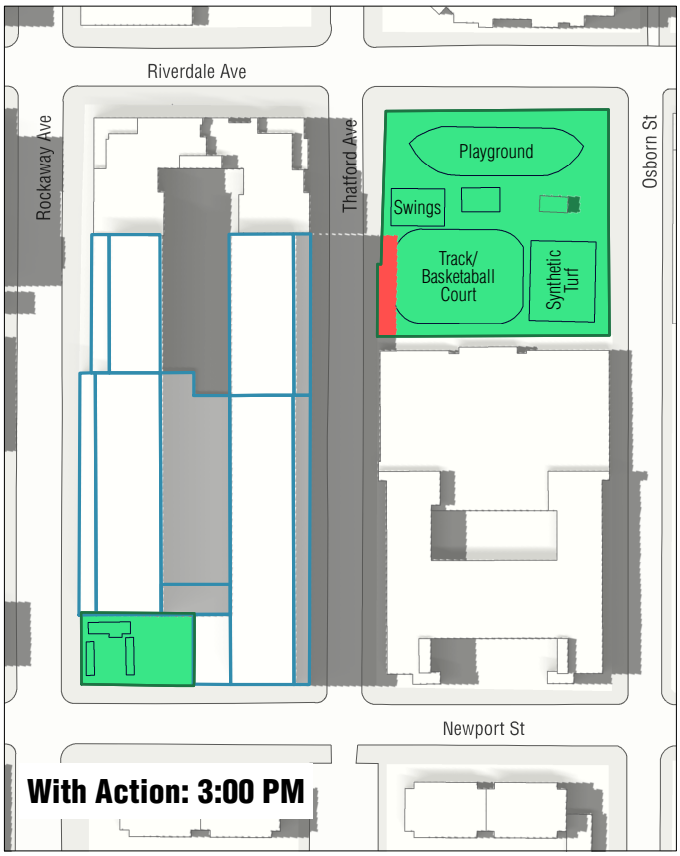
Detailed Shadow Analysis
May 6/August 6
Figure E-4

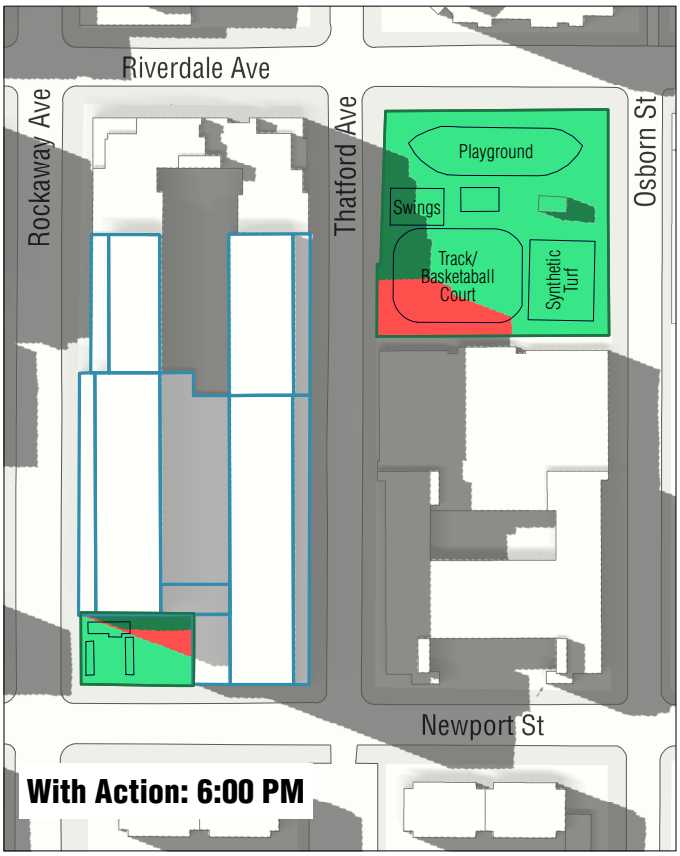
803 ROCKAWAY AVENUE REZONING

10/11/2019









Projected Developments

Open Space Resource

Area of Open Space in Direct Sunlight

Area of Open Space in New Shadow

Area of Open Space in Existing Shadow

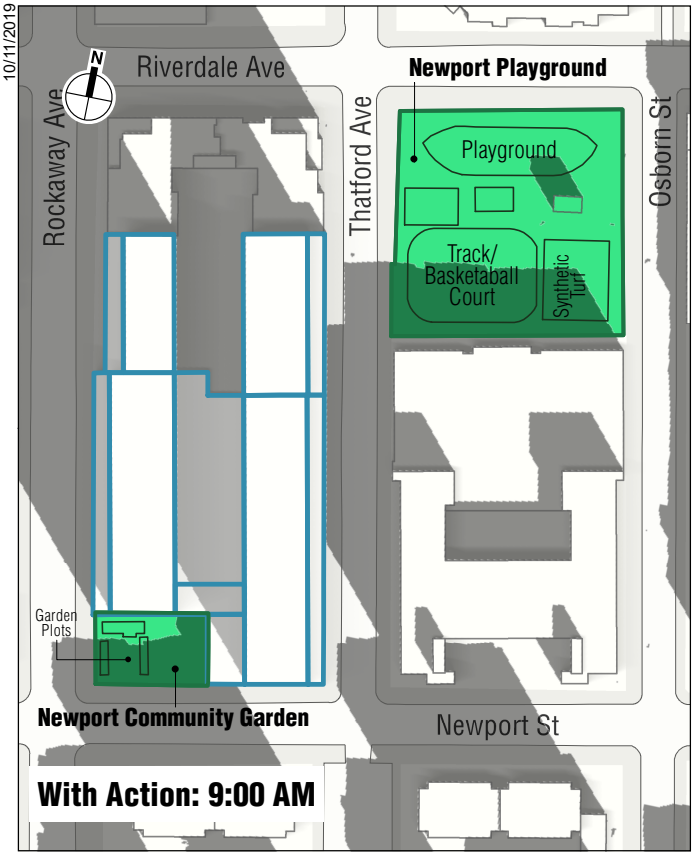
0 100 FEET

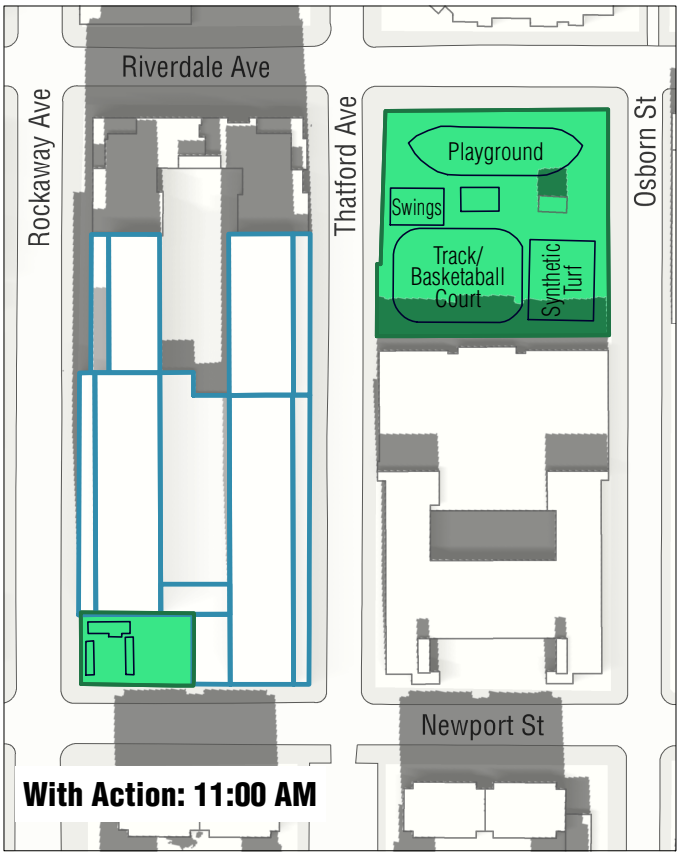
Detailed Shadow Analysis
June 21

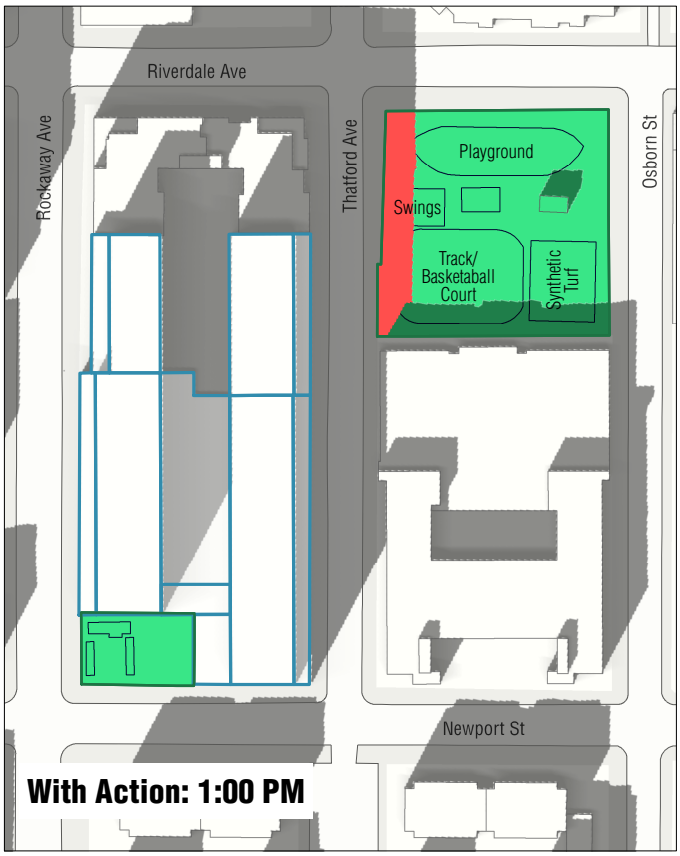
803 ROCKAWAY AVENUE REZONING

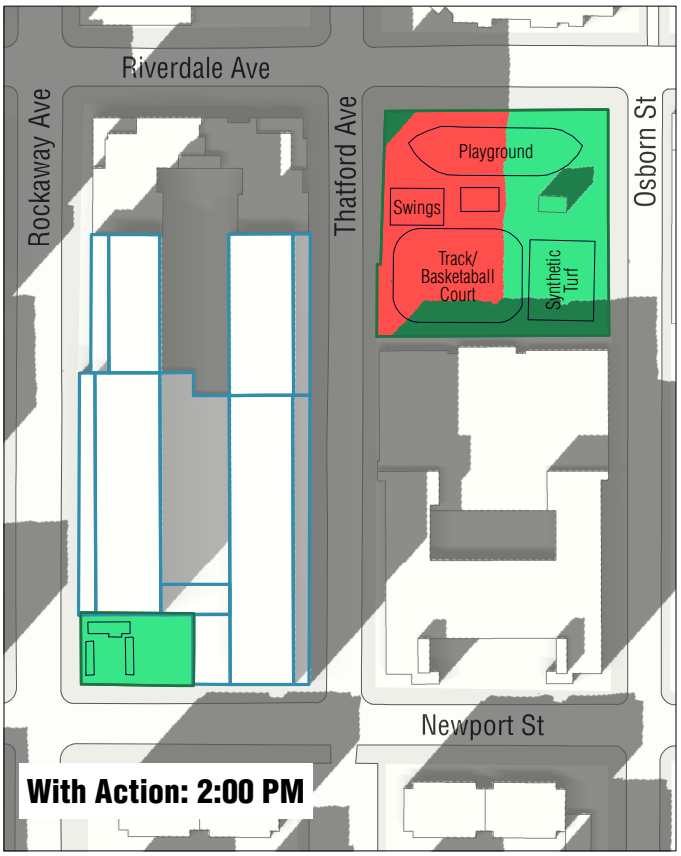
Figure E-5

10/11/2019









Projected Developments

Open Space Resource

Area of Open Space in Direct Sunlight

Area of Open Space in New Shadow

Area of Open Space in Existing Shadow

0 100 FEET

Detailed Shadow Analysis
December 21

803 ROCKAWAY AVENUE REZONING

Figure E-6

AFFECTED RESOURCES

NEWPORT COMMUNITY GARDEN

Newport Community Garden is a 0.14-acre community garden lot that contains planted vegetation, trees, garden plots, and seating. The garden is open to the public from 9:00 AM to 12:00 PM.[2] With the Proposed Actions, Newport Community Garden would be cast in incremental shadow on 3 of 4 analysis days.

On the March 21 analysis day, new shadow cast by the projected developments would fall on the garden from 7:36 AM to 9:15 AM for a total duration of 1 hour and 39 minutes. During this timeframe, new shadow would fall on some of the garden's vegetation and plots for 40 minutes or less (see **Figure E-3**).

On the May 6/August 6 analysis day, new shadow cast would fall on the garden from 6:27 AM to 10:00 AM and from 3:40 PM to 5:18 PM for a total duration of 5 hours and 11 minutes. During this timeframe, the majority of garden area would be cast in less than 90 minutes of new shadow. Some of the vegetation located along the northern boundary of the garden would be cast in up to 3 hours of new shadow (see **Figure E-4**).

On the June 21 analysis day, new shadow would fall on the garden from 5:57 AM to 10:00 AM and from 3:05 PM to 6:01 PM for a total duration of 7 hours and 59 minutes. During this timeframe, the majority of garden area would be cast in less than 2 hours of new shadow. Some of the vegetation located along the northern boundary of the garden would be cast in up to 3 hours and 30 minutes of new shadow (see **Figure E-5**).

On the 3 analysis days above, much of the shadow cast by the projected developments would fall before 9:00 AM or after 12:00 PM when the community garden is not open to the public. New shadow cast before 9:00 AM or after 12:00 PM would not significantly alter the utilization of the resource. Spring and summer shadow cast after 9:00 AM would affect the northeast portion of the resource, which features seating areas. However, with the Proposed Actions, these areas would receive, at most, 1 hour of new shadow when the garden is open to the public and, at times when this seating is shaded, additional seating areas within the garden would be cast in direct sunlight. Therefore, their use would not be significantly altered by the introduction of project-generated shadow.

According to the *CEQR Technical Manual*, 4 to 6 hours of direct sunlight is required within the growing season to support garden plots and other vegetation. With the Proposed Actions, all of Newport Community Garden, excluding the northeast corner, would receive at least 6.5 hours of direct sunlight per day throughout the growing season and no area would receive less than 4 hours of direct sunlight per day. With the Proposed Project, the majority of garden area would not experience a substantial reduction in direct sunlight and would support the same variety of plant life as in the existing condition.

The plots within the garden are located to the west, along Rockaway Avenue, and would receive 6 to 10 hours of direct sunlight per day throughout the growing season. Their ability to support vegetation would not be markedly affected by new shadow from the Proposed Project. Two trees in the garden would receive less than 6 hours of direct sunlight for part of the growing season. The eastern portion of the garden, at the rear adjacent to an existing structure on the Project Site,

[2] New York City Department of Parks and Recreation, GreenThumb www.greenthumb.nycgovparks.org/gardensearch.php

contains trees, which appear to be a crabapple and a non-fruit bearing willow tree.. Although some of the trees' foliage may experience up to a 3-hour reduction in direct sunlight, overall the crabapple and willow trees would receive at least 6 and 4 hours of direct sunlight, respectively, throughout the growing season. This amount of sunlight is sufficient, respectively, for each tree species.

Therefore, the Proposed Actions would not result in a significant shadow impact on the utilization of Newport Community Garden or its vegetation.

NEWPORT PLAYGROUND

Newport Playground is an approximately 1-acre park located adjacent to the Rezoning Area and within the northern half of the block bounded by Newport and Osborn Streets and Thatford and Riverdale Avenues. Newport Playground is currently being reconstructed. The design of the new park will include a basketball court, track, synthetic turf field, picnic tables, benches, and new landscaping that will incorporate the park's existing mature trees.[3] The Proposed Actions would cast incremental shadows on Newport Playground on all 4 analysis days.

Beginning at 1:45 PM on the March 21 analysis day, new shadow would pass over the park's basketball court, playground swings, and surrounding landscaping. As the afternoon continues and approaches the end of the analysis day, new shadow would also fall on the synthetic turf and picnic tables located in the park's southeastern quadrant. New shadow would remain on the park until 4:29 PM for a total duration of 2 hours and 44 minutes. During this timeframe, new shadow would fall on the synthetic turf field and surrounding features, which include picnic tables and portion of the new track, for no more than 40 minutes. The majority of the basketball court and track would receive less than 90 minutes of new shadow while portions of these features closer to Thatford Avenue would be cast in new shadow for up to 2 hours and 44 minutes (see **Figure E-3**).

On the May 6/August 6 analysis day, new shadow would fall on the southwest corner of the park's basketball court, track, and synthetic turf field from 2:15 PM to 5:18 PM for a total duration of 3 hours and 3 minutes. During this timeframe, most of the basketball court and track would receive less than 90 minutes of new shadow while portions of these features closer to Thatford Avenue would be cast in new shadow for up to 2 hours and 45 minutes. All park area would receive over 7 hours of direct sunlight—a sufficient quantity to support a variety of plant life (see **Figure E-4**).

On the June 21 analysis day, new shadow would fall on the southwest corner of the basketball court and track from 2:30 PM to 6:01 PM for a total duration of 3 hours and 31 minutes. Most of the basketball court and track would receive less than 90 minutes of new shadow while portions of these features closer to Thatford Avenue would be cast in new shadow for up to 3 hours. All park area would receive over 8 hours of direct sunlight—a sufficient quantity to support a variety of plant life (see **Figure E-5**).

Beginning at 12:30 PM on the December 21 analysis day, new shadow would pass over nearly all of the park area and its sunlight-sensitive features with the exception of those areas and features located immediately adjacent to Public School (P.S.) 41. New shadow would remain on the park until 2:53 PM, the end of the analysis day, for a total duration of 2 hours and 23 minutes. During this timeframe, less than 1 hour of new shadow would fall on the eastern portion of the park, which includes synthetic turf, playground areas, and park benches. Most sunlight-sensitive features located in the western half of the park would be cast in 1 to 2 hours of new shadow, including the

[3] https://www.nycgovparks.org/planning-and-building/capital-project-tracker/project/8677

basketball court, track, and benches. Only one or two park benches located in the extreme southwest corner of the park would be cast in over two hours of new shadow (see **Figure E-6**).

From March 21 through September 21, most of the park would receive over 8 hours of direct sunlight. Throughout the year, the majority of park area would be cast in less than 1 hour of new shadow per day. Only the portions of the basketball court and playground located in the extreme west and southwest areas of the park would be cast in more than 2 hours of new shadow on any given day throughout the year. Within this area, the park would still receive over 6 hours of direct sunlight on each day in spring and summer. In winter, when these areas would receive less direct sunlight, park users could continue to find court areas and playground areas cast in direct sunlight within Newport Playground.

On December 21, shadow from the projected developments would reduce direct sunlight on the westernmost portions of the basketball court and playground for over 2 hours. However, even with the reduction, these areas would still be in direct sunlight for nearly two-thirds of the analysis day and their utilization would not be significantly reduced.

Within the growing season, almost all areas of the park affected by new shadow would continue to receive at least 6 hours of direct sunlight per day, a quantity sufficient to support the park's trees and a variety of other plant life. In early spring and fall, the park area along the resource's southern boundary and immediately adjacent to P.S. 41 would receive 1 to 6 hours of direct sunlight. This area is planted with four mature London planetrees and one tree that could not be identified. The foliage of all trees is located approximately 15 to 40 feet above the surface of the Newport Playground and, unlike lower levels, would experience less than 30 minutes of new shadow from the projected developments on any given day of the growing season and would consistently receive 7 to 10 hours of direct sunlight. Therefore, the Proposed Actions would not result in a significant adverse shadow impact on the utilization of Newport Playground or its vegetation. ✷

A. INTRODUCTION

This attachment considers the potential for the Proposed Actions to result in significant adverse impacts to urban design and visual resources. As described in Attachment A, "Project Description," the Proposed Actions include zoning changes to facilitate the development of a mixed-use residential, community facility, and light manufacturing building (the "Proposed Project") at the Project Site (Site A). In addition to the Applicant's proposal, the Reasonable Worst Case Development Scenario (RWCDS) assumes the zoning changes would result in development on Sites B and C.

As defined in the 2014 *City Environmental Quality Review (CEQR) Technical Manual*, urban design is the totality of components that may affect a pedestrian's experience of public space. A visual resource can include views of the waterfront, public parks, landmark structures or districts, otherwise distinct buildings, and natural resources.

B. METHODOLOGY

In accordance with the *CEQR Technical Manual*, this analysis considers the effects of the Proposed Actions on the experience of a pedestrian. The assessment focuses on those elements that have the potential to alter the built environment, or urban design conditions, which is collectively formed by the following components:

- *Streets*. For many neighborhoods, streets are the primary component of public space. The arrangement and orientation of streets define the location and flow of activity in an area, set street views, and create the blocks on which buildings and open spaces are organized. The apportionment of street space between cars, bicycles, transit, and sidewalks and the careful design of street furniture, grade, materials used, and permanent fixtures, including plantings, street lights, fire hydrants, curb cuts, or newsstands are critical to making a successful streetscape.
- *Buildings*. Buildings support streets. A building's street walls form the most common backdrop in the City for public space. A building's size, shape, setbacks, lot coverage, and placement on the zoning lot and block; the orientation of active uses; and pedestrian and vehicular entrances all play major roles in the vitality of the streetscape. The public realm also extends to building façades and rooftops, offering more opportunity to enrich the visual character of an area.
- *Open Space*. Open space includes public and private areas such as parks, yards, cemeteries, parking lots, and privately owned public spaces.
- *Natural Features*. Natural features include vegetation and geologic, topographic, and aquatic features. Rock outcroppings, steep slopes or varied ground elevation, beaches, or wetlands may help define the overall visual character of an area.

- *View Corridors and Visual Resources*. A visual resource is the connection from the public realm to significant natural or built features, including important view corridors, views of the waterfront, public parks, landmark structures or districts, otherwise distinct buildings or groups of buildings, or natural resources.
- *Wind*. Channelized wind pressure from between tall buildings and downwashed wind pressure from parallel tall buildings may cause winds that affect pedestrian comfort and safety.

The analysis considers the urban design characteristics and visual resources of the Rezoning Area and the study area (see **Figure F-1**). The study area is the area within 400 feet of the Rezoning Area consistent with the analyses of land use, zoning, and public policy. The Project Site, the projected development sites, and study area are discussed in detail for existing conditions, Future without the Proposed Actions (the "No Action" condition), and the Future with the Proposed Actions (the "With Action" condition). The following analysis addresses each of these characteristics for existing conditions and the Future without and with the Proposed Actions for the 2023 Build Year.

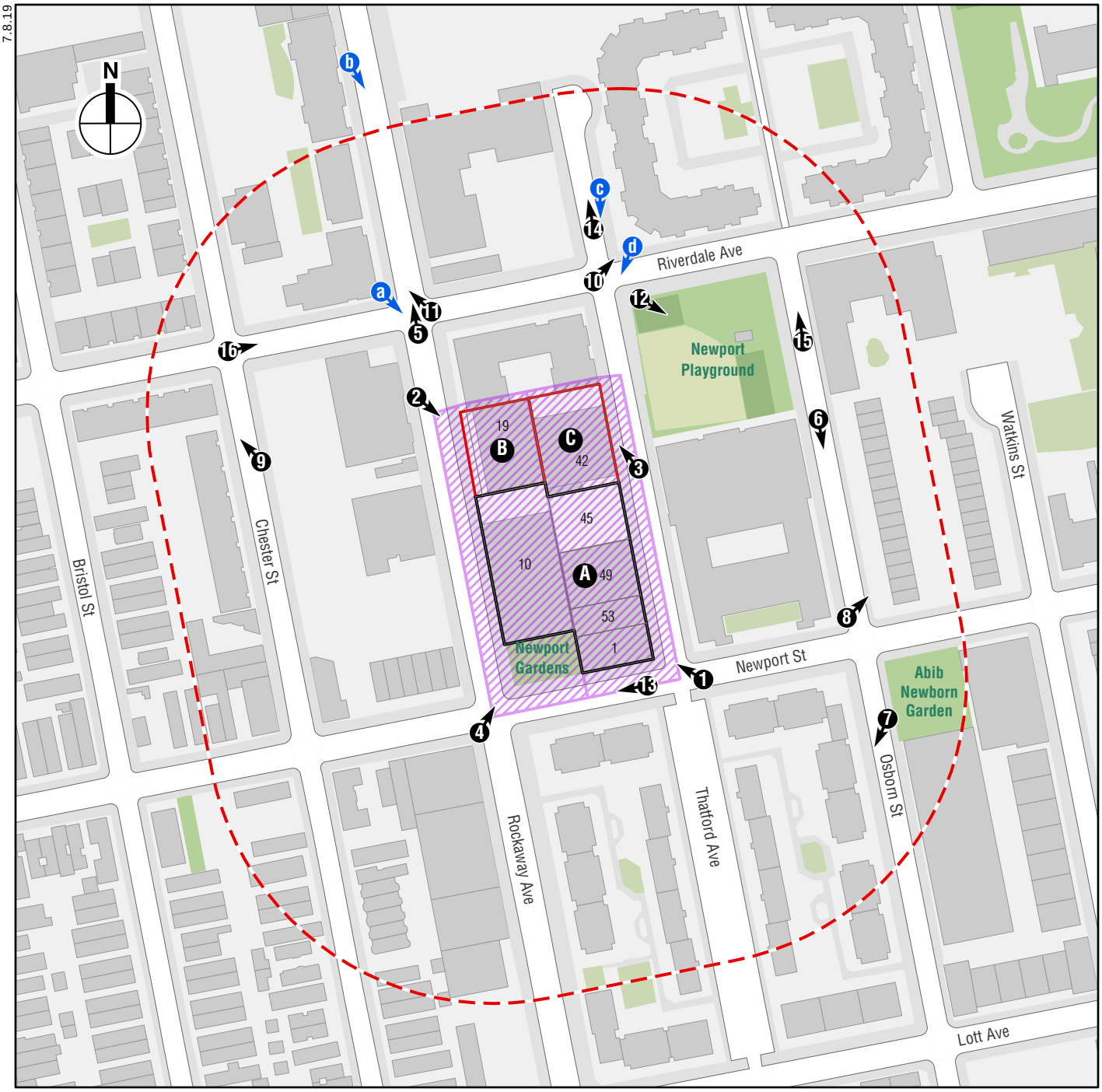
Based on the *CEQR Technical Manual*, a preliminary assessment of urban design and visual resources is appropriate when there is the potential for a pedestrian to observe, from the street level, a physical alteration beyond that allowed by existing zoning. Examples include projects that permit the modification of yard, height, and setback requirements, and projects that result in an increase in built floor area beyond what would be allowed "as-of-right" or in the No Action condition.

The Proposed Actions include a zoning map amendment to change an existing M1-1 zoning district to an MX district (M1-4/R6A and M1-4/R7A), which encompasses Sites A (Block 3603, Lots 1, 10, 45, 49, 53), B (Block 3603, Lot 19), and C (Block 3603, Lot 42); Lot 7; and part of Lot 25 (the "Rezoning Area"). The Proposed Actions would allow greater density in the Rezoning Area. Therefore, as the zoning changes would result in physical alterations beyond those allowed by existing zoning, the Proposed Actions would meet the threshold for a preliminary assessment of urban design and visual resources.

The *CEQR Technical Manual* guidelines state that if the preliminary assessment shows that changes to the pedestrian environment are sufficiently significant to require greater explanation and further study, then a detailed analysis is appropriate. Examples include projects that would potentially obstruct view corridors, compete with icons in the skyline, or make substantial alterations to the streetscape of a neighborhood by noticeably changing the scale of buildings. Detailed analyses also are generally appropriate for area-wide rezonings that include an increase in permitted floor area or changes in height and setback requirements, or projects that would result in substantial changes to the built environment of a historic district or components of a historic building that contribute to the resource's historic significance. Conditions that warrant consideration for further analysis of visual resources include projects that partially or totally block a view corridor or a natural or built visual resource and that resource is rare in the area or considered a defining feature of the neighborhood; or projects that change urban design features so that the context of a natural or built visual resource is altered (i.e., if the project alters the street grid so that the approach to the resource changes; if the project changes the scale of surrounding buildings so that the context changes; or if the project removes lawns or other open areas that serve as a setting for the resource).

The *CEQR Technical Manual* recommends an analysis of pedestrian wind conditions for projects that result in the construction of large buildings at locations that experience high wind conditions (such as along the waterfront, or other location where winds from the waterfront are not attenuated

7.8.19



Proposed Project Site

Non-Applicant Controlled Development Site

Rezoning Area

Study Area (400-foot perimeter)

Photograph View Direction and Reference Number

Photo Simulation View Direction and Reference Letter

45 *Tax Lots*

0 400 FEET

Urban Design and Visual Resources
Project Location
Figure F-1

803 ROCKAWAY AVENUE REZONING

by buildings or natural features), which may result in an exacerbation of wind conditions due to "channelization" or "downwash" effects that may affect pedestrian safety. The Proposed Actions would not result in the construction of large buildings at a location that experiences high wind conditions; therefore, a pedestrian wind analysis is not warranted.

C. EXISTING CONDITIONS

URBAN DESIGN

REZONING AREA

The Project Site is located at the southern end of the block bounded by Riverdale, Rockaway, and Thatford Avenues and Newport Street in the Brownsville neighborhood of Brooklyn (Block 3603, Lots 1, 10, 19, 42, 45, 49, and 53). Site A includes frontage along Rockaway Avenue, Newport Street, and Thatford Avenue. Site A is currently occupied by three vacant one-story, former industrial buildings containing 34,000 square feet (sf) of floor area and an unused parking lot (see Photo 1 of **Figure F-2**). The buildings are clad in red and brown brick. The eastern façade along Thatford Avenue has many of its windows and pedestrian openings filled with brick, with four vehicular openings with roll down metal gates and three pedestrian entrances. Additionally, along the roofline is a low-scale barbed wire fence. The southeast corner of the property contains a one-story manufacturing building. Along the southern façade visible to the public along the sidewalk, the building has a pedestrian entrance with two vehicular openings with roll down metal gates near the fence line of the Newport Community Garden. On the western façade along Rockaway Avenue, the building has two vehicular openings with roll down metal gates located at the northern and southern ends of the building, and three pedestrian entrances, one which is covered by a roll down metal gate. Underneath the roofline is a series of industrial windows that run almost the full length of the exterior and are protected by a metal mesh. In addition, as seen along the building's east side, metal fencing and barbed wire line the roof. At the rear of the site along the northern edge, the parking lot is enclosed by a chain-link fence with barbed wire. There are several curb cuts along Rockaway Avenue, Newport Street, and Thatford Avenue. The buildings are built to the lot line.

Projected Development Site B, located on Rockaway Avenue, is occupied by a one-story building that contains approximately 10,822 sf including 8,400 sf of retail space. The building is currently used as a laundromat (see Photo 2 of **Figure F-2**). The building on Site B occupies most of the lot, but is set back from Rockaway Avenue by a paved parking area. One long curb cut is located along Rockaway Avenue to allow for vehicular access to the parking spaces located along the front (western) façade of the building.

Projected Development Site C is approximately 14,000 sf and is occupied by a two-story building containing approximately 8,370 sf of manufacturing space and 8,370 sf of community facility space (a house of worship) (see Photo 3 of **Figure F-3**). With frontage along Thatford Avenue, the building is clad in brick with limited fenestration. The building on Site C is constructed to the lot line and covers most of the lot. There are two curb cuts along the street: one to access a vehicular opening located at the southern end of the east façade that is covered by a roll down metal gate; and another to access the part of the lot that is paved and is used for parking and loading. This area is enclosed by chain-link fencing with wrought iron gates.

In addition to Sites A, B, and C, the Rezoning Area includes the Newport Community Garden on Lot 7 at the northeast corner of Newport Street and Rockaway Avenue. The garden is enclosed by

View northwest from the intersection of Thatford Avenue and Newport Street of Site A (Block 3603, Lot 1, 10, 45, 49, and 53) **1**

View southeast along Rockaway Avenue of Site B (Block 3603, Lot 19) **2**

Rezoning Area — Existing Conditions

View northwest from Thatford Avenue of Site C (Block 3603, Lot 42) **3**

View northeast from the southwest corner of Rockaway Avenue and Newport Street of the Newport Community Garden (Block 3603, Lot 7) **4**

Rezoning Area — Existing Conditions

a chain-link fence (see Photo 4 of **Figure F-3**). The garden includes trees and plantings, as well as seating and a gardening shed.

A 10-foot-wide swath of Lot 25 located north of Sites B and C is within the Rezoning Area. Lot 25 is occupied with Riverway Apartments, a 95,000-sf, 115-unit affordable housing development. The seven-story building has a C-plan with street frontages along Rockaway, Riverdale, and Thatford Avenues. The building is set back from all three streets; a private courtyard is behind the building on Riverdale Avenue. The building is clad in tan and red brick with stone decoration on the corners. The building is also symmetrically fenestrated. Those portions of the site not built to the lot line along the ground floor are enclosed by wrought iron fencing. A curb cut is located along Thatford Avenue to access a vehicular opening that is protected by a sliding wrought iron gate.

STUDY AREA

The study area is generally bounded by Riverdale Avenue to the north, Osborn Street to the east, Newport Street to the south, and Chester Street to the west (see **Figure F-1**). The discussion below focuses on the study area's urban design characteristics and includes a description of visual resources.

Streets

The 400-foot study area generally has a typical urban grid pattern, except for two superblocks located on the outer edges of the study area. One superblock includes residential, retail, and utilities buildings, and is bounded by Riverdale, Rockaway, and Livonia Avenues, and Watkins Street; Thatford Avenue runs midway into the block north of Riverdale Avenue. The other superblock is bounded by Osborn and Newport Streets, Riverdale Avenue, and Mother Gaston Boulevard, and includes residential and public institutional buildings. The rest of the blocks in the study area are oriented north-south.

The primary thoroughfare in the study area is Rockaway Avenue, which runs north-south and ranges from 70 to 80 feet wide at various points with curbside parking and two-way traffic. Rockaway Avenue is the only street in the study area with active street-level uses, such as the Key Food Grocery, Far East Liquor, and the Family Dollar stores (see Photo 5 of **Figure F-4**). Riverdale Avenue and Newport Street are two other busy thoroughfares that run east-west in the study area with two-way traffic and curbside parking. The remaining streets in the study area are narrow, carry one-way traffic, and have curbside parking on both sides. Sidewalks are particularly wide along Rockaway Avenue.

Many of the narrower streets in the study area have small collections of mature trees lining the sidewalks. Rockaway and Riverdale Avenues, and Newport Street have few street trees (see Photo 6 of **Figure F-4**). Street furniture in the study area includes parking and bus stop signage, sheltered bus stops, trash cans, fire alarm boxes, mailboxes, and fire hydrants. The only bus route that runs through the area is the B60, which runs along Rockaway Avenue and has four stops within the study area.

Buildings

The study area is primarily residential, with institutional uses including the Salvation Army Corps Community Center and P.S. 41 (Walter Francis White) along Thatford Avenue and Osborn Street, and commercial buildings located mainly along Rockaway Avenue. The residential buildings in the study area typically have low lot coverage, with the exception of the newer, generally taller developments, which generally have greater lot coverage. There are also industrial buildings located along Rockaway and Thatford Avenues, and Osborn Street.

View north along Rockaway Avenue from Riverdale Avenue **5**

View south along Osborn Street with trees lining sections of the street **6**

Study Area — Existing Conditions

The portion of the study area between Rockaway Avenue and Osborn Street, south of Newport Street, is occupied by the Newport Gardens Apartments (see Photo 7 of **Figure F-5**). Built circa 1986, these buildings have frontage along Osborn and Newport Streets, as well as Rockaway Avenue, Thatford Avenue, and Lott Avenue, which is located outside the study area. This section of Thatford Avenue is closed off to the public via wrought iron fencing and mechanical gates to allow for vehicle access. The apartment complex includes approximately 128 dwelling units (DUs), and has two interior private courtyards with playground equipment and plantings. The buildings are set back from the street by greenspace with young trees. The buildings that comprise the apartment complex have brick faced bases with prefabricated concrete siding above, and ground floor entranceways that can be accessed via Newport and Osborn Streets, as well as Rockaway and Lott Avenues.

To the east of the Rezoning Area is P.S. 41 (Walter Francis White) and the Salvation Army Corps Community Center, as well as low-scale, attached residences. Built circa 1964, P.S. 41 is a low-scale, three-story structure with a large footprint. The northern portion of the property appears to be one-story. The school has frontage along Thatford Avenue, and Newport and Osborn Streets, with its main entrance located along Newport Street; two exits are located along Thatford Avenue and Osborn Street. The building includes two private play areas; a small play area along Newport Street enclosed by a low concrete wall with metal fencing above and a larger, chain-link enclosed playground behind the school along Riverdale Avenue. To the northeast of the school is the Salvation Army Corps Community Center. Located at the southeast corner of Osborn Street and Riverdale Avenue, the community center is a one-story brick building with high lot coverage. The rear of the property has a private playground area and parking. South of the community center, along Osborn Street running south towards Newport Street, are two-story attached residences. The residences are clad in brick and other siding and set back from the sidewalk by wrought iron fencing with landscaped areas and private driveways (see Photo 8 of **Figure F-5**). The property frontages along the street are typically fenced.

To the west of the Rezoning Area, on the blocks west of Rockaway Avenue and south of Riverdale Avenue the study area includes two- and three-story residences, the Marcus Garvey Apartments complex, and commercial buildings. Many of the residences located in the southwest section of the study area along Chester Street were built in the early to mid-20th century. The residences include two-family dwellings and walk-up apartment buildings. Primarily faced with brick, some of the buildings near the intersection of Chester Street and Newport Street have ground-floor commercial uses or are solely for commercial use. The residences are low-scale, and generally built along to the street line. Further north on Chester Street, between Riverdale Avenue and Newport Street, is a section of the Marcus Garvey Apartments. The Marcus Garvey Apartments are a three-story housing complex located predominately along Chester and Bristol Streets between Dumont and Riverdale Avenues (see Photo 9 of **Figure F-6**). The residential buildings, completed in 1976, have high lot coverage and large building footprints. Each building's first floor is set above the street with a visible basement level below. An exposed stairway leads to the basement level apartments, and another entrance leads to an interior stairwell that provides access to the first, second and third stories. Each structure has individual rear yards.

Newer residential buildings are located along Newport Street. The brick clad, three-story walk-up apartments are set back from the sidewalk separated by wrought iron fencing and private driveways. In addition, the wrought iron fencing separates the attached residences' driveways. The commercial buildings, located primarily along Rockaway Avenue, are one story and built to the lot line. Each of these commercial buildings has large signage on the exterior with large pane

The Newport Garden Apartments along Osborn Street **7**

View northeast along Osborn Street of newer residential developments **8**

Study Area — Existing Conditions

The Marcus Garvey Apartments along Chester Street **9**

View northeast of the Riverdale Osborne Towers from the intersection of Riverdale and Thatford Avenues **10**

windows. The buildings are not uniform, clad with concrete, brick, and metal. Their entrances and windows are protected by roll down metal gates.

The area north of Riverdale Avenue in the study area includes new residential, multi-story apartment developments, an old Verizon telephone building, and the Riverdale Osborne Towers. The Riverdale Osborne Towers, built in 1971, are along Riverdale Avenue between Thatford Avenue and Watkins Street, which is located outside the study area (see Photo 10 of **Figure F-6**). Constructed in two C-plans, the two buildings are set within a private, landscaped space enclosed by a green chain-link fence. Set back from the sidewalks, the nine-story buildings are faced with pre-fabricated, corrugated siding and brick. The buildings also have a private interior courtyard. To the west of the Riverdale Osborne Towers, located on the northeast corner of Riverdale and Rockaway Avenues, is an old Verizon Telephone Building built circa 1923. The three-story, L-shaped building occupies most of the lot, with the southeastern portion of the lot used for parking. The concrete building is symmetrically fenestrated along Rockaway Avenue, with a central entrance. A corrugated metal cornice wraps around the building's roofline. At the northwest corner of Riverdale and Rockaway Avenues are two five- and six-story residential buildings (see Photo 11 of **Figure F-7**). The building at 768 Rockaway Avenue is built to the lot line along Riverdale Avenue, but is set back from the sidewalk along Rockaway Avenue. This six-story, L-shaped structure has high lot coverage with an entrance along Riverdale Avenue. The building is faced in gray and red brick, with pre-fabricated paneling along the sixth floor. The ground floor windows are covered with metal bars. The Doña Rosita House II, adjacent to the north of 768 Rockaway Avenue, is a six-story apartment building with high lot coverage. The multi-colored, brick clad building is set back from the street, with a wrought iron fence extending in front of the property along the sidewalk. The entranceway is built to the lot line. Both of the buildings include exterior landscaping made up of young trees and low shrubbery.

Natural Features and Open Space

The topography of the study area is flat. Newport Playground, which is located just north of P.S. 41, occupies the full southern frontage on Riverdale Avenue between Thatford Avenue and Osborn Street (see Photo 12 of **Figure F-7**). At the southeast corner of Osborn and Newport Streets is the Abib Newborn Garden. Newport Playground contains basketball courts, handball courts, playgrounds, and spray showers with a small comfort station and number of mature trees. Abib Newborn Garden is a GreenThumb community garden with benches and plantings surrounded by a chain-link fence.

VISUAL RESOURCES

As defined in the *CEQR Technical Manual*, "a visual resource is the connection from the public realm to significant natural or built features, including views of the waterfront, public parks landmark structures or districts, otherwise distinct buildings or groups of buildings, or natural resources."

REZONING AREA

There are no visual resources located within the Rezoning Area. Views from the sidewalks adjacent to the Rezoning Area include new, taller developments north along Rockaway Avenue and in the distance, the New York City Transit Authority (NYCT) viaduct along Livonia Avenue outside the study area. Looking south along Rockaway Avenue, views include low-scale development and the 14-story buildings of the Earl W. Jimerson Housing complex to the south of the study area. Looking east and west from sidewalks adjacent to the Rezoning Area along Newport Street, the views are limited in the distance due to the presence of mature trees along the

View northwest at the intersection of Rockaway and Riverdale Avenues of 768 Rockaway Avenue and Doña Rosita House II **11**

View southeast along Riverdale Avenue of the Newport Playground **12**

street (see Photo 13 of **Figure F-8**). From adjacent sidewalks along Thatford Avenue, views north include partial views of the Riverdale Osborne Towers, the 16-story New York City Housing Authority (NYCHA) Tilden Houses, and the 22-story Langston Hughes Apartments in the distance.

STUDY AREA

Views north within the study area along Osborn Street and Rockaway and Thatford Avenues are shorter due to the intrusion of the NYCT viaduct along Livonia Avenue. The NYCT viaduct also obscures views north along Chester Street, but views north as well as south are also limited by mature trees that line much of the street. Views along Rockaway and Thatford Avenues, as discussed previously, include the NYCHA Tilden Houses and the Langston Hughes Apartments located north of the study area; views north from Osborn Street also include views of the Langston Hughes Apartments as well as the Riverdale Osborne Towers, which are partially located within the study area (see Photo 14 of **Figure F-8** and Photo 15 of **Figure F-9**).

Views within the study area are longest looking south along Rockaway Avenue and Osborn Street, and also looking east-west on Newport Street and Riverdale Avenue (see Photo 16 of **Figure F-9**). Looking south along Osborn Street, views are partially obscured due to mature trees that line the street. Looking south along Rockaway Avenue, as discussed above, there are views of the Earl W. Jimerson Housing complex south of the study area, in addition to mature trees along the street. Overall, views along the streets in the study area exclude any notable visual resources.

D. THE FUTURE WITHOUT THE PROPOSED ACTIONS

In the No Action condition, no new development is anticipated to take place within the Rezoning Area. It is assumed that the vacant former manufacturing building on Site A would be re-occupied with approximately 34,000 gsf of manufacturing uses. No changes are anticipated on Sites B and C, and existing conditions would remain. No land use changes are expected to occur under the No Action condition by 2023, nor are any other changes expected within the Rezoning Area. Therefore, urban design conditions within the Rezoning Area and study area are expected to remain unchanged from existing conditions.

E. THE FUTURE WITH THE PROPOSED ACTIONS

This section considers urban design and visual resources of the With Action condition in comparison to the No Action condition. **Figures F-10 through F-17** provide drawings showing development allowed under the proposed zoning.

URBAN DESIGN

REZONING AREA

The Proposed Actions include a zoning map amendment to change the existing M1-1 zoning district to an MX district (M1-4/R6A and M1-4/R7A). The Proposed Actions would allow new mixed-use developments to FARs of 3.6 to 4.6, respectively. The R7A district would be mapped along Rockaway Avenue and the R6A district would be mapped along Thatford Avenue to maintain a consistent scale with the surrounding neighborhood.

In the With Action condition, Site A would be redeveloped with a new mixed-use building containing up to approximately 124 affordable DUs, 62 SH units, approximately 3,040 gsf of ground floor community facility space, and approximately 39,000 gsf of light manufacturing space

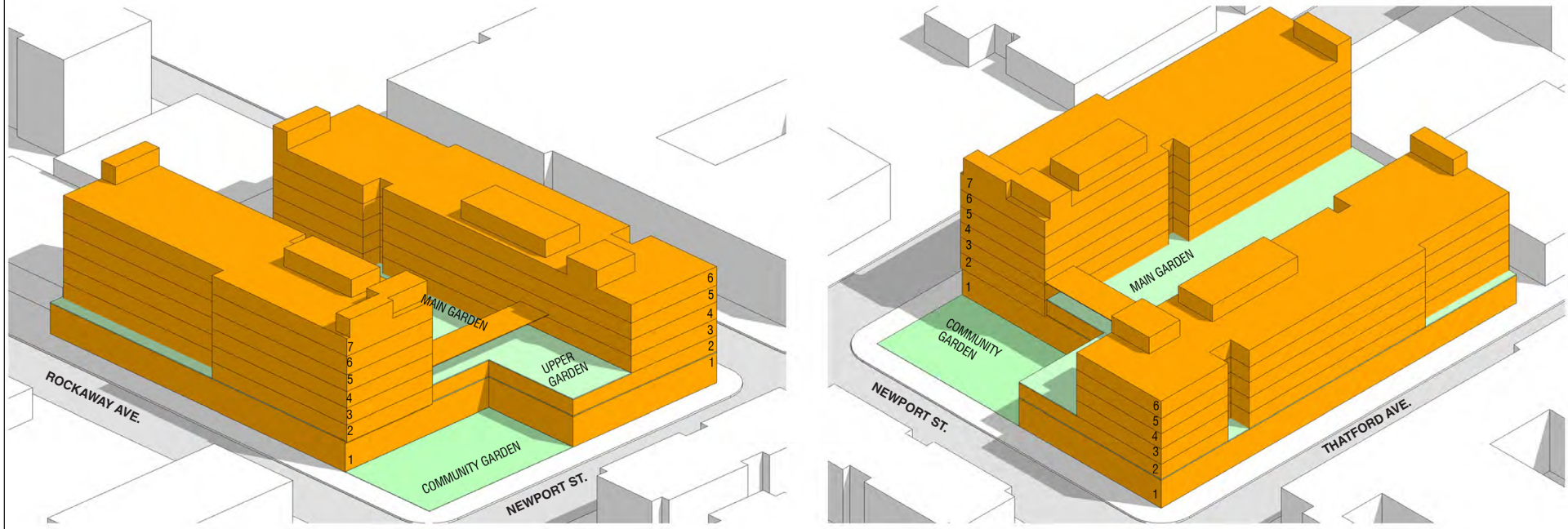
View west along Newport Street adjacent the Rezoning Area **13**

View north along Thatford Avenue near Riverdale Avenue with the NYCHA Tilden Houses and Langston Hughes Apartments visible in the distance **14**

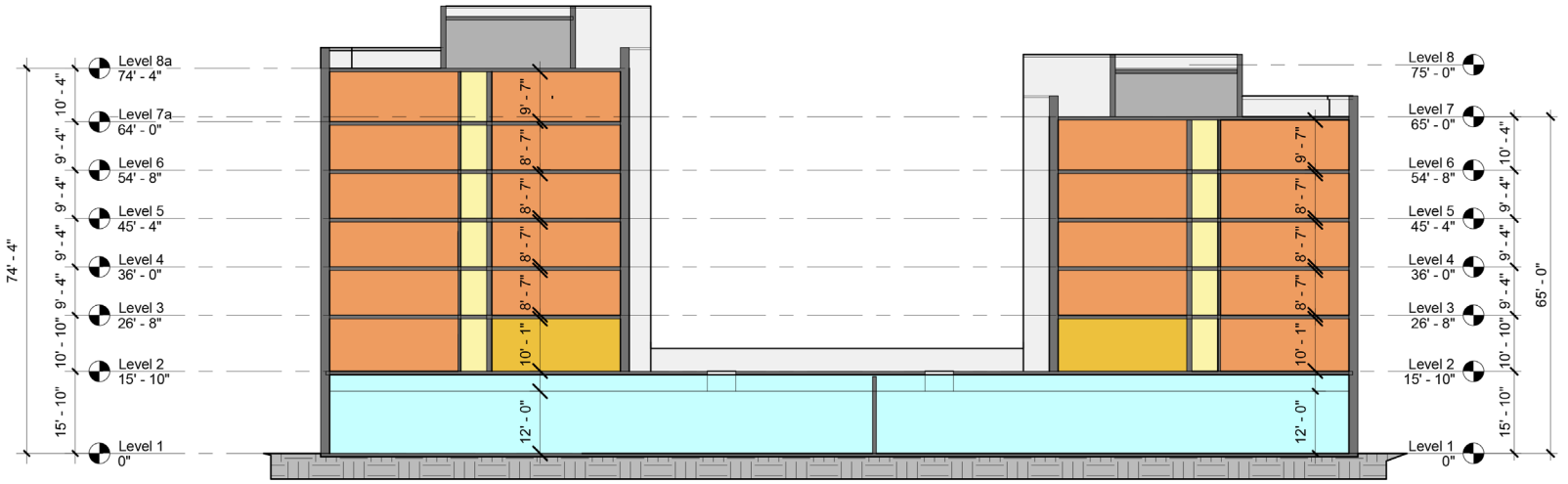
Study Area — Existing Conditions

View north along Osborn Street with the Riverdale Osborne Towers and Langston Hughes Apartments visible in the distance **15**

View east along Riverdale Avenue from Chester Street **16**

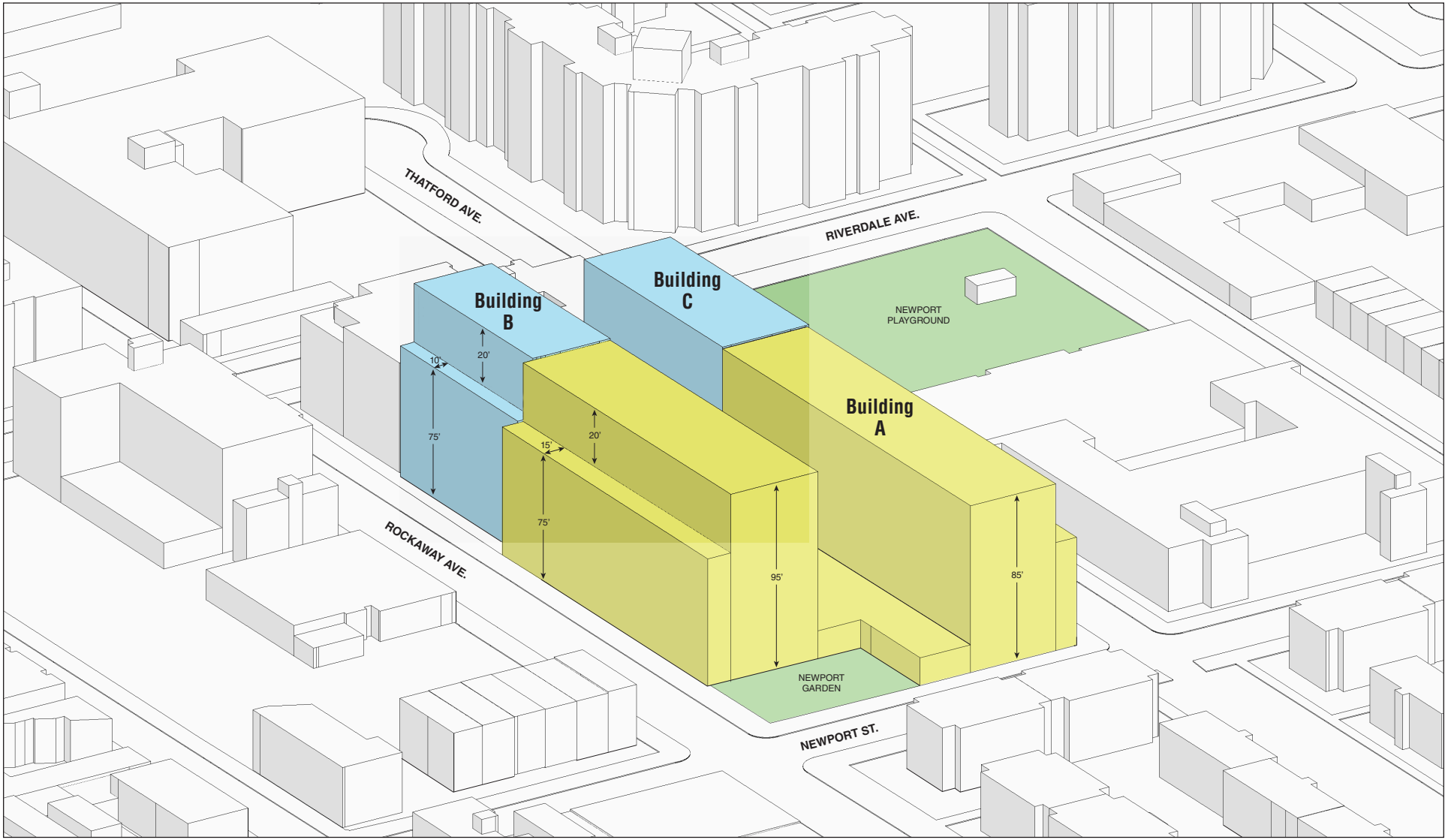


With Action - Axonometric Views of Site A



With Action - Schematic Section of Proposed Project

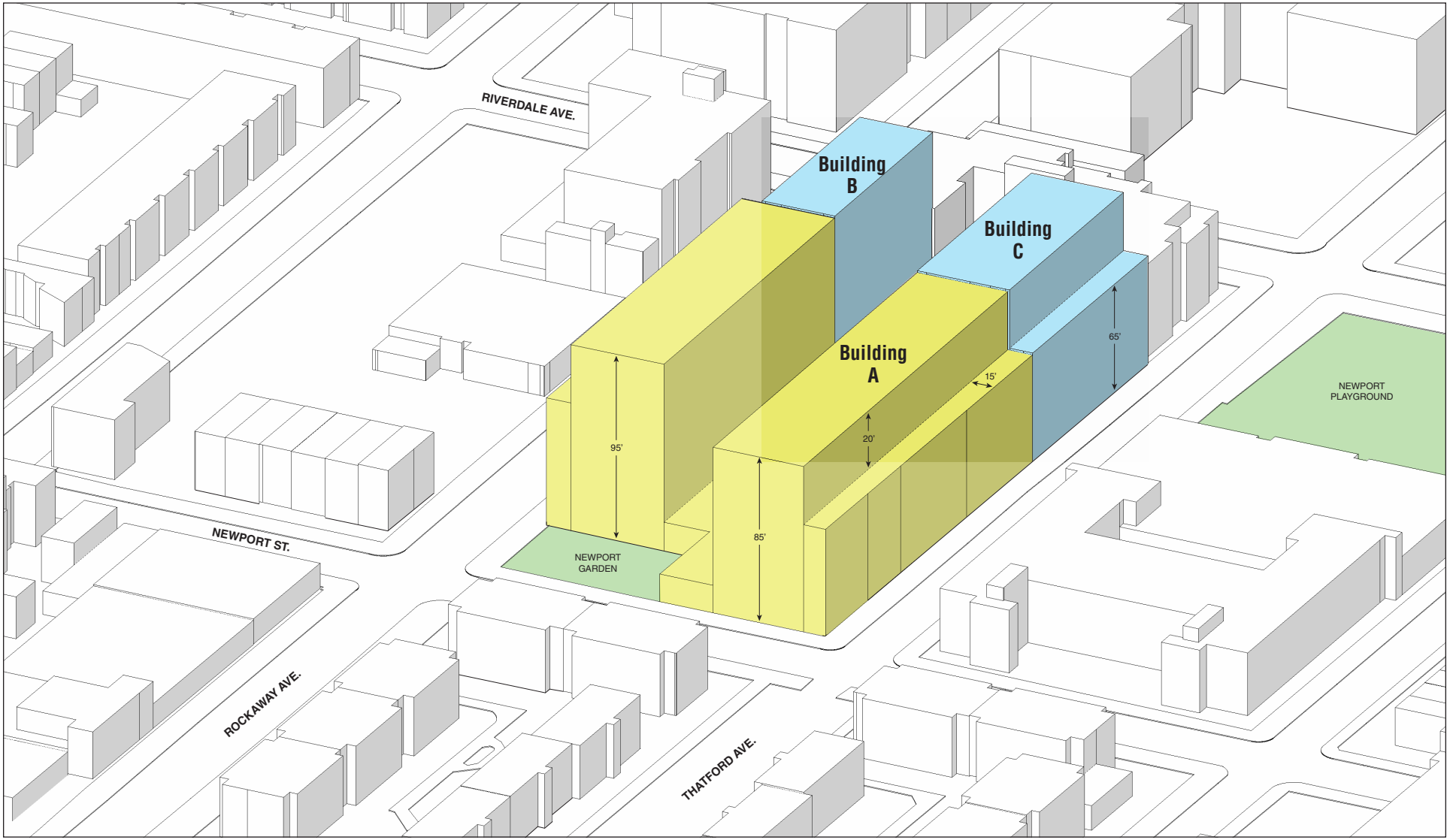
Figure F-11



With Action - RWCDS

803 ROCKAWAY AVENUE REZONING

Figure F-12



With Action - RWCDS

803 ROCKAWAY AVENUE REZONING

Figure F-13

Existing/No Action **a1**

With Action **a2**

View southeast of the Rezoning Area along Rockaway Avenue south of Livonia Avenue

Existing/No Action **b1**

With Action **b2**

View southeast of the Rezoning Area along Rockaway Avenue just north of Riverdale Avenue

Existing/No Action **c1**

With Action **c2**

View south of the Rezoning Area along Thatford Avenue just north of Riverdale Avenue

Figure F-16

Existing/No Action **d1**

With Action **d2**

View southwest of the Rezoning Area from Riverdale Avenue east of Thatford Avenue

(see **Figures F-10 and F-11**). The building would be oriented along Rockaway and Thatford Avenues. Access to the ground floor manufacturing space would be along Rockaway Avenue, and the residential and community facility space would be accessed from Newport Street.

As proposed by the Applicant, the Proposed Project on Site A would have six- and seven-story street walls along Rockaway and Thatford Avenues, with a two-story interior section with a rooftop garden. The Proposed Project would have a maximum height of 75 feet along Thatford Avenue, and 85 feet along Rockaway Avenue. These building heights are shorter than the maximum building heights of 85 feet allowed within the proposed M1-4/R6A district on Thatford Avenue, and 95 feet allowed within the proposed M1-4/R7A district along Rockaway Avenue. To ensure a conservative analysis, the Environmental Assessment Statement (EAS) considers the maximum building heights allowed under the proposed zoning, and assesses a proposed development on Site A that has a base of 75 feet with a 15-foot setback, and rises to a maximum height of 95 feet. Along Thatford Avenue, the EAS assumes that development on Site A would have a base of 65 feet with a 15-foot setback, rising to a maximum height of 85 feet (see **Figures F-12 and F-13**). As compared to the No Action condition, new development on Site A would cover the entire site and include residential, supportive housing, and community facility space. The Proposed Project would be compatible with the massing and height of the seven-story Riverway Apartments, which is located north of the Rezoning Area. Like the No Action condition, light manufacturing space would be allowed to remain on Site A in the With Action condition, but the Proposed Actions would facilitate additional light manufacturing space by occupying nearly the entirety of the ground floor space on Site A.

The existing Newport Community Garden at the northeast corner of Newport Street and Rockaway Avenue would remain in the With Action condition, and would not be significantly affected by the Proposed Actions. As discussed in Attachment E, "Shadows," although some incremental shadow would fall on the garden in the morning hours during the spring and summer, ample sunlight would be continue to be available and the limited shadows reaching Newport Community Garden would not affect utilization, as the garden is closed in the morning when most incremental shadows would fall on the garden. Furthermore, the Proposed Actions would result in a more consistent street wall along Thatford and Rockaway Avenues as compared to the No Action condition. As described above, a roof garden would be provided at the second story between the Proposed Project's towers. The six- and seven-story towers would set back at the second story along Rockaway and Thatford Avenues.

In addition to the Applicant's proposal, the proposed zoning changes would be expected to result in development on sites not controlled by the Applicant on Sites B and C (see **Figures F-12 and F-13**). Site B is projected to be developed with approximately 33 DUs, approximately 11,471 gsf of ground-floor retail space, and approximately 11,471 gsf of community facility space on the second floor. The new building along Rockaway Avenue would have a street wall that would rise 75 feet, have a 10[1]-foot setback, and rise to a maximum height of 95 feet. Like the Proposed Project, the new building on Site B would reinforce the street wall along the east side of Rockaway Avenue between Riverdale Avenue and Newport Street. The new building on Site B would also be taller than the building expected in the No Action condition, but would be similar in massing and size to the buildings directly to the north and south of Site B and the Rezoning Area, including the western portion of the Proposed Project on Site A.

[1] A 10-foot setback would be permitted since this site is adjacent to a part of Rockaway Avenue that is a wide street.

Projected Development Site C is assumed to be developed with 43 DUs and approximately 14,840 sf of community facility space. The building would create a consistent street wall along Thatford Avenue by eliminating the parking lot and replacing it with a new building. Additionally, the development on Site C is expected to contain community facility space. The projected development on Site C would have a base height of 65 feet, set back 15 feet, and rise to a maximum height of 85 feet. The new building would be taller in comparison to the one-story structure on Site C in the No Action condition; however, the new development would be similar in height and massing to the new and existing developments immediately surrounding it including the Riverdale Osborne Towers and the eastern portion of the proposed building at Site A.

STUDY AREA

The Proposed Project and projected development on Sites B and C would not result in any changes to buildings, natural features, open spaces, or streets in the study area. In comparison with the No Action condition, the new buildings on Sites A, B, and C would result in taller and larger buildings that would be consistent with the urban design character of the surrounding area, which includes recently constructed residential buildings on Rockaway Avenue north of Riverdale Avenue—the Riverway Apartments and Riverdale Osborne Towers—as well as proposed new construction outside the study area (see **Figures F-14 and F-15**).[2] The Proposed Actions would replace underutilized sites with new mixed-use buildings, creating a consistent street wall along Rockaway and Thatford Avenues. The Proposed Actions would promote active mixed-use corridors by enlivening Newport Street and Rockaway and Thatford Avenues with new residential space. The Proposed Actions would generate activity along these corridors. By allowing residential use in the Rezoning Area, the Proposed Actions would create improved linkages between the residential neighborhood south of Newport Street and north of Riverdale Avenue. The construction of new buildings on Sites A, B, and C would require the planting of street trees, which would enhance the visual character of the study area as compared to existing and No Action conditions, and thus would enhance the pedestrian experience of the neighborhood.

Compared to the No Action condition, the Proposed Actions would result in the development of a six- to seven-story building on Site A, and two structures 85 to 95 feet in height on Sites B and C. The new buildings would change the urban design context of the study area by replacing underutilized sites with three new, mixed-use buildings that would be consistent with use and bulk of the adjacent seven-story Riverway Apartments along Riverdale Avenue between Rockaway and Thatford Avenues, the nine-story Riverdale Osborne Towers located in the northeast section of the study area, as well as the two new five and six stories tall residential developments on the northwest corner of Rockaway Avenue and Riverdale Avenue (see **Figures F-14 through F-17**). The new developments on Sites A through C would also add visual interest to the Rezoning Area and would improve the pedestrian experience on surrounding streets by including retail on Site B, which would provide visual interest to the pedestrian. The new developments would have similar lot coverage and footprints to most of the buildings located along Rockaway Avenue and to the east.

The proposed mix of residential, retail, light manufacturing, and community facility uses would be in keeping with existing uses in the study area. Compared to the No Action condition, the Proposed

[2] A recently approved project located within the Marcus Garvey Apartment complex (southern portion located in the 400-foot study area) involves the development of seven eight- to nine-story multifamily residential buildings with local retail space and/or community facility space. The seven sites are located along the north and south sides of Livonia Avenue and along Chester Street.

Actions would activate underutilized lots and provide visual interest to the pedestrian at street level. The new residential and ground floor retail and community facility spaces would contribute to enlivened pedestrian activity along surrounding streets. Therefore, the Proposed Actions would not adversely affect any urban design features of the study area or the pedestrian's experience of those characteristics, and no significant adverse impacts related to urban design would occur.

VISUAL RESOURCES

REZONING AREA

As described above, there are no visual resources located within the Rezoning Area. In the With Action condition, views from the sidewalks adjacent to the Rezoning Area would continue to include the newer, taller developments north along Rockaway Avenue and in the distance, the NYCT viaduct along Livonia Avenue. Views south along Rockaway Avenue would continue to include the low-scale development and the Earl W. Jimerson Housing complex to the south. The views east and west from sidewalks adjacent to the Rezoning Area along Newport Street, would remain limited to the presence of mature street trees blocking the low-scale development. Views along from adjacent sidewalks along Thatford Avenue would continue to include partial views of the Riverdale Osborne Towers, the NYCHA Tilden Houses, and the Langston Hughes Apartments.

STUDY AREA

In the With Action condition, the new developments on Sites A, B, and C would be prominently visible from the surrounding streets, particularly along Rockaway, Riverdale and Thatford Avenues, and Newport Street (see **Figures F-14 through F-17**). In such views, the projected developments would be consistent with the urban design of the Riverway Apartments, Riverdale Osborne Towers, 768 Rockaway Avenue, and the Doña Rosita House II along Rockaway and Riverdale Avenues. Some views of the new developments on Sites A, B, and C would be obstructed by mature trees, particularly during spring and summer months.

The proposed buildings would not impact views north or south along Osborn and Chester Streets; in any case there are no visual resources in the study area. Views south and north along Rockaway and Thatford Avenues within the study area would continue to include the NYCHA Tilden Houses and Langston Hughes Apartments located north of the study area. Views within the study area would remain longest along east-west Newport Street, and Riverdale Avenue, as well as south along Rockaway Avenue and Osborn Street.

In conclusion, the Proposed Actions would not result in the elimination of any existing view corridors or the obstruction of views to any visual resources. The new buildings in the Rezoning Area would change the urban design context of the study area by replacing underdeveloped sites with three new mixed-use buildings; however, the projected development on Sites A, B, and C would be consistent with the use, height and size of existing and planned developments in the surrounding area, including Riverway Apartments, the Riverdale Osborne Towers, and the planned Marcus Garvey Extension buildings. The projected developments would contribute to improved urban design conditions in the study area. Therefore, the Proposed Actions would not result in any significant adverse impacts on urban design and visual resources. ✷

A. INTRODUCTION

This attachment considers the potential for the Proposed Actions to result in significant adverse impacts associated with hazardous materials. As discussed in Attachment A, "Project Description," the Proposed Actions would result in new residential and supportive housing space as well as retail space, community facility space, and manufacturing space on three projected development sites in the Brownsville neighborhood of Brooklyn.

The Proposed Actions would result in the development of new mixed-use buildings on the Project Site (Site A) and Sites B and C. Construction activities would require demolition of existing buildings followed by subsurface disturbance and excavation for the foundations of new buildings, which would include cellars, ground-floor manufacturing or retail space, and community facility space and/or residential space above. This assessment considers the potential for exposure to hazardous materials during and following construction, and the specific measures that would be employed to protect public health, worker safety, and the environment.

The analysis is based on a review of existing studies of the Project Site, including Phase I Environmental Site Assessment (ESA) (non-ground-intrusive research) and Phase II (subsurface sampling) studies. The studies revealed that Site A was historically used for manufacturing and that a nearby historical dry cleaner may have affected Site A, but testing performed to date at Site A did not indicate that the latter had actually occurred. Based on the Phase I ESA, Site B currently includes a laundry/dry cleaner, but it is unknown if dry cleaning is or was historically conducted on the premises. Site C had no identified current or historical uses of obvious concern for hazardous materials (a house of worship currently occupies a former clothing factory building). All three sites were once part of a large lumber yard. Impacts associated with demolition of the existing buildings and construction of the new buildings, would be avoided by incorporating a range of measures, as detailed below.

B. EXISTING CONDITIONS

SUBSURFACE CONDITIONS

The projected development sites are approximately 25 feet above mean sea level. Soil encountered during the Phase II investigation (see below) of the Project Site consisted mainly of fill material extending 5 to 15 feet below grade, underlain by native sands. Groundwater was first encountered at 15 to 19 feet below grade and would be anticipated to flow in an approximately southeasterly direction toward Fresh Creek, located approximately 1 mile away. Groundwater in the vicinity is not used as a source of potable water. Bedrock would be anticipated to be several hundred feet below grade.

PHASE I ESA

The June 2017 *Phase I ESA*, prepared by Hillmann Consulting, LLC, conducted in accordance with ASTM E1527-13, identified evidence of Recognized Environmental Conditions (RECs) for the Project Site, i.e., "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property," specifically:

- The Project Site was historically used for manufacturing and is located in a manufacturing zoning district.
- A dry cleaner was formerly located at 650 Rockaway Avenue (approximately 1,300 feet to the north-northwest and therefore likely hydrologically up-gradient from the Project Site). Investigations of that site indicated soil, soil vapor, and groundwater were contaminated with tetrachloroetheylene (PCE), a common dry cleaning solvent, and some of its breakdown products. A sub-slab depressurization system was installed to prevent contamination entering the overlying building. According to the regulatory database, sampling is needed to determine whether soil vapor intrusion is a concern for off-site buildings.
- Site B, at 785-795 Rockaway Avenue, includes a dry cleaner that is known to have been present since 2002. It is unknown whether dry cleaning is or was ever conducted on the premises.

Although not considered RECs, based on the Phase I ESA, all three sites were historically part of a large lumber yard. Sites B and C were historically used for clothing manufacturing.

The Phase I ESA also identified historical petroleum tanks at Site A: one 2,750-gallon No. 2 fuel oil underground storage tank (UST) installed in 1966 and closed-in-place in 1999, and a 3,000-gallon UST associated with a 1992 closed-status spill case (due to a tank test failure). Two 275-gallon heating oil above-ground storage tanks (ASTs) were observed in a basement mechanical room during the Phase I ESA site inspection. The interiors of the buildings on Sites B and C were not inspected.

Although not a part of the Phase I ESA ASTM scope, given the age of the existing buildings, there is the potential for the presence of polychlorinated biphenyls (PCBs) or mercury-containing components, asbestos-containing materials (ACMs), and lead-based paint (LBP) within the buildings.

PHASE II INVESTIGATION

The July 2017 *Phase II Investigation Report*, also conducted by Hillman, was limited to the perimeter/outdoor portions of the Project Site. Four borings were advanced to 20 feet below grade with six soil samples collected for laboratory analysis. Three borings were retrofitted with temporary well points to facilitate collection of three groundwater samples for laboratory analysis. Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, pesticides, and polychlorinated biphenyls (PCBs). Three soil vapor samples were also collected from beneath the sidewalk or parking lot and analyzed for VOCs only.

The soil sampling results were compared to the 6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs) and the Restricted—Residential Soil Cleanup Objective (RRSCOs). Acetone was the only VOC that exceeded its UUSCO, but acetone is most frequently a laboratory artifact. Polycyclic aromatic hydrocarbons (a class of SVOCs most commonly associated with ash and other combustion by products, common in urban fill material) were detected in one sample

above UUSCOs and/or RRSCOs. Mercury was detected in one sample above its RRSCO and several other metals in this and another sample exceeded UUSCOs. These findings are typical of fill material. No pesticides or PCBs exceeded UUSCOs or RRSCOs.

The groundwater sampling results were compared to the New York State Department of Environmental Conservation (NYSDEC) Technical and Administration Guidance Series (TOGS) 1.1.1 Class GA Standards and Guidance Values (note that these were developed assuming use as a drinking water supply, a scenario that does not and will not occur at the Project Site). No VOCs, pesticides or PCBs exceeded the Class GA criteria. Several polycyclic aromatic hydrocarbons (PAHs) in one sample and several metals in one to three samples, including aluminum, iron, lead, and manganese, exceeded Class GA criteria.

Multiple VOCs were detected in all soil vapor samples, including typically petroleum-related compounds and chlorinated solvents. There are no standards for soil vapor. However, no VOCs exceeded New York State Department of Health Indoor Air Guideline Values (contained in the *Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York*, dated October 2006 with updates in 2013, 2015, and 2017).

The May 2019 *Phase II Investigation Report*, conducted by AKRF, Inc., was performed within the existing building on the Project Site. Two borings were advanced to approximately 25 feet below grade with six soil samples collected for laboratory analysis. The two borings were retrofitted with temporary well points to facilitate collection of three groundwater samples for laboratory analysis. Soil and groundwater samples were analyzed for VOCs, SVOCs, metals (total and dissolved for groundwater), pesticides, and PCBs. Two soil vapor samples were also collected from beneath the existing building slab and analyzed for VOCs only.

The soil sampling results were compared to the 6 NYCRR Part 375UUSCOs and RRSCOs. Acetone was the only VOC that exceeded its UUSCO, but acetone is most frequently a laboratory artifact. Polycyclic aromatic hydrocarbons (a class of SVOCs most commonly associated with ash and other combustion by products, common in urban fill material) were detected in one sample above UUSCOs and/or RRSCOs. Lead, mercury, and/or zinc were detected in one or more soil samples above the UUSCOs but remained below the RRSCOs. These findings are typical of fill material. No pesticides or PCBs exceeded UUSCOs or RRSCOs.

The groundwater sampling results were compared to the NYSDEC TOGS 1.1.1 Class GA Standards and Guidance Values (note that these were developed assuming use as a drinking water supply, a scenario that does not and will not occur at the Project Site). The VOCs acetone, chloroform and tetrachloroethene and o-xylene were detected in one or more of the samples below Class GA criteria. No pesticides or PCBs exceeded the Class GA criteria. Several PAHs in one sample and several metals in one or more samples, including iron, manganese, and sodium, exceeded Class GA criteria.

Multiple VOCs were detected in the two soil vapor samples at very low levels, including typically petroleum-related compounds and chlorinated solvents. None of the detected VOCs indicated an on-site release. There are no standards for soil vapor. However, no VOCs exceeded New York State Department of Health Indoor Air Guideline Values (contained in the *Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York*, dated October 2006 with updates in 2013, 2015, and 2017).

C. THE FUTURE WITHOUT THE PROPOSED ACTIONS

In the Future without the Proposed Actions (the "No Action" condition), it is assumed that the vacant former manufacturing building on Site A would be re-occupied with manufacturing uses and that the current uses at Sites B and C would continue. No other changes would be expected. Without the demolition and soil disturbance associated with the Proposed Actions, the potential for exposure to hazardous materials in the buildings would be avoided by compliance with applicable regulatory programs, e.g., related to ACM and LBP, and the potential for exposure to hazardous materials in the subsurface would be eliminated.

D. THE FUTURE WITH THE PROPOSED ACTIONS

In the Future with the Proposed Actions (the "With Action" condition), Sites A, B, and C would be rezoned to allow residential use and increased density. Demolition and subsurface disturbance would be required, potentially increasing exposure to hazardous materials. Impacts at Site A would be avoided by implementing the following:

- Demolition would be conducted in compliance with applicable regulatory requirements, e.g., for ACM, LBP, etc.
- Given the 2017 Phase II Investigation was limited to the perimeter of the Project Site/Site A, an additional subsurface investigation was conducted beneath the existing buildings on Site A in May 2019 (before demolition and excavation for the Proposed Project), involving the collection of soil, groundwater, and soil vapor samples for laboratory analysis. The Phase II Investigation was completed under a New York City Department of Environmental Protection-approved (DEP) Work Plan and Health and Safety Plan (HASP).
- Based on the investigation findings (and those of the investigation already conducted), a Remedial Action Plan (RAP) and associated Construction Health and Safety Plan (CHASP) were prepared for implementation during subsurface work associated with the construction at Site A. The RAP and CHASP are subject to review and approval by the DEP. The RAP includes requirements for soil stockpiling, soil disposal and transportation; dust control; quality assurance; and contingency measures should underground petroleum storage tanks or soil/groundwater contamination be encountered. The RAP also proposes the installation of a vapor barrier as a part of the new foundation. The vapor barrier would have a minimum thickness of 20-millimeters such as the Stego®Wrap vapor barrier or Drago®Wrap vapor barrier or the equivalent, which would be applied to the underside of the foundation slab and the outside of sub-grade walls. The purpose of the CHASP is to present a hazard evaluation and to provide for contingencies that might arise during construction at the project site, including specifying appropriate measures to be implemented if USTs, soil and groundwater contamination, or other unforeseen environmental conditions were to be encountered. Following construction, occupancy permits would only be issued once DEP received documentation, in the form of a Remedial Closure Report (RCR) prepared by a New York-licensed Professional Engineer, that the RAP and CHASP were properly implemented.
- Applicable regulatory requirements would be followed at Site A, e.g., properly disposing of any excess soil; reporting to NYSDEC any signs of a petroleum spill (removing and registering encountered tanks); de-watering in accordance with DEP requirements should dewatering be required.

To ensure that there would be no significant adverse hazardous materials impacts associated with the Proposed Actions on Site B (Block 3603, Lot 19) and Site C (Block 3603, Lot 42), an E Designation (E-561) will be placed on the sites as follows:

TASK 1 - SAMPLING PROTOCOL

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

TASK 2 - REMEDIATION DETERMINATION AND PROTOCOL

A written report with findings and a summary of the data must be submitted to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by OER if the results indicate that remediation is necessary. If OER determines that no remediation is necessary, written notice shall be given by OER. If remediation is indicated from the test results, a proposed remediation plan must be submitted to OER for review and approval. The applicant must complete such remediation as determined necessary by OER. The applicant should then provide proper documentation that the work has been satisfactorily completed. An OER-approved construction-related health and safety plan would be implemented during evacuation and construction and activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil and/or groundwater. This plan would be submitted to OER for review and approval prior to implementation. ✷

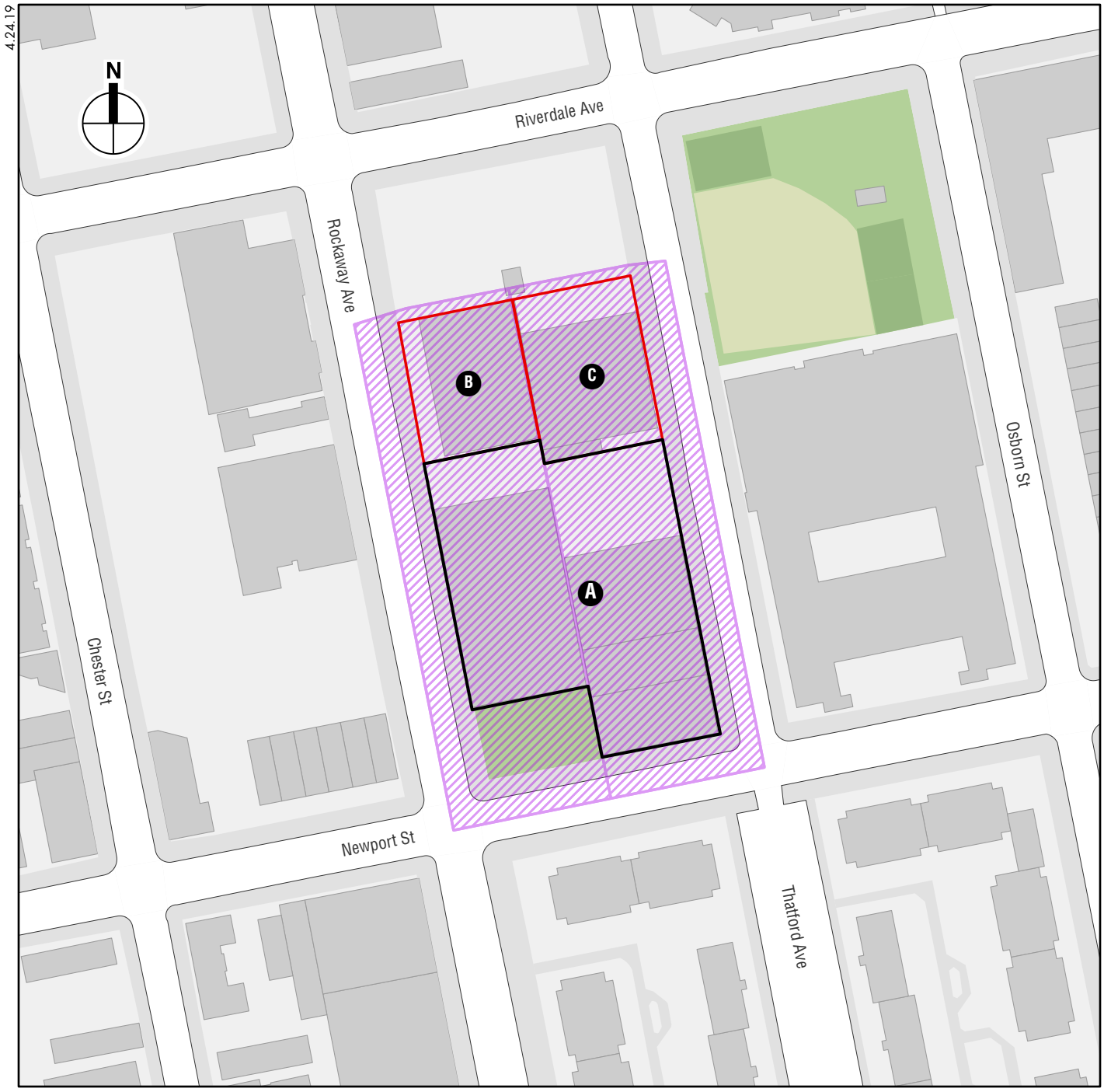
A. INTRODUCTION

This attachment examines the potential impacts of the Proposed Actions on transportation systems. As described in Attachment A, "Project Description," the Rezoning Area is generally bounded by Thatford Avenue to the east, Riverdale Avenue to the north, Rockaway Avenue to the west, and Newport Street to the south. The Proposed Actions would facilitate the development of up to approximately 200 dwelling units (DUs) (including 147 affordable DUs), 62 supportive housing (SH) units, 39,000 gross square feet (gsf) of light manufacturing space, 29,351 gsf of community facility space, and 11,471 gsf of local retail space (the "Projected Development").

This attachment details the trip generation assumptions and travel demand estimates associated with the Projected Development. The Proposed Actions would result in new development on three projected development sites: Sites A, B, and C (see **Figure H-1**). Under existing condition, Site A is occupied with three vacant, former industrial buildings; Site B contains approximately 8,400 gsf of local retail space; and Site C contains approximately 8,370 gsf of manufacturing space and 8,370 gsf of community facility space (a house of worship).

Under the Future without the Proposed Actions (the "No Action" condition), Site A would be re-occupied with approximately 34,000 gsf of light industrial/manufacturing uses; Sites B and C are expected to remain unchanged from the existing condition. In total, the three projected development sites would contain approximately 42,370 gsf of light industrial/manufacturing, 8,400 gsf of local retail, and 8,370 gsf of house of worship under the No Action condition. Under the Future with the Proposed Actions (the "With Action" condition), Site A would be developed with a new mixed-use building containing approximately 124 DUs, 62 SH units, approximately 3,040 gsf of community facility space (assumed to be offices for a local nonprofit organization), and approximately 39,000 gsf of light manufacturing space (the "Proposed Project"). As discussed in Attachment A, "Project Description," the Proposed Project's supportive housing would be provided by The Bridge. The Bridge would provide rehabilitative services in a 2,960-gsf space on Site A. The supportive service component associated with the Proposed Project is also assumed to be a nonprofit office use for transportation planning purposes. Site B would be developed with 33 DUs, approximately 11,471 gsf of local retail space, and approximately 11,471 gsf of community facility space. Site C would be developed with 43 DUs and approximately 14,840 gsf of community facility space. The With Action community facility space on Sites B and C are assumed to be one-third medical office use and the remaining two-thirds assumed to be general community center use. In total, the three projected development sites would be developed with approximately 200 DUs, 62 SH units (and 2,960 gsf of space for supportive services for the Proposed Project's SH tenants), 39,000 gsf of light industrial/manufacturing, 3,040 gsf of nonprofit community facility office space, 11,471 gsf of local retail, 8,771 gsf of community facility/medical office, and 17,540 gsf of general community facility space under the With Action condition.

Table H-1 provides a comparison of the development programs between the No Action and With Action conditions.



Project Location

803 ROCKAWAY AVENUE REZONING

Figure H-1

Table H-1
Comparison of No Action and With Action Conditions

Components	Existing/No Action	With Action	Increment
Site A—Proposed Project			
Residential (DUs)		124	124
Supportive Housing (SH) Units		62	62
Light Industrial/Manufacturing (gsf)	34,000	39,000	5,000
Nonprofit Office (gsf)		6,000	6,000
Local Retail (gsf)			
Medical Office (gsf)			
Community Center (gsf)			
House of Worship (gsf)			
Site B—Projected Development Site [(1)]			
Residential (DUs)		33	33
Local Retail (gsf)	8,400	11,471	3,071
Medical Office (gsf)		3,824	3,824
Community Center (gsf)		7,647	7,647
Site C—Projected Development Site [(1)]			
Residential (DUs)		43	43
Light Industrial/Manufacturing (gsf)	8,370		-8,370
Medical Office (gsf)		4,947	4,947
Community Center (gsf)		9,893	9,893
House of Worship (gsf)	8,370		-8,370
Rezoning Area			
Residential (DUs)		200	200
SH Units		62	62
Light Industrial/Manufacturing (gsf)	42,370	39,000	-3,370
Nonprofit Office (gsf)		6,000	6,000
Local Retail (gsf)	8,400	11,471	3,071
Medical Office (gsf)		8,771	8,771
Community Center (gsf)		17,540	17,540
House of Worship (gsf)	8,370		-8,370

Note:
[(1)] Under the With Action condition, assumed one-third community facility use to be medical office and two-thirds to be general community center
Sources:
The Bridge Rockaway Housing Development Fund Company, Inc., and AKRF, Inc.

B. TRANSPORTATION PLANNING ASSUMPTIONS

Trip generation factors for the Projected Development were developed based on information from the 2014 *City Environmental Quality Review (CEQR) Technical Manual*, the 2016 *East New York Rezoning Proposal Final Environmental Impact Statement (FEIS)*, trip generation survey conducted by the New York City Department of Transportation (DOT) in Brooklyn for local retail and medical office uses, and U.S. Census Data—as summarized in **Table H-2**.

Table H-2
Travel Demand Factors

Use	Residential			Supportive Housing			Light Industrial/Manufacturing			Nonprofit Office		
Total Daily Person Trip	(1) Weekday 8.075 Trips / DU			(1) Weekday 8.075 Trips / DU			(2) Weekday 14.70 Trips / KSF			(1) Weekday 18.00 Trips / KSF		
Trip Linkage	0%			0%			0%			0%		
Net Daily Person trip	Weekday 8.075 Trips / DU			Weekday 8.075 Trips / DU			Weekday 14.70 Trips / KSF			Weekday 18.00 Trips / KSF		
	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Temporal	(1)			(1)			(2)			(1)		
	10.0%	5.0%	11.0%	10.0%	5.0%	11.0%	13.2%	11.0%	14.2%	12.0%	15.0%	14.0%
Direction	(2)			(2)			(2)			(2)		
In	15%	50%	70%	15%	50%	70%	88%	50%	12%	96%	39%	5%
Out	85%	50%	30%	85%	50%	30%	12%	50%	88%	4%	61%	95%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Modal Split	(3)			(3)			(2)(4)			(2)(4)		
	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Auto	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	49.0%	2.0%	49.0%	49.0%	2.0%	49.0%
Taxi	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	3.0%	1.0%	1.0%	3.0%	1.0%
Subway/Rail	52.0%	52.0%	52.0%	52.0%	52.0%	52.0%	18.0%	6.0%	18.0%	18.0%	6.0%	18.0%
Bus	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	6.0%	17.0%	17.0%	6.0%	17.0%
Walk	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	15.0%	83.0%	15.0%	15.0%	83.0%	15.0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Vehicle Occupancy	(2)(3) Weekday			(2)(3) Weekday			(2)(4) Weekday			(2)(4) Weekday		
Auto	1.07			1.07			1.12			1.12		
Taxi	1.30			1.30			1.20			1.20		
Daily Delivery Trip Generation Rate	(1) Weekday 0.06 Delivery Trips / DU			(1) Weekday 0.06 Delivery Trips / DU			(2) Weekday 0.67 Delivery Trips / KSF			(1) Weekday 0.32 Delivery Trips / KSF		
	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Delivery Temporal	(1)			(1)			(2)			(1)		
	12.0%	9.0%	2.0%	12.0%	9.0%	2.0%	14.0%	9.0%	1.0%	10.0%	11.0%	2.0%
Delivery Direction	(1)			(1)			(2)			(1)		
In	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Out	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table H-2 (cont'd)
Travel Demand Factors

Use	Local Retail			Community Facility - Medical Office			Community Center			House of Worship		
Total Daily Person Trip	(1) Weekday 205.00 Trips / KSF			(6) Weekday 76.00 Trips / KSF			(2) Weekday 44.70 Trips / KSF			(2) Weekday 19.18 Trips / KSF		
Trip Linkage	25%			0%			0%			0%		
Net Daily Person trip	Weekday 153.75 Trips / KSF			Weekday 76.00 Trips / KSF			Weekday 44.70 Trips / KSF			Weekday 19.18 Trips / KSF		
	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Temporal	(1)			(6)			(2)			(2)		
	3.0%	19.0%	10.0%	11.0%	13.0%	9.0%	4.0%	9.0%	5.0%	7.9%	4.0%	7.2%
Direction	(2)			(6)			(2)			(2)		
In	50%	50%	50%	62%	47%	35%	61%	55%	29%	54%	50%	52%
Out	50%	50%	50%	38%	53%	65%	39%	45%	71%	46%	50%	48%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Modal Split	(5)			(6)			(2)			(2)		
	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Auto	11.0%	11.0%	11.0%	24.0%	24.0%	24.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Taxi	0.0%	0.0%	0.0%	6.0%	6.0%	6.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Subway/Rail	3.0%	3.0%	3.0%	60.0%	60.0%	60.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Bus	2.0%	2.0%	2.0%	9.0%	9.0%	9.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Walk	84.0%	84.0%	84.0%	1.0%	1.0%	1.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Vehicle Occupancy	(2) Weekday			(6) Weekday			(2) Weekday			(2) Weekday		
Auto	2.00			1.50			1.65			1.65		
Taxi	2.00			1.50			1.30			1.40		
Daily Delivery Trip Generation Rate	(1) Weekday 0.35 Delivery Trips / KSF			(2) Weekday 0.29 Delivery Trips / KSF			(2) Weekday 0.29 Delivery Trips / KSF			(2) Weekday 0.29 Delivery Trips / KSF		
	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Delivery Temporal	(1)			(2)			(2)			(2)		
	8.0%	11.0%	2.0%	3.0%	11.0%	1.0%	9.6%	11.0%	1.0%	9.6%	11.0%	1.0%
Delivery Direction	(1)			(2)			(2)			(2)		
In	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Out	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Sources:
(1) 2014 *CEQR Technical Manual*
(2) *East New York Rezoning Proposal FEIS* (2016)
(3) U.S. Census American Community Survey (ACS) 2013-2017 Journey-to-Work (JTW) Data for Census tracts 890, 896, 898, 912, 916, 918, 920, 922, and 924
(4) U.S. Census ACS 2006-2010 Reverse Journey-to-Work (RJTW) Data for Census tracts 890, 896, 898, 912, 916, 918, 920, 922, and 924
(5) Trip Generation survey conducted by DOT in Brooklyn for local retail use
(6) Trip Generation survey conducted by DOT for medical office use

RESIDENTIAL

The daily person trip rate and temporal distribution for the residential component are from the *CEQR Technical Manual*. The directional distribution is from the *East New York Rezoning Proposal FEIS*.

JTW data for the 2013−2017 U.S. Census Bureau ACS for Brooklyn Census Tracts 890, 896, 898, 912, 916, 918, 920, 922, and 924 were used to estimate the modal splits. The vehicle occupancies are from the 2013−2017 U.S. Census ACS for autos and from the *East New York Rezoning Proposal FEIS* for taxis. The daily delivery trip rate and temporal and directional distributions are from the *CEQR Technical Manual*.

SUPPORTIVE HOUSING

Trip generation factors for the supportive housing component are assumed the same as the residential component for a conservative analysis.

As described in Attachment A, "Project Description," the supportive housing would be provided by The Bridge. Support services for the on-site special needs population would include case management, job training, benefits counseling, recreation and socialization activities, and gardening and cooking workshops. On a typical weekday, there would be approximately four to six staff on-site providing these support services. They are a subset of the staff from the approximately 2,960-gsf of rehabilitative services space in Site A. As described below, for transportation planning purposes, this rehabilitative services space has been assumed to be a nonprofit office use and the trip-making from the supportive housing staff have already been accounted for in the travel demand estimates.

LIGHT INDUSTRIAL/MANUFACTURING

The daily person trip rate, temporal distribution, directional distribution, and midday peak hour modal for the light industrial/manufacturing component are from the *East New York Rezoning Proposal FEIS*. RJTW data from the 2006−2010 U.S. Census Bureau ACS for Brooklyn Census Tracts 890, 896, 898, 912, 916, 918, 920, 922, and 924 were used to estimate the AM and PM peak hour modal splits. The vehicle occupancies are from the 2006−2010 U.S. Census ACS RJTW data for autos and from the *East New York Rezoning Proposal FEIS* for taxis. The daily delivery trip rate and temporal and directional distributions are from the *East New York Rezoning Proposal FEIS*.

NONPROFIT OFFICE

The daily person trip rate, temporal distribution, and directional distribution for the nonprofit office component are from the *CEQR Technical Manual*. The directional distribution and midday peak hour modal split are from the *East New York Rezoning Proposal FEIS*. RJTW data from the 2006−2010 U.S. Census Bureau ACS for Brooklyn Census Tracts 890, 896, 898, 912, 916, 918, 920, 922, and 924 were used to estimate the AM and PM peak hour modal splits. The vehicle occupancies are from the 2006−2010 U.S. Census ACS RJTW data for autos and from the *East New York Rezoning Proposal FEIS* for taxis. The daily delivery trip rate and temporal and directional distributions are from the *CEQR Technical Manual*.

LOCAL RETAIL

The daily person trip rate and temporal distribution for the local retail component are from the *CEQR Technical Manual*. In line with accepted City practice, a 25-percent linked trip credit was applied to the local trip generation estimates. The directional distribution and vehicle occupancies are from the *East New York Rezoning Proposal FEIS*. The modal splits are from trip generation surveys conducted by DOT in Brooklyn. The daily delivery trip rate and temporal and directional distributions are from the *CEQR Technical Manual*.

COMMUNITY FACILITY—MEDICAL OFFICE

The trip rate, temporal distribution, directional distribution, modal split, and vehicle occupancy for the medical office are based on DOT trip generation surveys for medical offices. The delivery trip rate, temporal distribution, and directional distribution for the medical office use are based on the *East New York Rezoning Proposal FEIS*.

COMMUNITY FACILITY—COMMUNITY CENTER

The travel demand assumptions for the community center use are based on the *East New York Rezoning Proposal FEIS.*

COMMUNITY FACILITY—HOUSE OF WORSHIP

The travel demand assumptions for the house of worship use are based on the *East New York Rezoning Proposal FEIS.*

C. CEQR TRANSPORTATION ANALYSIS SCREENING

The *CEQR Technical Manual* identifies procedures for evaluating a proposed project's potential impacts on traffic, transit, pedestrian, and parking conditions. This methodology begins with the preparation of a trip generation analysis to determine the volume of person and vehicle trips associated with a proposed project. The results are then compared with the *CEQR Technical Manual*-specified thresholds (Level 1 screening analysis) to determine whether a Level 2 screening analysis is warranted. If a proposed project would result in 50 or more incremental peak hour vehicle trips, 200 or more incremental peak hour transit trips (200 or more peak hour transit riders at any given subway station or 50 or more peak hour bus trips on a particular route in one direction), and/or 200 or more incremental peak hour pedestrian trips, a Level 2 screening analysis is undertaken.

For the Level 2 screening analysis, project-generated trips would be assigned to specific intersections, transit routes, and pedestrian elements. If the results of this analysis show that a proposed project would generate 50 or more incremental peak hour vehicle trips through an intersection, 50 or more incremental peak hour bus riders on a bus route in a single direction, 200 or more incremental peak hour subway passengers at any given station, or 200 or more incremental peak hour pedestrian trips per pedestrian element, further quantified analyses may be warranted to evaluate the potential for significant adverse traffic, transit, pedestrian, and parking impacts.

TRIP GENERATION SUMMARY

As summarized in **Table H-3**, under the No Action condition, the projected development sites would generate 129, 320, and 226 person trips during the weekday AM, midday, and PM peak hours, respectively. Approximately 44, 22, and 50 vehicle trips would be generated during the same respective peak hours.

Table H-3
Trip Generation Summary: No Action Condition

Program	Peak Hour	In/Out	Person Trip							Vehicle Trip			
			Auto	Taxi	Subway	Railroad	Bus	Walk	Total	Auto	Taxi	Delivery	Total
Light Industrial 42,370 gsf	AM	In	35	1	13	0	12	11	72	31	1	2	34
		Out	5	0	1	0	1	1	8	5	1	2	8
		Total	40	1	14	0	13	12	80	36	2	4	42
	Midday	In	1	1	2	0	2	29	35	1	2	1	4
		Out	1	1	2	0	2	29	35	1	2	1	4
		Total	2	2	4	0	4	58	70	2	4	2	8
	PM	In	5	0	2	0	1	1	9	5	1	0	6
		Out	39	1	14	0	14	11	79	35	1	0	36
		Total	44	1	16	0	15	12	88	40	2	0	42
Local Retail 8,400 gsf	AM	In	2	0	1	0	0	16	19	1	0	0	1
		Out	2	0	1	0	0	16	19	1	0	0	1
		Total	4	0	2	0	0	32	38	2	0	0	2
	Midday	In	13	0	4	0	2	103	122	7	0	0	7
		Out	13	0	4	0	2	103	122	7	0	0	7
		Total	26	0	8	0	4	206	244	14	0	0	14
	PM	In	7	0	2	0	1	54	64	4	0	0	4
		Out	7	0	2	0	1	54	64	4	0	0	4
		Total	14	0	4	0	2	108	128	8	0	0	8
House of Worship 8,370 gsf	AM	In	0	0	0	0	0	6	6	0	0	0	0
		Out	0	0	0	0	0	5	5	0	0	0	0
		Total	0	0	0	0	0	11	11	0	0	0	0
	Midday	In	0	0	0	0	0	3	3	0	0	0	0
		Out	0	0	0	0	0	3	3	0	0	0	0
		Total	0	0	0	0	0	6	6	0	0	0	0
	PM	In	0	0	0	0	0	5	5	0	0	0	0
		Out	0	0	0	0	0	5	5	0	0	0	0
		Total	0	0	0	0	0	10	10	0	0	0	0
Total	AM	In	37	1	14	0	12	33	97	32	1	2	35
		Out	7	0	2	0	1	22	32	6	1	2	9
		Total	44	1	16	0	13	55	129	38	2	4	44
	Midday	In	14	1	6	0	4	135	160	8	2	1	11
		Out	14	1	6	0	4	135	160	8	2	1	11
		Total	28	2	12	0	8	270	320	16	4	2	22
	PM	In	12	0	4	0	2	60	78	9	1	0	10
		Out	46	1	16	0	15	70	148	39	1	0	40
		Total	58	1	20	0	17	130	226	48	2	0	50

As summarized in **Table H-4**, under the With Action condition, the projected development sites would generate 455, 677, and 603 person trips during the weekday AM, midday, and PM peak hours, respectively. Approximately 118, 78, and 126 vehicle trips would be generated during the same respective peak hours.

Table H-4
Trip Generation Summary: With Action Condition

Program	Peak Hour	In/Out	Person Trip							Vehicle Trip			
			Auto	Taxi	Subway	Railroad	Bus	Walk	Total	Auto	Taxi	Delivery	Total
Residential 200 DUs	AM	In	5	0	13	0	5	1	24	5	1	0	6
		Out	32	1	71	0	23	10	137	31	1	0	32
		Total	37	1	84	0	28	11	161	36	2	0	38
	Midday	In	10	0	21	0	6	3	40	10	0	0	10
		Out	10	0	21	0	6	3	40	10	0	0	10
		Total	20	0	42	0	12	6	80	20	0	0	20
	PM	In	29	1	65	0	21	8	124	28	1	0	29
		Out	13	0	28	0	9	4	54	12	1	0	13
		Total	42	1	93	0	30	12	178	40	2	0	42
Supportive Housing 62 DUs	AM	In	2	0	4	0	1	1	8	2	0	0	2
		Out	10	0	22	0	7	3	42	9	0	0	9
		Total	12	0	26	0	8	4	50	11	0	0	11
	Midday	In	3	0	7	0	2	1	13	3	0	0	3
		Out	3	0	7	0	2	1	13	3	0	0	3
		Total	6	0	14	0	4	2	26	6	0	0	6
	PM	In	9	0	20	0	7	3	39	8	0	0	8
		Out	4	0	9	0	3	1	17	4	0	0	4
		Total	13	0	29	0	10	4	56	12	0	0	12
Light Industrial 39,000 gsf	AM	In	33	1	12	0	11	10	67	29	1	2	32
		Out	4	0	2	0	2	1	9	4	1	2	7
		Total	37	1	14	0	13	11	76	33	2	4	39
	Midday	In	1	1	2	0	2	26	32	1	2	1	4
		Out	1	1	2	0	2	26	32	1	2	1	4
		Total	2	2	4	0	4	52	64	2	4	2	8
	PM	In	5	0	2	0	2	1	10	4	1	0	5
		Out	35	1	13	0	12	11	72	31	1	0	32
		Total	40	1	15	0	14	12	82	35	2	0	37
Nonprofit Office 6,000 gsf	AM	In	6	0	2	0	2	2	12	5	0	0	5
		Out	0	0	0	0	0	0	0	0	0	0	0
		Total	6	0	2	0	2	2	12	5	0	0	5
	Midday	In	0	0	0	0	0	5	5	0	0	0	0
		Out	0	0	1	0	1	8	10	0	0	0	0
		Total	0	0	1	0	1	13	15	0	0	0	0
	PM	In	0	0	0	0	0	0	0	0	0	0	0
		Out	7	0	3	0	2	2	14	6	0	0	6
		Total	7	0	3	0	2	2	14	6	0	0	6
Local Retail 11,471 gsf	AM	In	3	0	1	0	1	22	27	2	0	0	2
		Out	3	0	1	0	1	22	27	2	0	0	2
		Total	6	0	2	0	2	44	54	4	0	0	4
	Midday	In	18	0	5	0	3	141	167	9	0	0	9
		Out	18	0	5	0	3	141	167	9	0	0	9
		Total	36	0	10	0	6	282	334	18	0	0	18
	PM	In	10	0	3	0	2	74	89	5	0	0	5
		Out	10	0	3	0	2	74	89	5	0	0	5
		Total	20	0	6	0	4	148	178	10	0	0	10

Table H-4 (cont'd)
Trip Generation Summary: With Action Condition

Program	Peak Hour	In/Out	Person Trip							Vehicle Trip			
			Auto	Taxi	Subway	Railroad	Bus	Walk	Total	Auto	Taxi	Delivery	Total
Medical Office 8,771 gsf	AM	In	11	3	27	0	4	0	45	7	4	0	11
		Out	7	2	16	0	2	0	27	5	4	0	9
		Total	18	5	43	0	6	0	72	12	8	0	20
	Midday	In	10	2	25	0	4	0	41	7	4	0	11
		Out	11	3	28	0	4	0	46	7	4	0	11
		Total	21	5	53	0	8	0	87	14	8	0	22
	PM	In	5	2	12	0	2	0	21	3	4	0	7
		Out	9	2	23	0	4	0	38	6	4	0	10
		Total	14	4	35	0	6	0	59	9	8	0	17
Community Center 17,540 gsf	AM	In	1	0	0	0	2	16	19	1	0	0	1
		Out	0	0	0	0	0	11	11	0	0	0	0
		Total	1	0	0	0	2	27	30	1	0	0	1
	Midday	In	2	0	2	0	2	33	39	2	0	0	2
		Out	2	0	1	0	2	27	32	2	0	0	2
		Total	4	0	3	0	4	60	71	4	0	0	4
	PM	In	0	0	0	0	0	9	9	0	0	0	0
		Out	2	0	0	0	2	23	27	2	0	0	2
		Total	2	0	0	0	2	32	36	2	0	0	2
Total	AM	In	61	4	59	0	26	52	202	51	6	2	59
		Out	56	3	112	0	35	47	253	51	6	2	59
		Total	117	7	171	0	61	99	455	102	12	4	118
	Midday	In	44	3	62	0	19	209	337	32	6	1	39
		Out	45	4	65	0	20	206	340	32	6	1	39
		Total	89	7	127	0	39	415	677	64	12	2	78
	PM	In	58	3	102	0	34	95	292	48	6	0	54
		Out	80	3	79	0	34	115	311	66	6	0	72
		Total	138	6	181	0	68	210	603	114	12	0	126

LEVEL 1 SCREENING

The net incremental trips generated by the No Action and With Action conditions are shown in **Table H-5**.

Table H-5
Trip Generation Summary: Net Incremental Trips

Peak Hour	In/Out	Person Trip							Vehicle Trip			
		Auto	Taxi	Subway	Railroad	Bus	Walk	Total	Auto	Taxi	Delivery	Total
AM	In	24	3	45	0	14	19	105	19	5	0	24
	Out	49	3	110	0	34	25	221	45	5	0	50
	Total	73	6	155	0	48	44	326	64	10	0	74
Midday	In	30	2	56	0	15	74	177	24	4	0	28
	Out	31	3	59	0	16	71	180	24	4	0	28
	Total	61	5	115	0	31	145	357	48	8	0	56
PM	In	46	3	98	0	32	35	214	39	5	0	44
	Out	34	2	63	0	19	45	163	27	5	0	32
	Total	80	5	161	0	51	80	377	66	10	0	76

TRAFFIC

As shown in **Table H-5**, the incremental vehicle trips generated by the Projected Development would be 74, 56, and 76 vehicle trips during the weekday AM, midday, and PM peak hours, respectively. Since the incremental vehicle trips would be greater than 50 vehicles during the

weekday AM, midday, and PM peak hours, a Level 2 screening assessment (presented in the section below) was conducted to determine if a quantified traffic analysis is warranted. A Level 2 screening assessment was also conducted for the weekday midday peak hour for purposes of a conservative environmental analysis.

TRANSIT

Public transit options to and from the study area are shown in **Figure H-2**. The Rezoning Area is served by the New York City Transit Authority (NYCT) Rockaway Avenue (No. 3 train) and Livonia Avenue (L train) subway stations, and the B7, B8, B14, B15, B35, B60, and other local bus routes in the study area.

As detailed in **Table H-5**, the incremental transit trips generated by the Projected Development would be 155, 115, and 161 person trips by subway, and 48, 31, and 51 person trips by bus during the weekday AM, midday, and PM peak hours, respectively. The subway trips would be dispersed onto the area's multiple subway stations/lines such that trip-making for any single subway station/line would not exceed the *CEQR Technical Manual* analysis threshold of 200 or more peak hour subway trips. Therefore, a detailed analysis of subway facilities is not warranted and the Proposed Actions would not result in any significant adverse subway impacts. In addition, considering that the bus trips would be further dispersed among the multiple local bus routes serving the study area, no single bus route would exceed the *CEQR Technical Manual* analysis threshold of 50 or more peak hour bus riders in a single direction. Therefore, a detailed bus line-haul analysis is also not warranted and the Proposed Actions would not result in any significant adverse bus line-haul impacts.

PEDESTRIANS

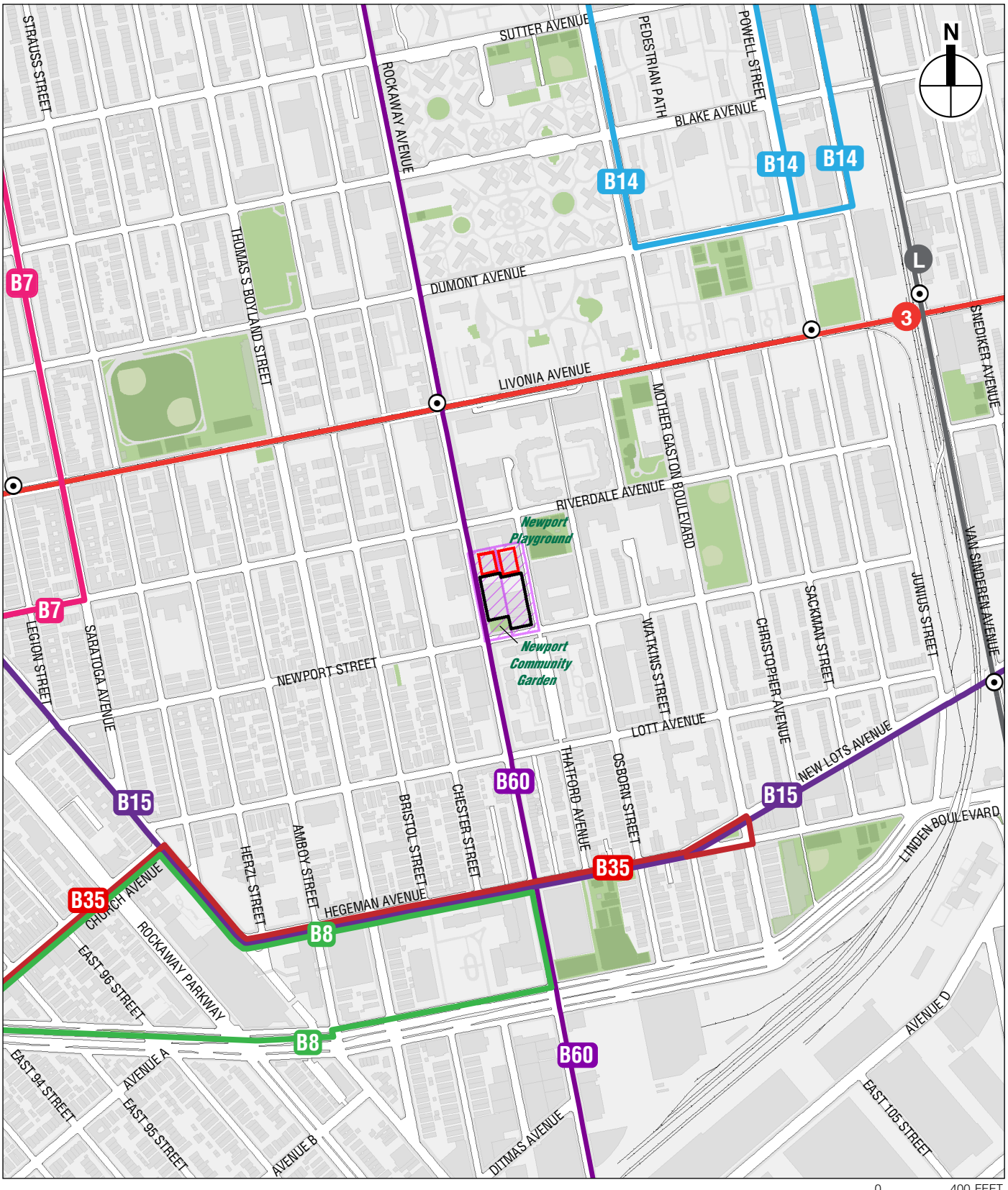
All incremental person trips generated by the Projected Development would traverse the pedestrian elements (i.e., sidewalks, corners, and crosswalks) surrounding the projected development sites. As shown in **Table H-5**, the net incremental pedestrian trips would be greater than 200 during the weekday AM, midday, and PM peak hours. A Level 2 screening assessment (presented in the section below) was conducted to determine if there is a need for additional quantified pedestrian analyses.

LEVEL 2 SCREENING

As part of the Level 2 screening assessment, project-generated trips were assigned to specific intersections and pedestrian elements near the projected development sites. As previously stated, further quantified analyses to assess the potential impacts of the Proposed Actions on the transportation system would be warranted if the trip assignments were to identify key intersections incurring 50 or more peak hour vehicle trips or pedestrian elements incurring 200 or more peak hour pedestrian trips.

SITE ACCESS AND EGRESS

The residential entrances to the three projected development sites would be distributed along the east side of Rockaway Avenue, west side of Thatford Avenue, and north side of Newport Street. The residential use's entrance on Site A would be on Newport Street. The Site A light manufacturing use entrance would be located on Rockaway Avenue only. The Site A nonprofit office use entrance would be on Thatford Avenue. For Site B, the entrances for its various uses (i.e., residential, local retail, medical office, and community center) would be located on the east



Area Transit Services

Figure H-2

803 ROCKAWAY AVENUE REZONING

side of Rockaway Avenue between Riverdale Avenue and Newport Street. For Site C, the entrances for its various uses (i.e., residential, light industrial/manufacturing, medical office, community center, and house of worship) would be located on the west side of Thatford Avenue between Riverdale Avenue and Newport Street.

No on-site accessory parking would be provided for both the No Action and With Action conditions. However, the No Action and With Action project-generated auto trips were conservatively assigned to the various curbsides facing the Rezoning Area.

TRAFFIC

Vehicle trips were assigned to area intersections based on the most likely travel routes to and from the projected development sites, prevailing travel patterns, commuter origin-destination (O-D) summaries from the census data, the configuration of the roadway network, the anticipated locations of site access and egress, and nearby land use and population characteristics. Auto trips and taxi trips were distributed to the various curbsides facing the Rezoning Area. Delivery trips were assigned to the Rezoning Area via DOT-designated truck routes. Traffic assignments for autos, taxis, and deliveries for the various development uses are discussed below.

Residential and Supportive Housing

Auto trips generated by the residential and supportive housing uses were assigned to the surrounding roadway network based on the 2012−2016 U.S. Census ACS JTW O-D estimates for the motorized vehicle modes (i.e., auto and motorcycle). Trips would originate from the Rezoning Area and use the most direct routes for travel to their destinations. Many of the residential trips would be traveling to work destinations within the local region of North Brooklyn (30 percent) and South Brooklyn (33 percent), with the remaining trips traveling to Queens (12 percent), Manhattan (9 percent), Long Island (7 percent), Bronx (5 percent), and New Jersey, Staten Island (3 percent). Overall, vehicle trips generated by the residential and supportive housing uses were distributed to the study area roadway network in the following manner: approximately 34 percent of outbound trips were assigned to Livonia Avenue westbound, 24 percent to Pitkin Avenue going northwest, 7 percent to East New York Avenue going east, 14 percent to Rockaway Avenue going north, 9 percent to Rockaway Avenue going south, and 12 percent to New Lots Avenue going east.

Local Retail

The local retail auto trips were generally assigned from local origins within the neighborhood and adjacent residential areas. Approximately 60 percent of vehicle trips would originate from the north/northwest of the Rezoning Area, 13 percent from the south/southeast of the Rezoning Area, and 27 percent from east of the Rezoning Area. The auto trips were assigned to the various curbsides facing the Rezoning Area.

Community Facility

The community facility uses (i.e., medical office, community center, and house of worship) are expected to have travel patterns similar to the local retail component, with trips originating mostly from within Brooklyn residential areas. Approximately 61 percent are from the north/northwest of the Rezoning Area, approximately 13 percent are from the south/southeast of the Rezoning Area, and approximately 26 percent trips are from east of the Rezoning Area.

Light Industrial/Manufacturing and Nonprofit Office

Auto trips generated by the light industrial/manufacturing and nonprofit office land uses were assigned to the surrounding roadway network based on the 2012−2016 U.S. Census ACS RJTW O-D estimates for the motorized vehicle modes (i.e., auto and motorcycle). The light industrial/manufacturing and nonprofit office trips would originate from the local region of North Brooklyn (15 percent) and South Brooklyn (33 percent), with the remaining trips originating from Queens (26 percent), Manhattan (2 percent), Staten Island (2 percent), Long Island (16 percent), and New Jersey and Pennsylvania (6 percent). Auto vehicle trips for the light industrial/manufacturing and nonprofit office uses were assigned to the various curbsides facing the Rezoning Area. Overall, vehicle trips generated by the light industrial/manufacturing and nonprofit office uses were distributed to the study area roadway network in the following manner: approximately 10 percent of inbound trips were assigned to Livonia Avenue eastbound, 17 percent to Pitkin Avenue eastbound, 9 percent to Junius Street southbound, 17 percent to Sutter Avenue westbound, 3 percent to Rockaway Avenue southbound, 6 percent to Rockaway Avenue northbound, 15 percent to Lott Avenue eastbound, 10 percent to Newport Street eastbound, and 13 percent to New Lots Avenue westbound.

Deliveries

Truck delivery trips for all land uses were assigned to DOT-designated truck routes as long as possible until reaching the area surrounding the Rezoning Area. These were then generally distributed to Howard Avenue (25 percent), Pitkin Avenue (25 percent), Rockaway Avenue (25 percent), and Linden Blvd (25 percent) until they reached the various curbsides facing the Rezoning Area.

Summary

Figures H-3 to H-5 show the No Action project-generated vehicle trips for the weekday AM, midday, and PM peak hours. **Figures H-6 to H-8** show the With Action project-generated vehicle trips for the weekday AM, midday, and PM peak hours. As shown in **Figures H-9 to H-11** and presented in **Table H-6**, the maximum number of incremental vehicle trips for any particular intersection during a peak hour would be 44, which is fewer than the *CEQR Technical Manual* analysis threshold of 50 peak hour vehicle trips. Therefore, a detailed traffic analysis is not warranted and the Proposed Actions are not expected to result in any significant adverse traffic impacts.

Table H-6
Traffic Level 2 Screening Analysis Results

Intersection	Incremental Vehicle Trips		
	Weekday AM	Weekday Midday	Weekday PM
Rockaway Avenue and Sutter Avenue	20	20	29
Rockaway Avenue and Blake Avenue	20	20	29
Osborn Street and Newport Street	6	4	28
Rockaway Avenue and Dumont Avenue	31	23	33
Rockaway Avenue and Livonia Avenue	32	23	40
Rockaway Avenue and Riverdale Avenue	44	29	33
Rockaway Avenue and Newport Street	43	30	37
Rockaway Avenue and Lott Avenue	6	8	13
Thatford Avenue and Riverdale Avenue	12	15	19
Thatford Avenue and Newport Street	12	19	43

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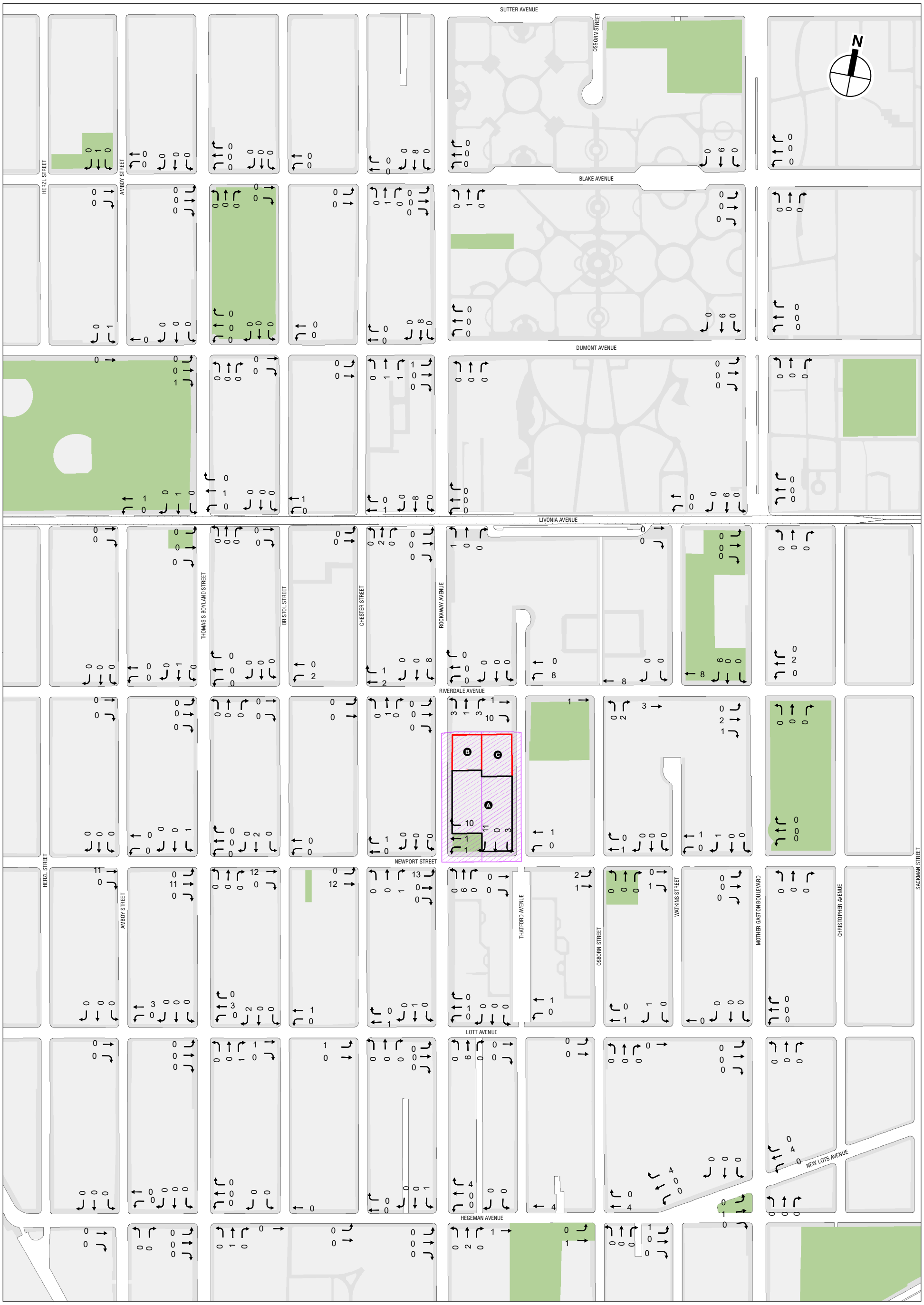


Proposed Project Site

Non-Applicant Controlled Development Site

Rezoning Area

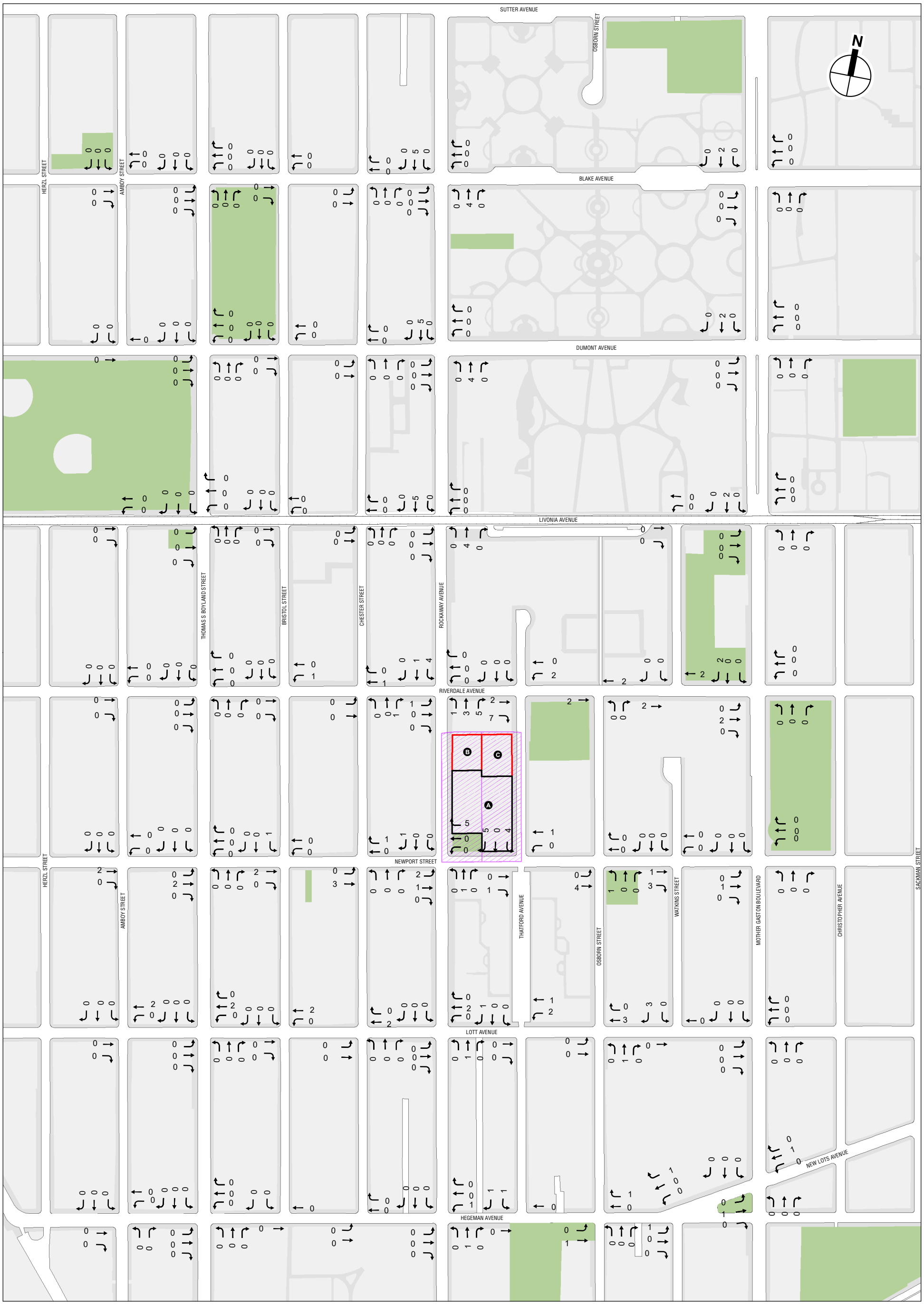
0 500 FEET

No Action Project Generated Vehicle Trips
Weekday AM Peak Hour

803 ROCKAWAY AVENUE REZONING

Figure H-3

8.28.19



Proposed Project Site

Non-Applicant Controlled Development Site

Rezoning Area

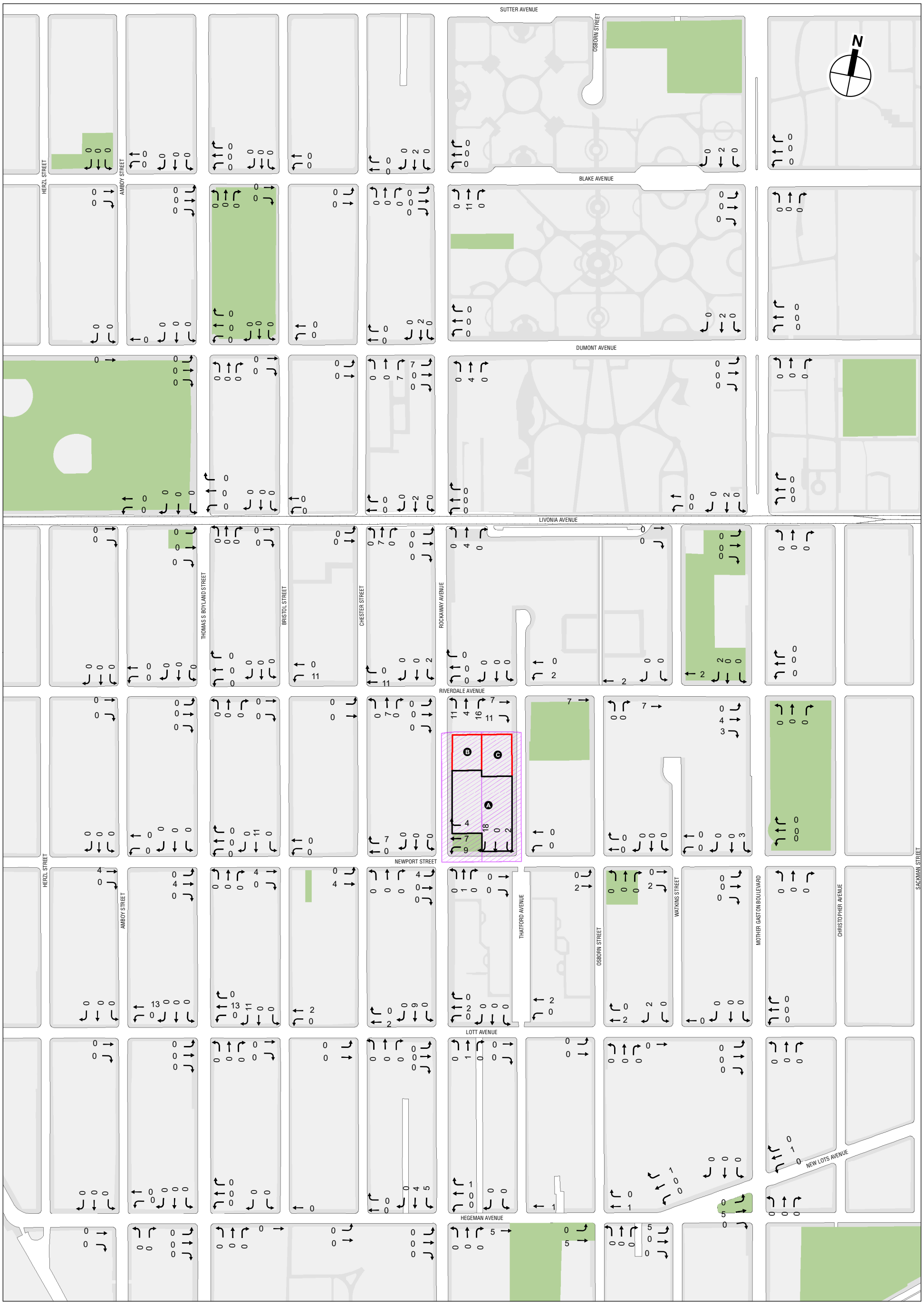
0 500 FEET

No Action Project Generated Vehicle Trips
Weekday Midday Peak Hour

803 ROCKAWAY AVENUE REZONING

Figure H-4

8.28.19



Proposed Project Site

Non-Applicant Controlled Development Site

Rezoning Area

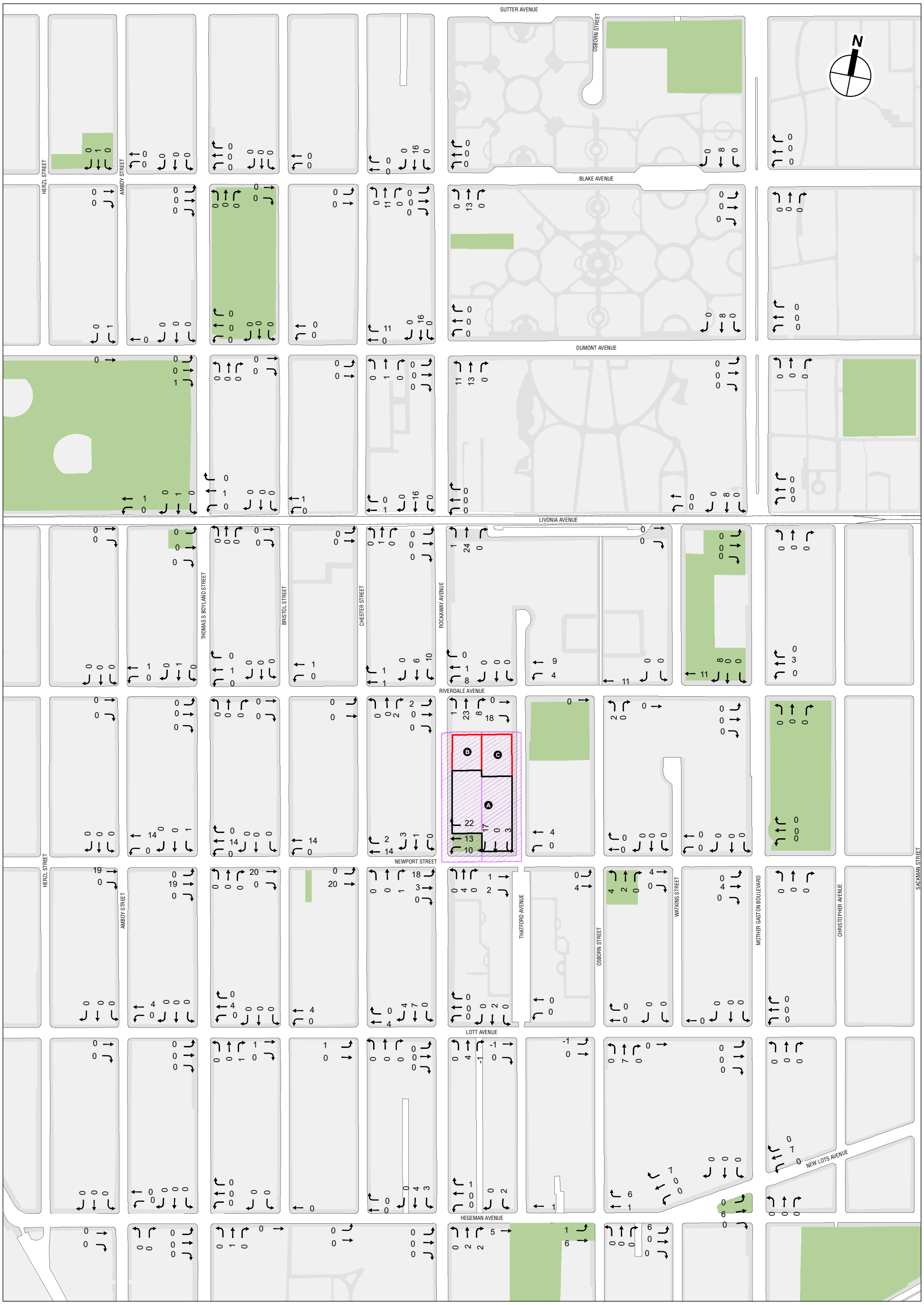
0 500 FEET

No Action Project Generated Vehicle Trips
Weekday PM Peak Hour

803 ROCKAWAY AVENUE REZONING

Figure H-5

8.28.19



Proposed Project Site

Non-Applicant Controlled Development Site

Rezoning Area

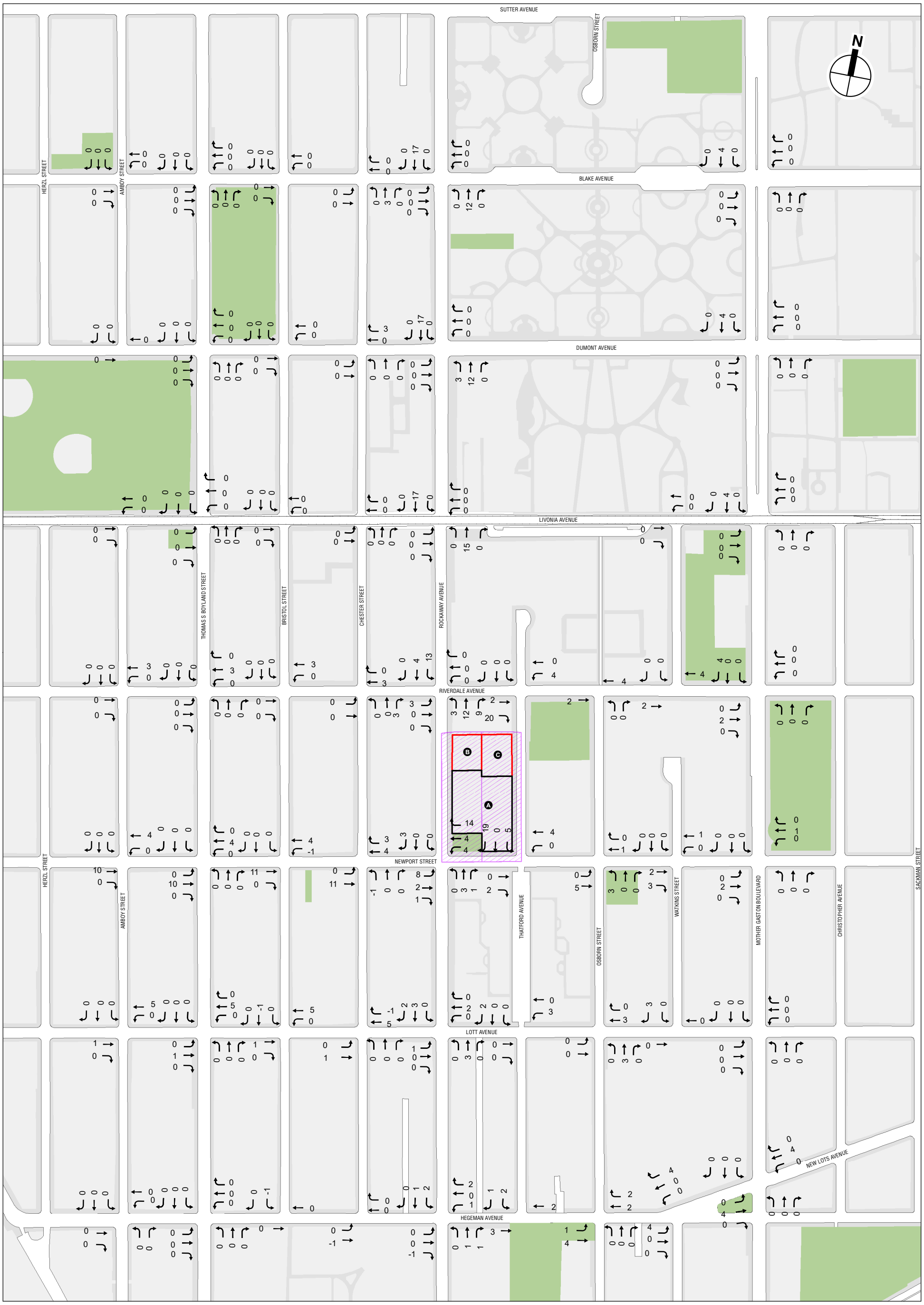
0 500 FEET

With Action Project Generated Vehicle Trips
Weekday AM Peak Hour

803 ROCKAWAY AVENUE REZONING

Figure H-6

8.28.19



Proposed Project Site

Non-Applicant Controlled Development Site

Rezoning Area

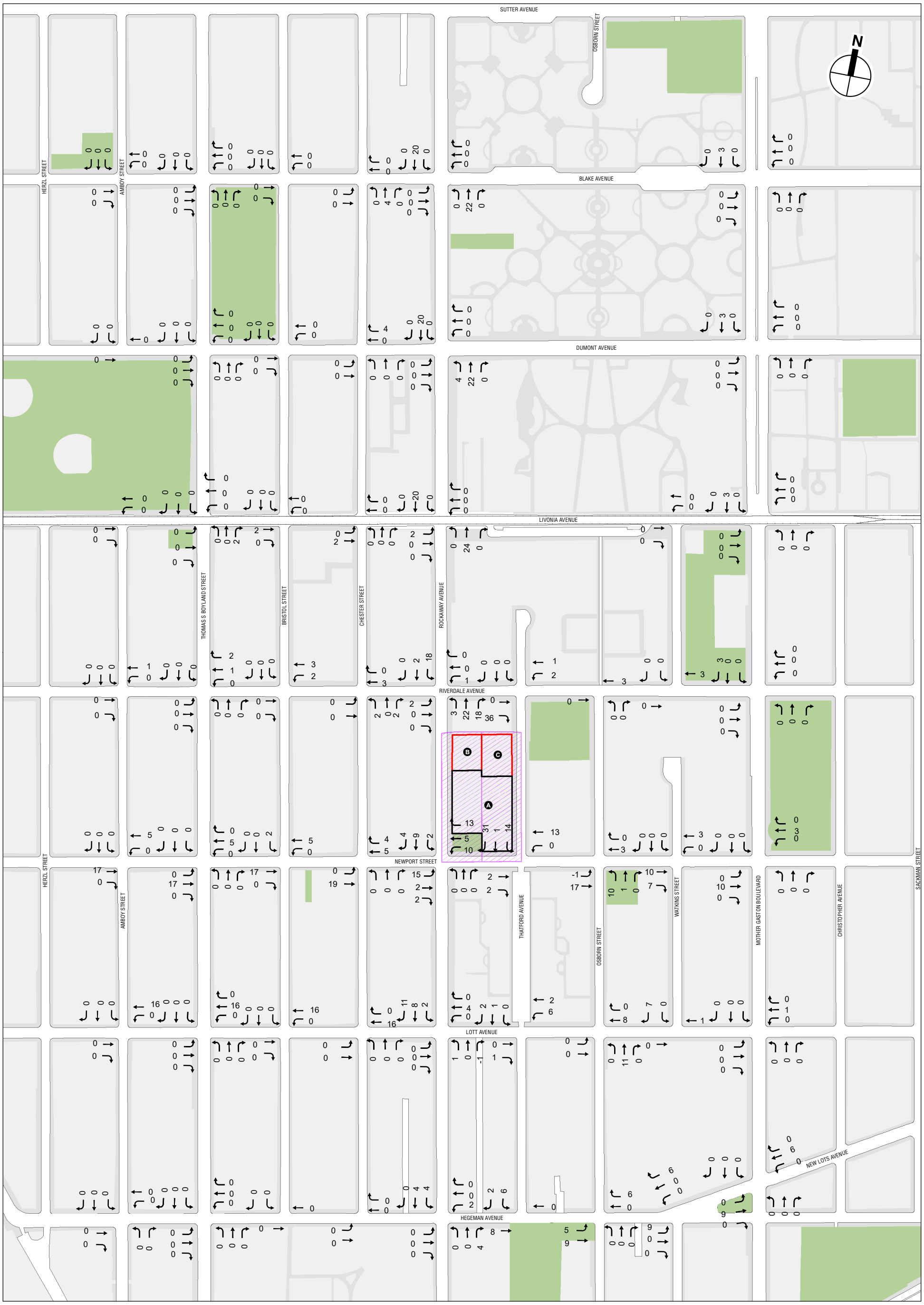
0 500 FEET

With Action Project Generated Vehicle Trips
Weekday Midday Peak Hour

803 ROCKAWAY AVENUE REZONING

Figure H-7

8.28.19



Proposed Project Site

Non-Applicant Controlled Development Site

Rezoning Area

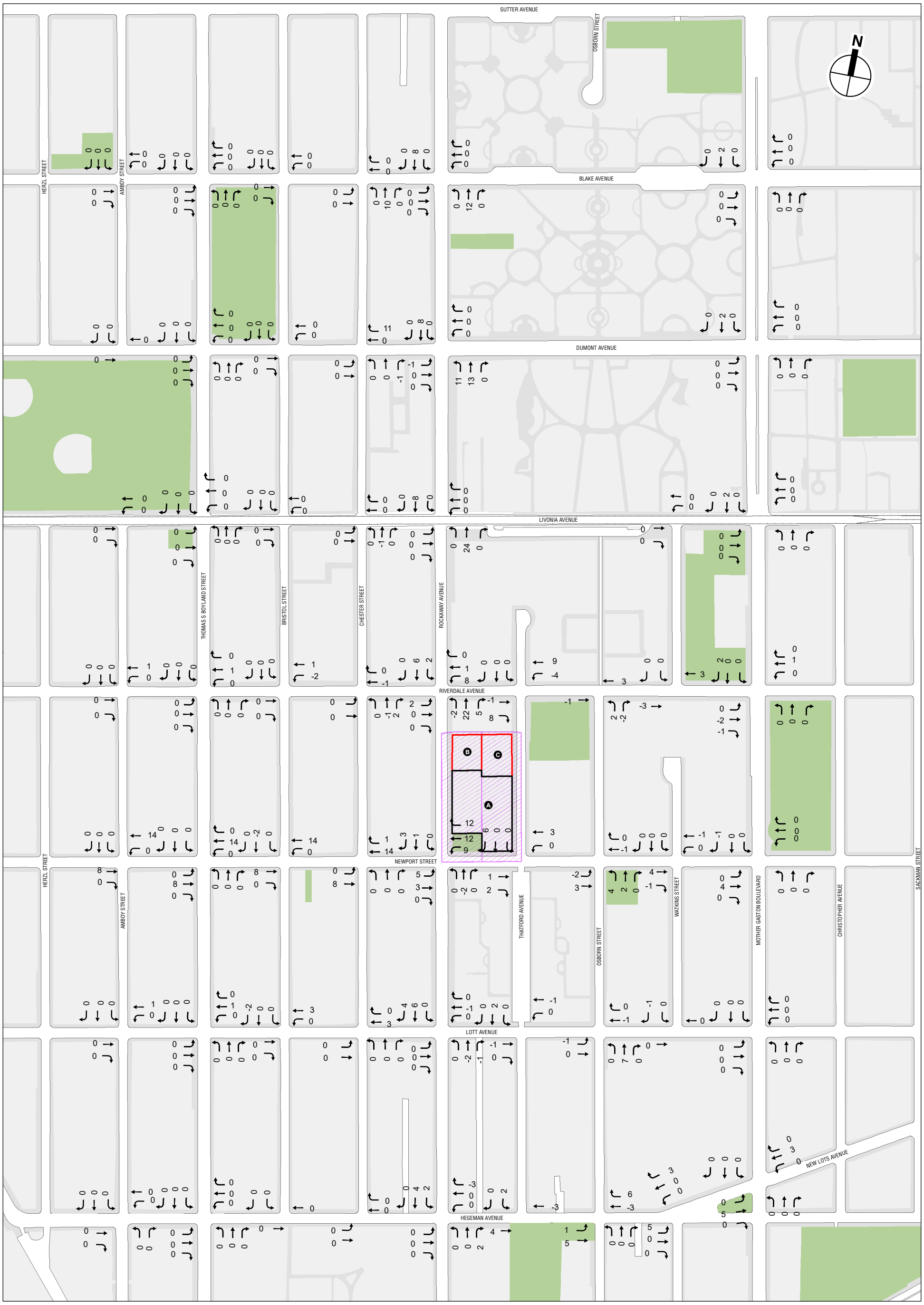
0 500 FEET

With Action Project Generated Vehicle Trips
Weekday PM Peak Hour

803 ROCKAWAY AVENUE REZONING

Figure H-8

8.28.19



Proposed Project Site

Non-Applicant Controlled Development Site

Rezoning Area

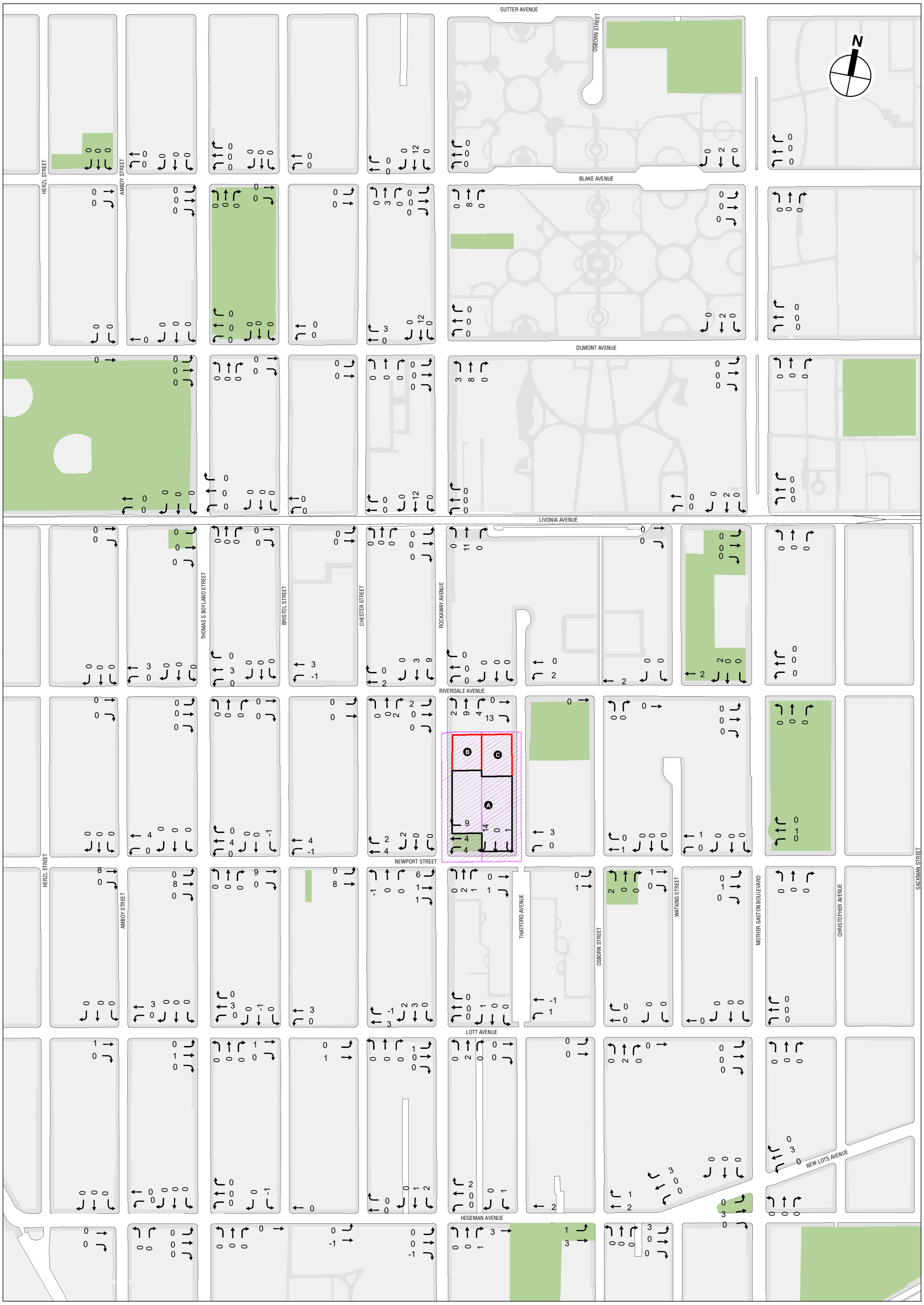
0 500 FEET

Proposed Project Incremental Vehicle Trips
Weekday AM Peak Hour

803 ROCKAWAY AVENUE REZONING

Figure H-9

8.28.19



Proposed Project Site

Non-Applicant Controlled Development Site

Rezoning Area

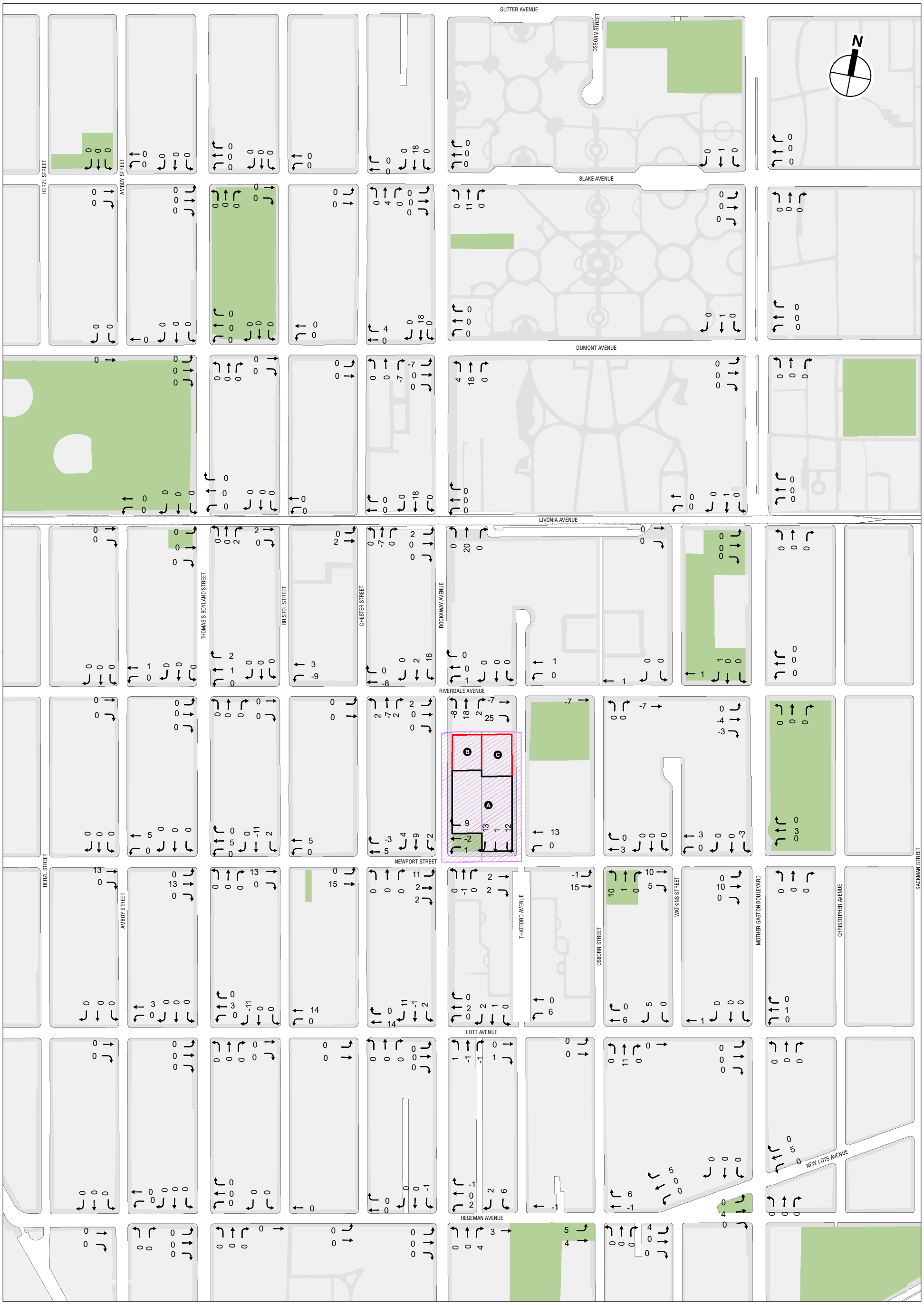
0 500 FEET

Proposed Project Incremental Vehicle Trips
Weekday Midday Peak Hour

803 ROCKAWAY AVENUE REZONING

Figure H-10

8.28.19



Proposed Project Site

Non-Applicant Controlled Development Site

Rezoning Area

0 500 FEET

Proposed Project Incremental Vehicle Trips
Weekday PM Peak Hour

803 ROCKAWAY AVENUE REZONING

Figure H-11

PEDESTRIANS

Level 2 pedestrian trip assignments were individually developed for the No Action project-generated, With Action project-generated, and With Action incremental pedestrian trips. These trip assignments are shown in **Figures H-12 through H-20** and discussed below:

- Auto Trips: Motorists to components of the No Action project and to the Projected Development were assigned to the various curbsides facing the Rezoning Area.
- Taxi Trips: Taxi patrons would get dropped off and picked up along the Rezoning Area block faces.
- City Bus Trips: City bus riders would use buses stopping on Rockaway Avenue, Saratoga Avenue, and Hegeman Avenue, and would get off at bus stops nearest to the Rezoning Area.
- Subway Trips: Subway riders were assigned to the Rockaway Avenue (No. 3 train) and Livonia Avenue (L train) subway stations.
- Walk-Only Trips: Pedestrian walk-only trips were developed by distributing project-generated person trips to surrounding pedestrian facilities (i.e., sidewalks, corner reservoirs, and crosswalks) based on population density data as well as the land use characteristics of the surrounding neighborhood.

As shown and summarized in **Table H-7**, the maximum number of incremental pedestrian trips for any particular pedestrian element during a peak hour would be 170, which is fewer than the *CEQR Technical Manual* analysis threshold of 200 peak-hour pedestrian trips. Therefore, a detailed pedestrian analysis is not warranted and the Proposed Actions are not expected to result in any significant adverse pedestrian impacts.

Table H-7
Pedestrian Level 2 Screening Analysis Results

Pedestrian Elements	Incremental Pedestrian Trips		
	Weekday AM	Weekday Midday	Weekday PM
Livonia Avenue and Rockaway Avenue			
East Sidewalk along Rockaway Avenue between Livonia Avenue and Riverdale Avenue	104	88	111
Riverdale Avenue and Rockaway Avenue			
Northeast Corner	106	104	120
Southeast Corner	144	170	170
East Crosswalk	106	96	116
East Sidewalk along Rockaway Avenue between Riverdale Avenue and Site B Entrance	116	130	134
Newport Avenue and Rockaway Avenue			
Northeast Corner	134	134	161
East Sidewalk along Rockaway Avenue between Newport Avenue and Site A Non-Residential Entrance	130	144	146
East Sidewalk along Rockaway Avenue between Site B Entrance and Site A Non-Residential Entrance	103	129	127
North Sidewalk along Newport Avenue between Rockaway Avenue and Site A Residential Entrance	135	94	153
Note: Elements with 100 or greater incremental pedestrian trips in a peak hour are shown in this table.			

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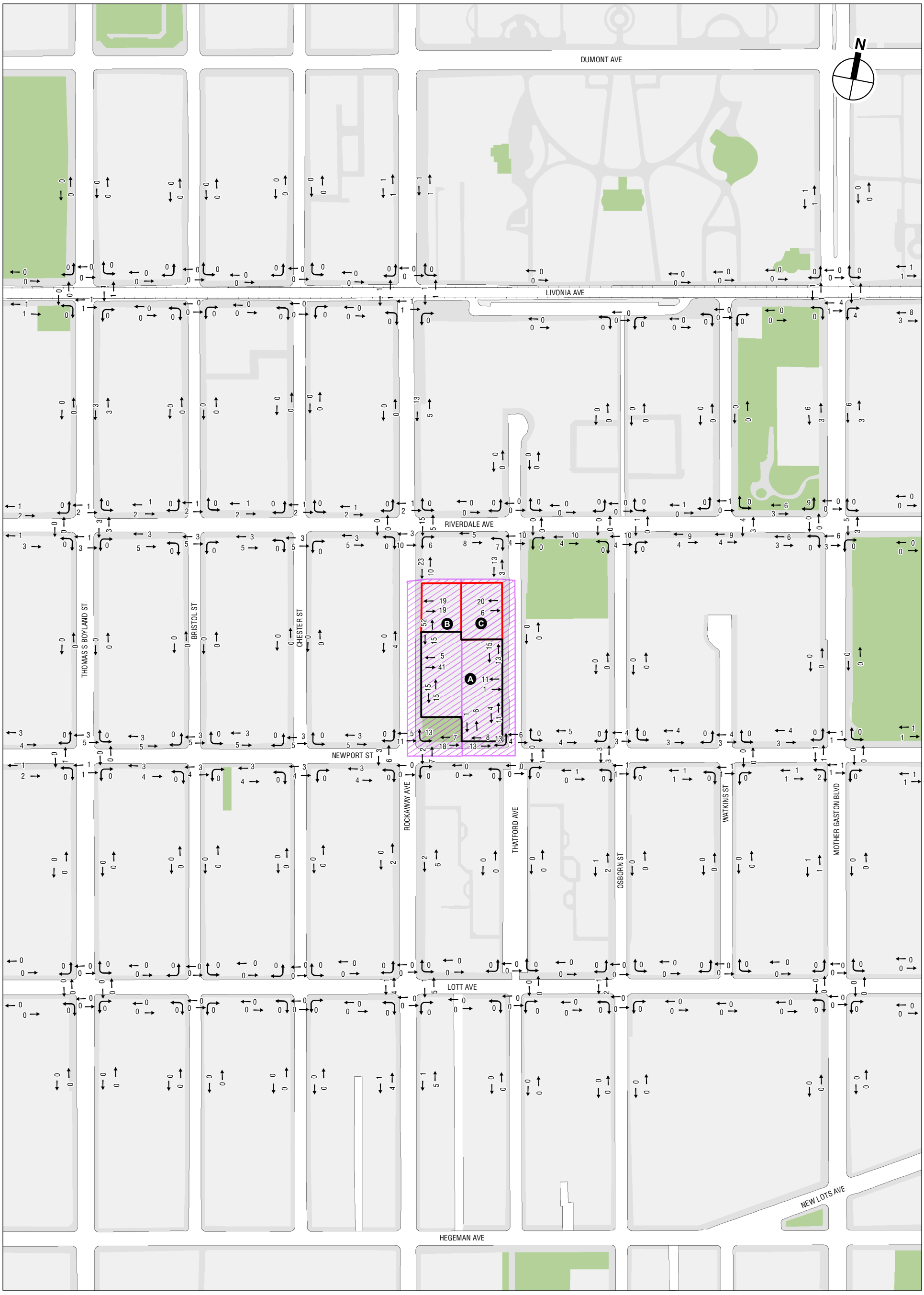


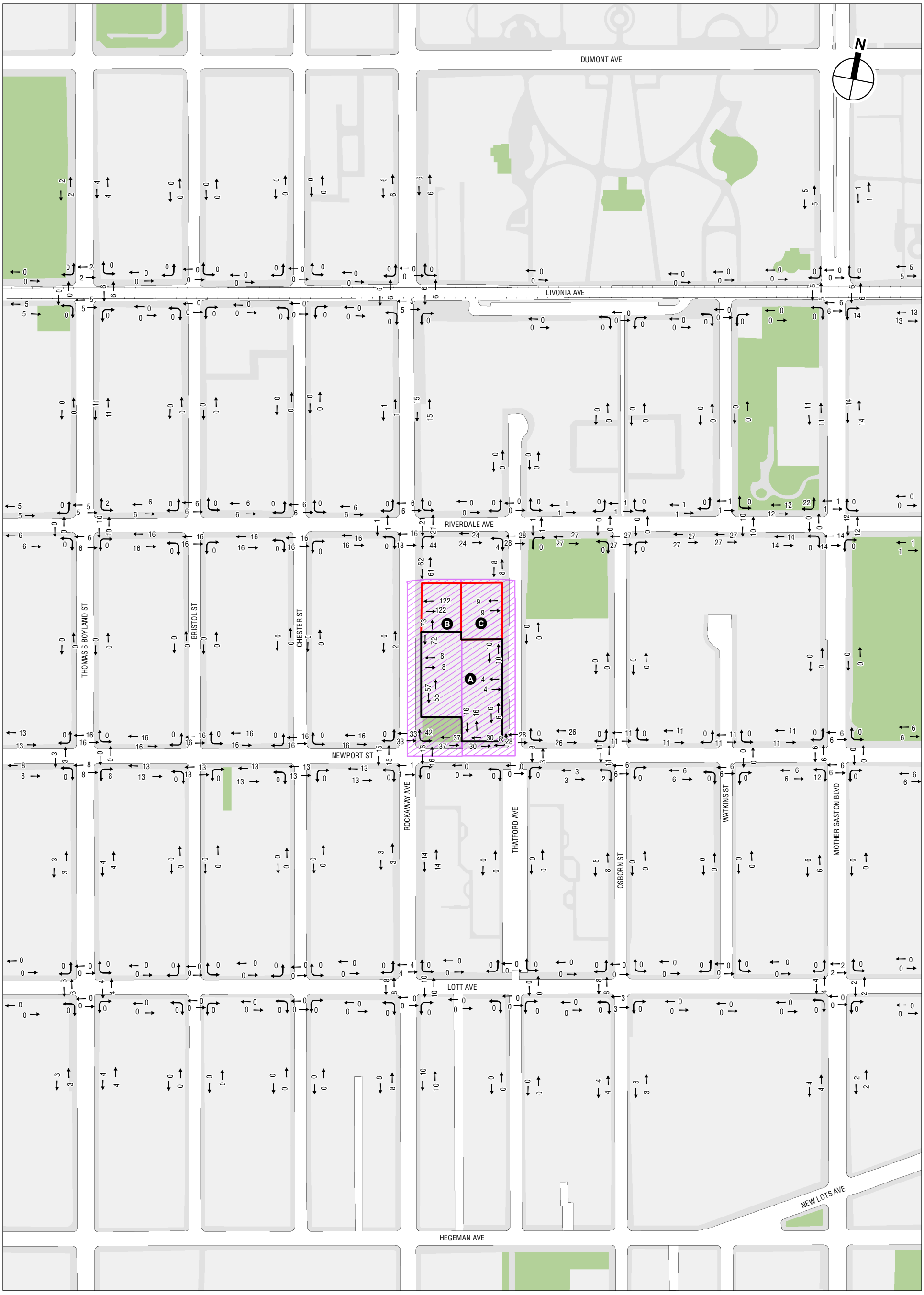
Proposed Project Site

Non-Applicant Controlled Development Site

Rezoning Area

0 400 FEET

No Action Project Generated Pedestrian Trips
Weekday AM Peak Hour



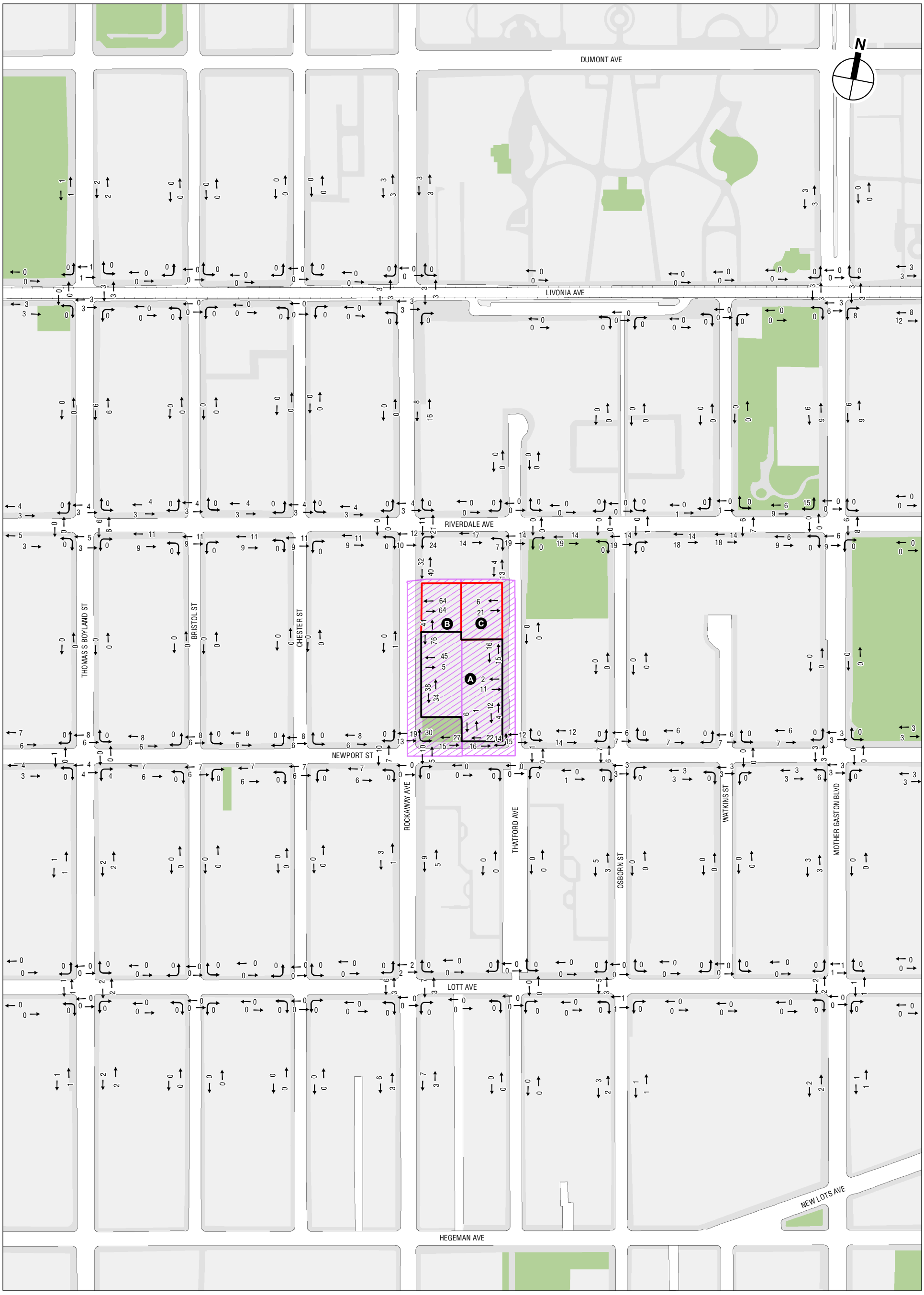
Proposed Project Site

Non-Applicant Controlled Development Site

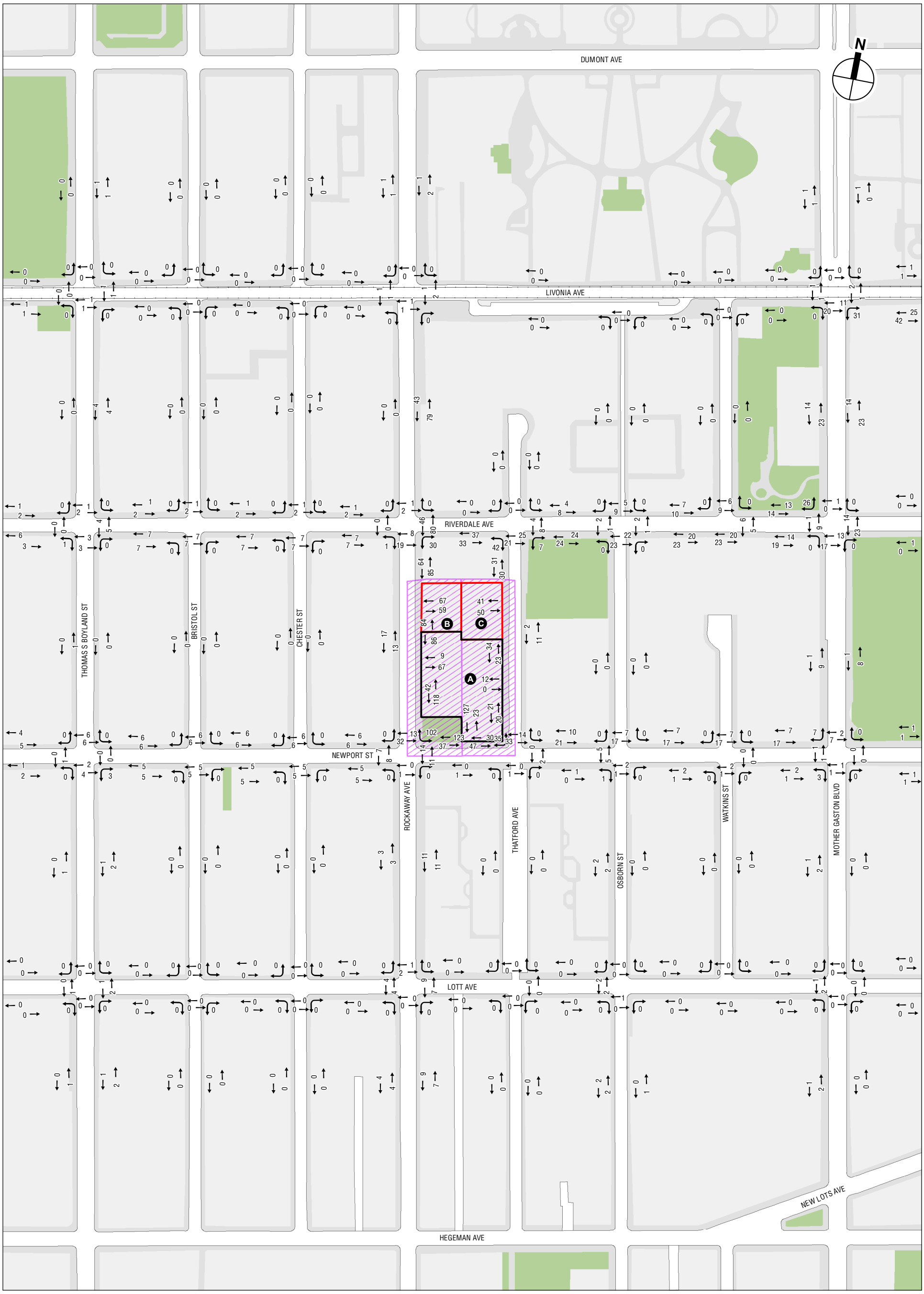
Rezoning Area

0 400 FEET

No Action Project Generated Pedestrian Trips
Weekday Midday Peak Hour



No Action Project Generated Pedestrian Trips
Weekday PM Peak Hour



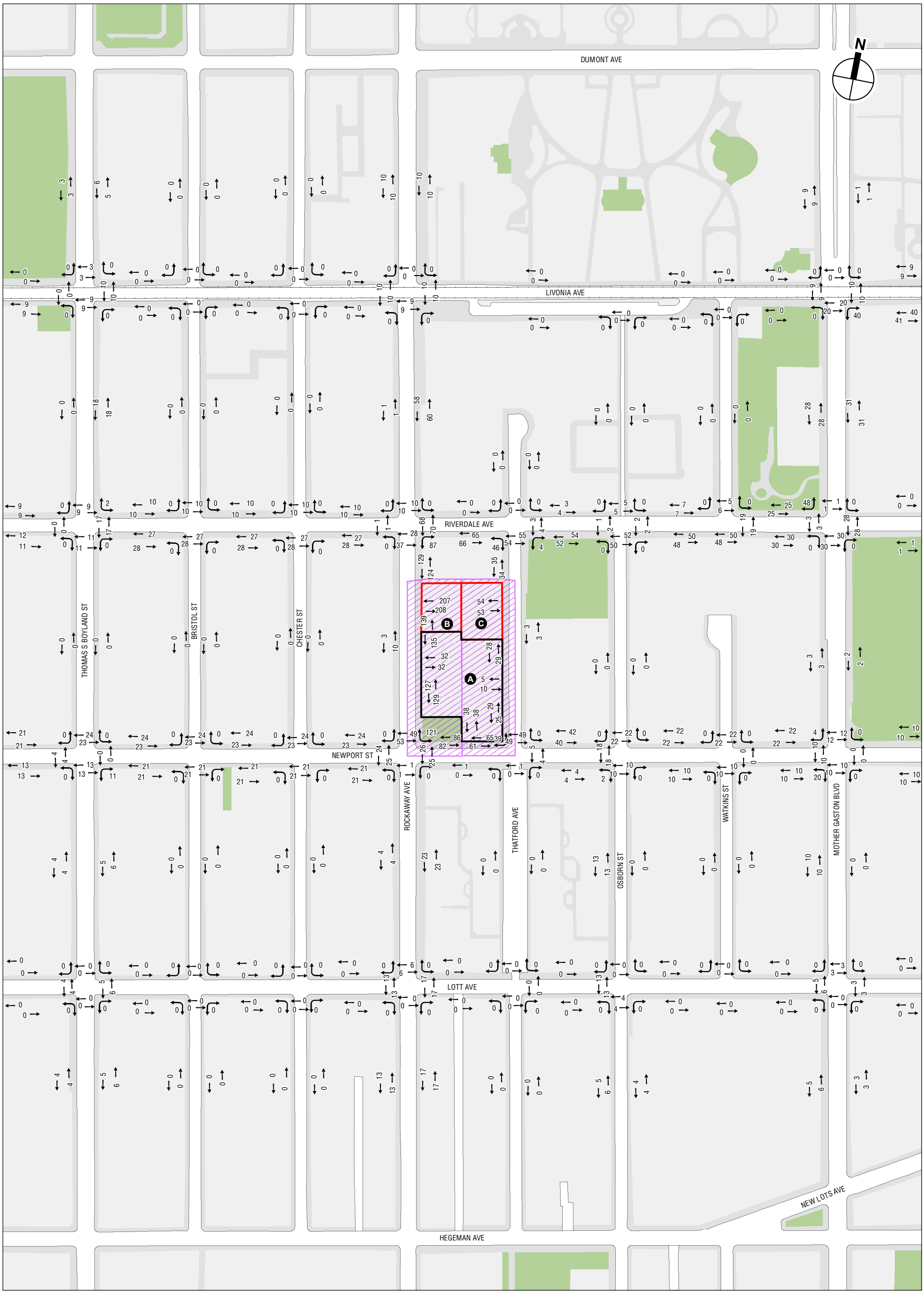
Proposed Project Site

Non-Applicant Controlled Development Site

Rezoning Area

0 400 FEET

With Action Project Generated Pedestrian Trips
Weekday AM Peak Hour



Proposed Project Site

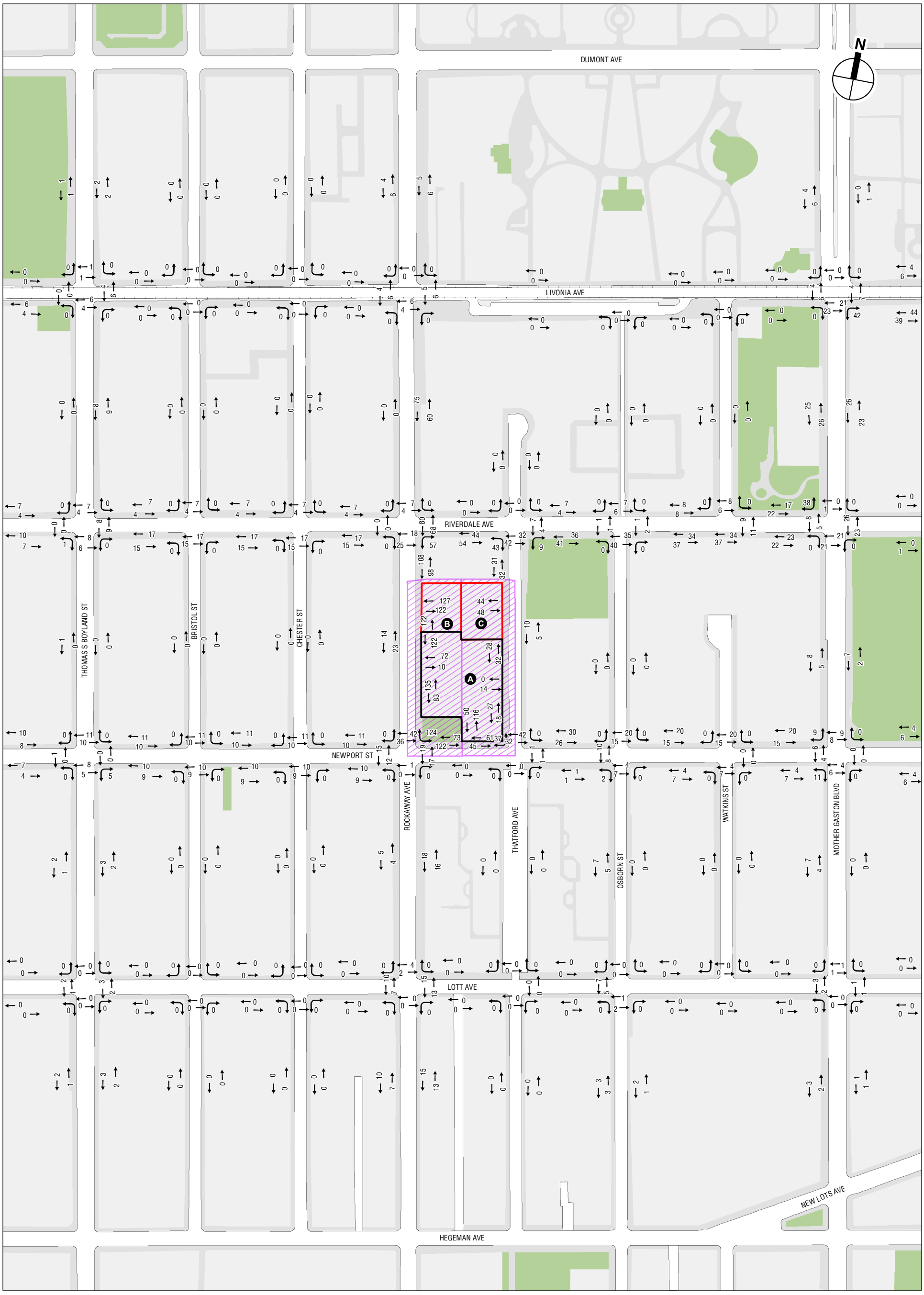
Non-Applicant Controlled Development Site

Rezoning Area

0 400 FEET

With Action Project Generated Pedestrian Trips
Weekday Midday Peak Hour

4.29.19



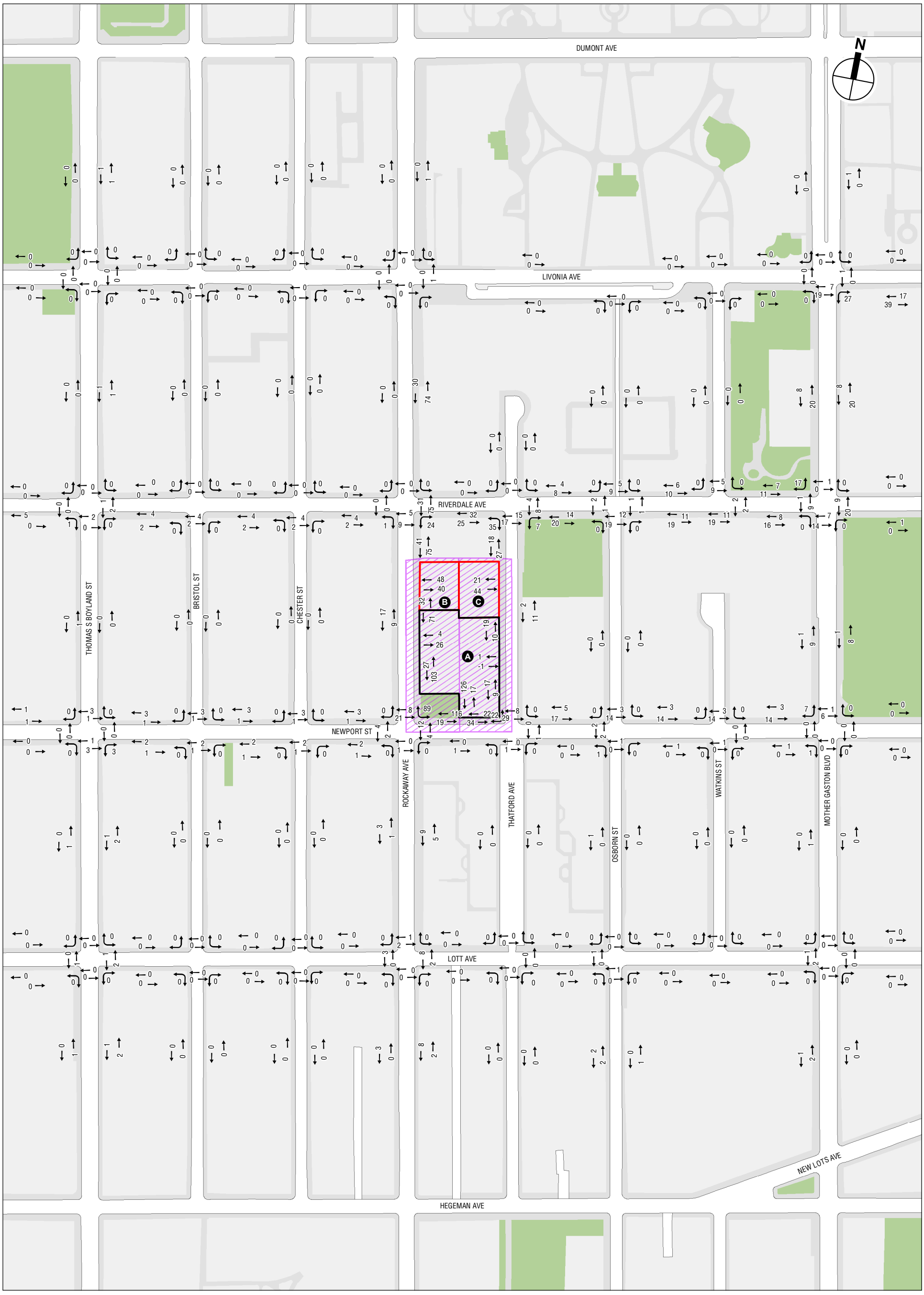
Proposed Project Site

Non-Applicant Controlled Development Site

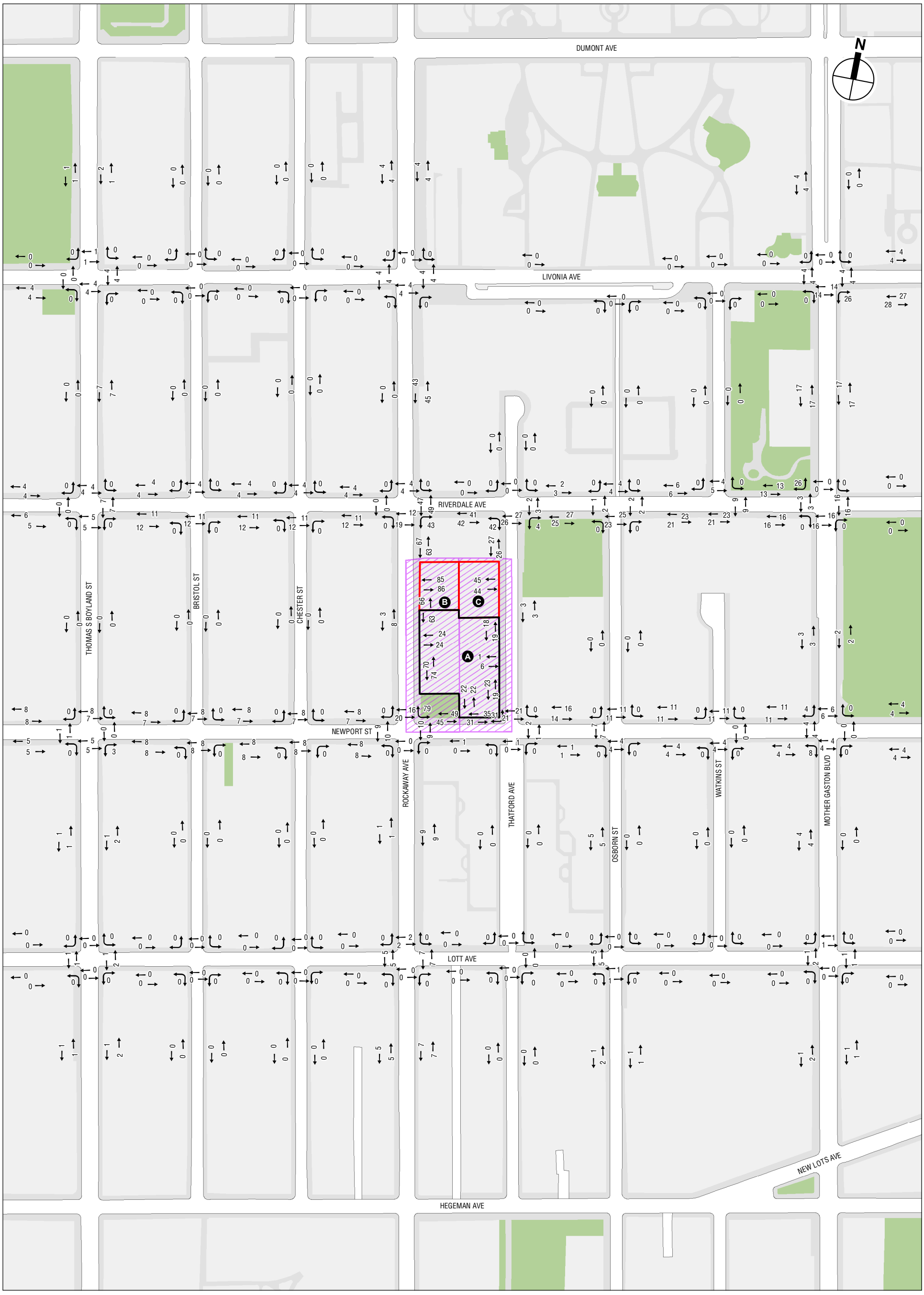
Rezoning Area

0 400 FEET

With Action Project Generated Pedestrian Trips
Weekday PM Peak Hour

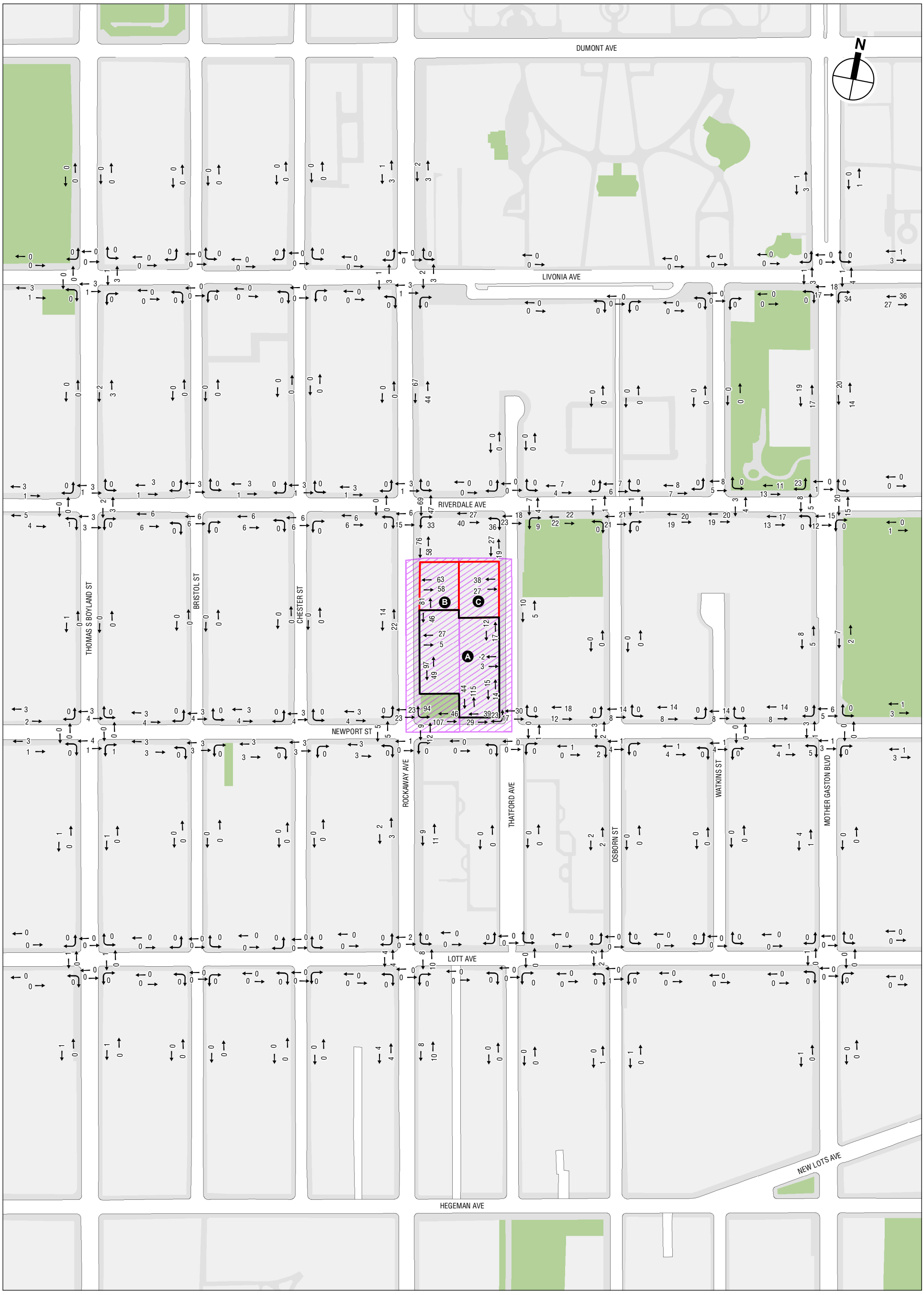


Proposed Project Incremental Pedestrian Trips
Weekday AM Peak Hour



Proposed Project Incremental Pedestrian Trips
Weekday Midday Peak Hour

4.29.19



Proposed Project Incremental Pedestrian Trips
Weekday PM Peak Hour

A. INTRODUCTION

This attachment considers the potential for air quality impacts associated with the Proposed Actions. As discussed in Attachment A, "Project Description," the Proposed Actions would result in new residential and supportive housing and retail, community facility, and manufacturing space on three projected development sites in the Brownsville neighborhood of Brooklyn. The Applicant seeks to develop Lots 1, 10, 45, 49, and 53 (the "Project Site" or "Site A") with a new mixed-use building containing up to approximately 124 affordable dwelling units (DUs), 62 supportive housing (SH) units, 3,040 gross square feet (gsf) of ground-floor community facility space, and approximately 39,000 gsf of light manufacturing space (the "Proposed Project"). In addition to the Applicant's proposal, the zoning changes are projected to result in development on sites not controlled by the Applicant. Site B is projected to be redeveloped with approximately 33 DUs, approximately 11,471 gsf of ground-floor retail space, and approximately 11,471 gsf of community facility space on the second floor. Site C is projected to be developed with 43 DUs and approximately 14,840 sf of community facility space. In total, the Proposed Actions are projected to result in up to approximately 200 DUs (including 147 affordable DUs), 62 SH units, 39,000 gsf of light manufacturing space, 29,351 gsf of community facility space, and 11,471 gsf of local retail space (the "Projected Development").

As discussed in Attachment H, "Transportation," the Proposed Actions would not exceed any thresholds defined in the 2014 *City Environmental Quality Review (CEQR) Technical Manual* for detailed traffic analysis. Therefore, the maximum hourly increase in traffic volume with the Proposed Actions would not exceed the carbon monoxide (CO) emission screening threshold defined in the *CEQR Technical Manual* (170 auto trips for peak hour trips at any intersection). It is also assumed that the Proposed Actions would not exceed *CEQR Technical Manual* screening thresholds for particulate matter (PM), which are based on an emission equivalent ranging from 12 to 23 heavy-duty vehicles, depending on roadway type. Consequently, no mobile source analysis is required.

The Projected Development would include fossil fuel-fired heat and hot water systems. Therefore, a stationary source analysis was conducted to evaluate the potential impact from these sources on air quality.

The Rezoning Area is located within 400 feet of a manufacturing zoned district. Therefore, the potential for emissions from existing nearby industrial facilities to impact air quality at the Project Site was assessed. In addition, the Proposed Project would include approximately 39,000 gsf of light manufacturing space on the ground floor, which would be divided among 10 rentable spaces that would accommodate a range of light manufacturing tenants. Therefore, potential air quality impacts from pollutant emissions were evaluated from tenanting of manufacturing uses in the new mixed-use building on Site A.

B. METHODOLOGY FOR PREDICTING POLLUTANT CONCENTRATIONS

A stationary source analysis was conducted to evaluate potential impacts from the projected development sites' heat and hot water systems and from proposed light industrial uses associated with the Proposed Project. In addition, an assessment was conducted to determine the potential for impacts due to industrial activities within the affected area and from any nearby large or major emission sources.

HEAT AND HOT WATER SYSTEMS

Stationary source analyses were conducted using the methodology described in the *CEQR Technical Manual* to assess air quality impacts associated with emissions from the Proposed Project's heat and hot water systems. An initial screening analysis was undertaken using the methodology described in Chapter 17, Section 322.1 of the *CEQR Technical Manual*. However, since the screening analysis of the Proposed Project's heating and hot water systems did not pass, further analysis was performed using the more refined American Meteorological Society (AMS)/ Environmental Protection Agency (EPA) Regulatory Model (AERMOD) dispersion model.[1] AERMOD is a state-of-the-art dispersion model, applicable to rural and urban areas, flat and complex terrain, surface and elevated releases, and multiple sources and source types. AERMOD is a steady-state plume model that incorporates current concepts about flow and dispersion in complex terrain, including updated treatment of the boundary layer theory and understanding of turbulence and dispersion, and includes handling of the plume interaction with terrain. AERMOD is EPA's preferred regulatory stationary source model.

AERMOD calculates pollutant concentrations from simulated sources (e.g., exhaust stacks) based on hourly meteorological data and surface characteristics and has the capability to calculate pollutant concentrations at locations where the plume from the exhaust stack is affected by the aerodynamic wakes and eddies (downwash) produced by nearby structures. The analysis of potential impacts from exhaust stacks assumed stack tip downwash, urban dispersion and surface roughness length, and elimination of calms.

AERMOD incorporates the Plume Rise Model Enhancements (PRIME) downwash algorithm, which is designed to predict concentrations in the "cavity region" (i.e., the area around a structure, which, under certain conditions, may affect an exhaust plume, causing a portion of the plume to become entrained in a recirculation region). AERMOD also incorporates the algorithms from the PRIME model and Building Profile Input Program for PRIME (BPIPPRM) was used to determine the projected building dimensions for modeling with the building downwash algorithm enabled. The modeling of plume downwash accounts for all obstructions within a radius equal to five obstruction heights of the stack.

The analysis was prepared both with and without downwash in order to assess the worst-case impacts at elevated locations close to the height of the source that would occur without downwash, as well as the worst-case impacts at lower elevations and ground level that would occur with downwash, consistent with the *CEQR Technical Manual* guidance.

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[1] EPA. AERMOD Implementation Guide. 454/B-16-013. December 2016.
EPA. AERMOD Model Formulation and Evaluation. 454/R-17-001. May 2017. And
EPA. User's Guide for the AMS/EPA Regulatory Model (AERMOD). 454/B-16-011. December 2016.

Potential 1-hour average nitrogen dioxide (NO_2) concentrations, added to representative background concentrations in the area, were compared with the National Ambient Air Quality Standards (NAAQS). Potential 24-hour and annual average incremental concentrations of $PM_{2.5}$ were compared with the $PM_{2.5}$ *de minimis* criteria defined in the *CEQR Technical Manual*. For the analysis of the 1-hour average NO_2 concentration from the buildings' heating and hot water systems, AERMOD's Plume Volume Molar Ratio Method (PVMRM) module was used to analyze chemical transformation within the model. PVMRM incorporates hourly background ozone concentrations to estimate nitrogen oxides (NO_x) transformation within the source plume. The model applied ozone concentrations measured in 2014–2018 at the nearest available New York State Department of Environmental Conservation (NYSDEC) ozone monitoring station—the Queens College monitoring station. An initial NO_2 to NO_x ratio of 10 percent and 20 percent at the source exhaust stack was assumed for boilers and cogeneration systems, respectively, which is considered representative.

Five years of surface meteorological data collected at John F. Kennedy Airport (2014–2018) and concurrent upper air data collected at Brookhaven, New York were used in the analysis.

EMISSION RATES AND STACK PARAMETERS

For Site A, the proposed design includes a boiler plant on the Thatford Avenue Tower, which would consist of three boilers. Two boilers would provide heating and hot water services for the residential spaces and one boiler would provide heating and hot water services for the ground floor manufacturing and community facility spaces. A make-up air unit for the spray booth would also be located at the Thatford Avenue Tower. A boiler plant would also be located on the Rockaway Avenue Tower, which would consist of two boilers to provide heating and hot water services for the residential spaces. Annual emission rates for the heating and hot water loads for each of sites (A, B and C) were calculated based on fuel consumption estimates using energy intensity estimates based on the type of development and size of the buildings as recommended in the *CEQR Technical Manual*, and applying emission factors for natural gas-fired boilers.[2] $PM_{2.5}$ emissions include both the filterable and condensable components. For Sites B and C, the short-term emission rates (24-hour and shorter) were calculated by scaling the annual emissions to account for a 100-day heating season. For Site A, the short-term emission rates (24-hour and shorter) for each of the two boiler plants were calculated using the peak capacity for the boilers based on design information.

For the make-up air unit, it was assumed the unit would operate five hours per day, five days per week, based on the anticipated operation of the spray booth. All of the exhausts for Site A were assumed to be exhausted through separate stacks. The exhausts from the heat and hot water systems for Sites B and C were assumed to be vented through single stacks located three feet above the roof.

To calculate exhaust velocity, the fuel consumption of the analyzed heating and hot water systems was multiplied by EPA's fuel factor for natural gas,[3] providing the exhaust flow rate at standard temperature; the flow rate was then corrected for the exhaust temperature and exhaust velocity was calculated based on the stack diameter. Assumptions for stack diameter and exhaust temperature for the proposed systems were obtained from a survey of boiler exhaust data prepared

[2] EPA. Compilation of Air Pollutant Emission Factors AP-42. 5th Ed., V. I, Ch. 1.4. September, 1998.

[3] EPA. *Standards of Performance for New Stationary Sources.* 40 CFR Chapter I Subchapter C Part 60. Appendix A-7, Table 19-2. 2013.

and provided by New York City Department of Environmental Protection (DEP),[4] and were used to calculate the exhaust velocity. For Site A, the stack diameter was based on design information; however, exhaust temperature was obtained from DEP data.

The emission rates and exhaust stack parameters used in the modeling analyses are presented in **Table I-1**.

Table I-1
Exhaust Stack Parameters and Emission Rates

Parameter	Site A				Projected Development Sites	
	Rockaway Avenue Residential	Thatford Avenue Residential	Thatford Avenue – Boiler for Non-Residential Spaces	Make-Up Air Unit for Paint Spray Booth	Site B	Site C
Building Size (gsf)	74,775	81,365	42,040	NA	52,767	53,414
Stack Height (feet)	95	85	85	78	98	88
Stack Diameter (feet)	0.5(2)	0.5(2)	0.67(2)	0.5(2)	2.0(1)	2.0(1)
Number of Boilers	2	2	1	1	1	1
Exhaust Velocity (meters/second)(1)	10.95	10.95	9.64	8.24	0.569	0.576
Exhaust Temperature (degrees Fahrenheit)(1)	307.8	307.8	307.8	307.8	307.8	307.8
Emission Rate Per Boiler (grams/second)						
NO_2 (1-hour average)	0.020	0.0073	0.011	0.015	0.0061	0.0061
NO_2 (Annual average)	0.0032	0.0013	0.0010	0.0022	0.0017	0.0017
$PM_{2.5}$ (24-hour average)	0.0015	0.0015	0.0023	0.0011	0.0012	0.0013
$PM_{2.5}$ (Annual average)	0.00024	0.00027	0.00021	0.00017	0.00034	0.00035

Notes:
[1] Stack parameter assumptions are based on boiler specifications for similar sized systems from boiler air permit information provided by DEP.
[2] Stack diameter based on design information.

BACKGROUND CONCENTRATIONS

To estimate the maximum expected pollutant concentration at a given location (receptor), the predicted impacts must be added to a background value that accounts for existing pollutant concentrations from other sources that are not directly accounted for in the model (see **Table I-2**). Total 1-hour NO_2 concentrations were calculated following a detailed approach (EPA Tier 3). The methodology used to determine the total 1-hour NO_2 concentrations from the facility was based on adding the monitored background to modeled concentrations, as follows: hourly modeled concentrations from the boilers were first added to the seasonal hourly background monitored concentrations; then, the highest combined daily 1-hour NO_2 concentration was determined at each location and the 98th percentile daily 1-hour maximum concentration for each modeled year was calculated within the AERMOD model; finally, the 98th percentile concentrations were averaged over the latest 5 years.

[4] DEP. *Boiler Database*. Personal communication from Mitchell Wimbish on August 11, 2017.

Table I-2
Maximum Background Pollutant Concentrations

Pollutant	Average Period	Location	Concentration (µg/m³)	NAAQS (µg/m³)
NO_2	1-hour	Queens College, Queens	105.8	188
	Annual	Queens College, Queens	32.3	100
$PM_{2.5}$	24-hour	Division Street, Manhattan	19.2	35
Sources: New York State Air Quality Report Ambient Air Monitoring System, NYSDEC, 2014–2018.				

$PM_{2.5}$ impacts are assessed on an incremental basis and compared with the $PM_{2.5}$ *de minimis* criteria. The $PM_{2.5}$ 24-hour average background concentration of 19.2 µg/m³ from the Division Street ambient monitoring station was used to establish the *de minimis* value of 7.9 µg/m³ (based on the 98th percentile concentration, averaged over the years 2016–2018). $PM_{2.5}$ annual average impacts are assessed on an incremental basis and compared with the $PM_{2.5}$ *de minimis* criteria without considering the annual background. Therefore, the annual $PM_{2.5}$ background is not presented in the table.

RECEPTOR PLACEMENT

Receptors (locations at which concentrations are projected) generally include operable windows in residential or other buildings, air intakes, and publicly accessible open space locations, as applicable. Discrete receptors were modeled on existing and proposed buildings to represent potentially sensitive locations such as operable windows, balconies, and intake vents. Rows of receptors at spaced intervals on the modeled buildings were analyzed at multiple elevations. A ground-level grid was also included to identify potential concentrations at publicly accessible locations in the surrounding area. The worst-case ground level concentration was also evaluated.

INDUSTRIAL SOURCES

IMPACTS OF EXISTING INDUSTRIAL USES ON THE PROPOSED REZONING AREA

Nearby industrial facilities were examined to identify any potential for adverse impacts on sensitive uses within the Rezoning Area from air toxics. All industrial and manufacturing uses within 400 feet of the Project Site (the industrial source study area) were considered for inclusion in the air quality impact analyses.

Land use maps and aerial photographs were reviewed to identify potential sources of emissions from manufacturing/industrial operations. A search of federal, state, and city compliance and permit data within the study area was conducted using DEP's Clean Air Tracking System (CATS) database[5] and EPA's Envirofacts database.[6] Next, a field survey of uses within 400 feet of the Project Site was conducted on April 26, 2018 to determine the operating status of permitted industries and identify any potential industrial sites not included in the permit databases.

No permitted activities were identified based on the permit search and no other sources of emissions were identified in the land use review and field survey. Therefore, no significant impacts on sensitive uses within the Rezoning Area are anticipated from industrial source emissions.

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[5] DEP. Clean Air Tracking System database. https://a826-web01.nyc.gov/DEP.BoilerInformationExt. Accessed April 25, 2018.

[6] EPA. *Envirofacts Data Warehouse*. https://www3.epa.gov/enviro/. Accessed April 25, 2018.

IMPACTS OF FUTURE LIGHT MANUFACTURING USES WITH THE PROPOSED PROJECT

The Proposed Project would include approximately 39,000 gsf of light manufacturing space. Therefore, potential air quality impacts from air toxic emissions were evaluated from tenanting of manufacturing uses in the new mixed-use building on Site A.

Preliminary Assessment

As discussed in Attachment A, "Project Description," the light manufacturing space would be divided among 10 spaces that would range in size from approximately 1,500 sf to 6,000 sf. The light manufacturing space would be owned and managed by the Greenpoint Manufacturing and Design Center (GMDC). GMDC currently manages other light manufacturing spaces in New York City, which primarily consist of small businesses that perform custom manufacturing of wood, metal, leather, textiles, and other products. Typical GMDC tenants include small scale manufacturing and artisanal businesses that can be broadly classified into three major categories: custom fabrication; woodworking; and fine art.The manufacturing uses anticipated under the Proposed Actions would involve operations that would likely utilize a spray booth for various prospective tenants that perform spray coating or brush coating. Although metal working and finishing operations could occupy some of the ground floor space in the Proposed Project, these industrial tenants are not expected to require DEP air permits due to their small size, lack of an exhaust system to the outside, and characterization as low hazard uses under New York City's Building Code. Emissions from such operations would be addressed as part of the Proposed Project's building design, which would include a mechanical ventilation system for the proposed manufacturing space that would be separate from the residential and community facility components of the Proposed Project that would provide fresh air to and exhaust from the ground floor manufacturing space, with vents running above the roofline of the residential towers. In addition, an odor/vapor barrier would be applied to the structural slab separating the manufacturing and non-manufacturing spaces. Based on GMDC's property profile, no manufacturing uses involve activities that would require a DEP air permit other than the spray booth operations.

Spray Booth Analysis

As part of the Proposed Project, it is anticipated that GMDC would manage a small spray booth that would be utilized by tenants for coating products on an as-needed basis. To evaluate potential air quality impacts from the proposed light industrial uses, an analysis was performed based on information from an existing spray coating operation also managed by GMDC at one of its other buildings.

Using data gathered from the existing permitted spray coating operation, emissions and stack parameters were obtained. A maximum spray coating rate of 0.5 gallons per hour was used, and spray booth operation was determined to be a maximum of five hours per day based on operating records for the existing permitted spray coating operation. Annual emissions were estimated assumed the spray booth operating for five days per week throughout the year. **Table I-3** summarizes the emission rates and stack parameters used in the analysis.

Table I-3
Spray Booth Operations
Exhaust Stack Parameters and Emission Rates

Parameter	Value
Stack Height (feet)	71
Stack Diameter (feet)(1)	3.6
Exhaust Velocity (meters/second)(2)	8.9
Exhaust Temperature (degrees Fahrenheit)(2)	70
Hourly Emission Rate (pounds/hour)(2)	
Pigment (modeled as Solids/$PM_{2.5}$/PM_{10}) (CAS# NY75-00-0)	0.01
Ethyl Acetate (CAS# 00141-78-6)	0.27
Isobutyl Acetate (CAS# 00110-19-0)	0.2
2-Butoxyethyl Acetate (CAS# 00112-07-2)	0.2
Ethylbenzene (CAS# 00100-41-4)	0.12
N-Butyl Acetate (CAS# 00123-86-4)	0.27
Toluene (CAS# 00108-88-3)	1.05
Xylene (CAS# 01330-20-7)	0.7
Annual Emission Rate (pounds/hour)(2)	
Pigment (modeled as Solids/$PM_{2.5}$/PM_{10}) (CAS# NY75-00-0)	13
Ethyl Acetate (CAS# 00141-78-6)	351
Isobutyl Acetate (CAS# 00110-19-0)	260
2-Butoxyethyl Acetate (CAS# 00112-07-2)	260
Ethylbenzene (CAS# 00100-41-4)	150
N-Butyl Acetate (CAS# 00123-86-4)	351
Toluene (CAS# 00108-88-3)	1,365
Xylene (CAS# 01330-20-7)	910

Notes:
[1] Parameter based on design information provided.
[2] Parameters and emission factors based on information from an existing spray coating operation managed by GMDC.

Predicted worst-case impacts were compared with the short-term guideline concentrations (SGCs) and annual guideline concentrations (AGCs) recommended in NYSDEC's DAR-1 AGS/SGC Tables.[7] These guideline concentrations were applied as a screening threshold to determine whether sensitive receptors could be significantly impacted from the paint spray booth operation.

LARGE AND MAJOR SOURCES

The *CEQR Technical Manual* requires an analysis of projects that may result in a significant adverse impact due to certain types of new uses located near a "large" or "major" emissions source. Major sources are defined as those located at facilities that have a Title V or Prevention of Significant Deterioration air permit, while large sources are defined as those located at facilities that require a State Facility Permit. To assess the potential effects of these existing sources on the projected development sites, a review of existing permitted facilities was conducted. Sources of information reviewed included the EPA's Envirofacts database[8] and the NYSDEC Title V and

[7] NYSDEC. Policy DAR-1: Guidelines for the Evaluation and Control of Ambient Air Contaminants under Part 212. August 10, 2016.

[8] EPA, Envirofacts Data Warehouse, http://oaspub.epa.gov/enviro/ef_home2.air

State Facility Permit websites.[9] No facilities with a State Facility, Title V, or PSD Permit within the 1,000-foot study area around the Rezoning Area were identified. Therefore, no analysis of the potential impacts of large or major sources of emissions on the Proposed Project was required.

C. THE FUTURE WITH THE PROPOSED ACTIONS

HEAT AND HOT WATER SYSTEMS

The results of the refined heating and hot water systems analysis for 1-hour and annual average NO_2 and 24-hour and annual average $PM_{2.5}$ concentrations are presented in **Table I-4**. As shown in **Table I-1**, all predicted pollutant concentrations are less than the applicable impact criteria. Therefore, there would be no potential for significant adverse air quality impacts from the projected development sites' heating and hot water systems.

Table I-4
Maximum Modeled Pollutant Concentrations (µg/m3)

Pollutant	Averaging Period	Maximum Modeled Concentration	Background	Total Concentration	Criterion
NO_2	1-hour	170 (1)	N/A	170	188 (2)
	Annual	0.77	32.3	33.1	100 (2)
$PM_{2.5}$	24-hour	5.95	N/A	5.95	7.9 (3)
	Annual	0.18	N/A	0.18	0.3 (4)
	Annual (Neighborhood)	0.005	N/A	0.005	0.1 (5)

Notes:
N/A – Not Applicable
[1] The 1-hour NO_2 concentration presented represents the maximum of the total 98th percentile 1-hour NO_2 concentration predicted at any receptor using seasonal-hourly background concentrations.
[2] NAAQS.
[3] $PM_{2.5}$ *de minimis* criterion—24-hour average, not to exceed more than half the difference between the background concentration and the 24-hour standard of 35 µg/m^3.
[4] $PM_{2.5}$ *de minimis* criterion—annual (discrete receptor).
[5] $PM_{2.5}$ *de minimis* criterion—annual (neighborhood scale), 0.1 µg/m^3.

To ensure that there are no potential significant adverse impacts of $PM_{2.5}$ or NO_2, certain restrictions would be required as part of the Proposed Actions through Air Quality (E) Designations (E-561) that would be placed on Sites A, B, and C. These restrictions were assumed in the analysis results shown in **Table I-4** and would avoid the potential for significant air quality impacts from stationary sources using the assumptions used in the analysis. The restrictions are outlined below.

BLOCK 3603, LOTS 1, 10, 45, 49, AND 53 (PROJECTED DEVELOPMENT SITE A)

Thatford Avenue Tower

Boilers

Any new development on the Thatford Avenue Tower must utilize only natural gas in any fossil fuel-fired heating and hot water equipment, be fitted with low NO_x (30 ppm) burners, have heating

[9] NYSDEC Title V and State Facility permit websites:
http://www.dec.ny.gov/dardata/boss/afs/issued_atv.html;
http://www.dec.ny.gov/dardata/boss/afs/issued_asf.html

and hot water exhaust stacks located at least 85 feet above grade, no more than 78 feet from the lot line facing Newport Street, and no more than 46 feet from the lot line facing Thatford Avenue, to avoid potential significant air quality impacts.

Paint Spray Booth Make-Up Air Unit

Any new development on the Thatford Avenue Tower must utilize only natural gas in any fossil fuel-fired paint spray booth make-up unit, the exhaust must be located at least 78 feet above grade, and no more than 132 feet from the lot line facing Newport Street, to avoid potential significant air quality impacts.

Rockaway Avenue Tower

Any new development on the Rockaway Avenue Tower must utilize only natural gas in any fossil fuel-fired heating and hot water equipment, and have heating and hot water exhaust stacks located at least 95 feet above grade, and no more than 41 feet from the lot line facing Newport Street, to avoid potential significant air quality impacts.

BLOCK 3603 LOT 19 (PROJECTED DEVELOPMENT SITE B)

Any new development on Site B must utilize only natural gas in any fossil fuel-fired heating and hot water equipment, be fitted with low NO_x (30 ppm) burners, and have heating and hot water exhaust stacks located at least 98 feet above grade, to avoid any potential significant air quality impacts.

BLOCK 3603, LOT 42 (PROJECTED DEVELOPMENT SITE C)

Any new development or enlargement on the above-referenced property must utilize only natural gas in any fossil fuel-fired heating and hot water equipment, be fitted with low NO_x (30 ppm) burners, and ensure that heating and hot water exhaust stack(s) are located at least 88 feet above grade. Heating and hot water exhaust stack(s) must be located at least 60 feet from the lot line facing Rockaway Avenue, to avoid any potential significant air quality impacts.

INDUSTRIAL SOURCES

IMPACTS OF FUTURE LIGHT MANUFACTURING USES WITH THE PROPOSED PROJECT

Table I-5 presents the maximum potential estimated short-term and annual concentrations of air toxic compounds from the analyzed industrial source with the Proposed Project. For each modeled compound, the table lists the NYSDEC SGC and AGC (or in the case of PM, NAAQS, or *de minimis* criteria). As presented in the table, maximum concentrations for each air toxic compound were predicted to be below the thresholds.

Table I-5
Maximum Predicted Pollutant Concentrations (µg/m³)

Pollutant	CAS No.	1-Hour Average/Short-term (µg/m³)	SGC (µg/m³)(1)	Annual Average (µg/m³)	AGC (µg/m³)(1)
Pigment (as Solids/$PM_{2.5}$)	NY75-00-0	0.9(2)	7.9(3)	0.1	0.3(4)
Pigment (as Solids/PM_{10})	NY75-00-0	38.9(5)	150(6)	--	--
Ethyl Acetate	00141-78-6	1,584	--	2.1	3,400
Isobutyl Acetate	00110-19-0	1,173	--	1.6	17,000
2-Butoxyethyl Acetate	00112-07-2	1,173	--	1.6	310
Ethylbenzene	00100-41-4	675	--	0.9	1,000
N-Butyl Acetate	00123-86-4	1,584	95,000	2.1	17,000
Toluene	00108-88-3	6,160	37,000	8.3	5,000
Xylene	01330-20-7	4,107	22,000	5.5	100

Sources:
(1) DEC Division of Air Resources, Bureau of Stationary Sources. *DAR-1 AGS/SGC Tables.* August 2016.
(2) 24-hour average.
(3) Based on the 24-hour CEQR *de minimis* criterion. The value was derived from the background concentration of 19.2 µg/m³ measured at the Division Street NYSDEC monitoring station.
(4) $PM_{2.5}$ *de minimis* criterion—annual (discrete receptor)
(5) Predicted 24-hour average PM_{10} concentration was added to a background concentration of 38 µg/m³ measured at the Division Street NYSDEC monitoring station.
(6) 24-Hour PM_{10} NAAQS.

The proposed zoning text amendment would allow the location of the Use Group 16 and Use Group 17 uses listed in ZR Section 123-222 within the Proposed Project upon the submission to the Department of Buildings of a restrictive declaration requiring the use of building design measures approved by DEP. For the Proposed Project, these building design requirements would include:

- Odor/vapor barrier and prevention: a mechanical ventilation system separate from the residential building will provide fresh air to and exhaust from the ground-floor, with vents running above the roof line of the residential towers. An odor/vapor barrier would also be applied to the structural slab separating the manufacturing and residential spaces.

This and other measures have been developed carefully by the Applicant, GMDC, and a team of architects, engineers, construction managers, and code consultants to address any potential risk and nuisance posed by the combination of residential and manufacturing uses. In addition, the Proposed Project would be subject to all other applicable laws, such as the Building Code's structural slab requirements for fire separation between ground-floor manufacturing and upper-floor residential spaces and the Right-to-Know Law's storage and filing requirements for specified substances. Therefore, the Proposed Actions would facilitate a mixed-use project where residents can live healthily and safely above ground-floor manufacturing uses and no potential significant adverse air quality impacts are anticipated. ✷

A. INTRODUCTION

This attachment considers the potential for the Proposed Actions to result in significant adverse noise impacts. As discussed in Attachment A, "Project Description," the Proposed Actions would result in new residential and supportive housing and retail, community facility, and manufacturing space on three projected development sites in the Brownsville neighborhood of Brooklyn.

According to the guidelines established in the 2014 *City Environmental Quality Review* (*CEQR) Technical Manual*, an initial noise impact screening considers whether a proposed action would generate any mobile or stationary source noise or be located in an area with high ambient noise levels. A noise analysis examines an action for its potential effects on sensitive noise receptors and on the interior noise levels of residential, commercial, and institutional uses.

In terms of mobile sources, the number of vehicle trips generated by the Proposed Actions would be lower than the threshold that would require any detailed analysis. Consequently, it is not expected that the Proposed Actions would generate sufficient traffic to have the potential to cause a significant noise impact (i.e., it would not result in a doubling of noise passenger car equivalents [Noise PCEs] that would be necessary to cause a 3 A-weighted decibel [dBA] increase in noise levels). Therefore, significant adverse mobile source noise impacts are unlikely and further assessment is not warranted.

Therefore, the noise analysis is focused on the level of building attenuation necessary to ensure that interior noise levels within the projected developments would satisfy applicable interior noise criteria.

B. ACOUSTICAL FUNDAMENTALS

Sound is a fluctuation in air pressure. Sound pressure levels are measured in units called decibels (dB). The particular character of the sound that we hear (e.g., a whistle compared with a French horn) is determined by the speed, or frequency, at which the air pressure fluctuates, or oscillates. Frequency defines the oscillation of sound pressure in terms of cycles per second. One cycle per second is known as 1 Hertz (Hz). People can hear over a relatively limited range of sound frequencies, generally between 20 Hz and 20,000 Hz, and the human ear does not perceive all frequencies equally well. High frequencies (e.g., a whistle) are more easily discernable and therefore more intrusive than many of the lower frequencies (e.g., the lower notes on the French horn).

A-WEIGHTED SOUND LEVEL (DBA)

In order to establish a uniform noise measurement that simulates people's perception of loudness and annoyance, the decibel measurement is weighted to account for those frequencies most audible to the human ear. This is known as the A-weighted sound level, or dBA, and it is the descriptor of noise levels most often used for community noise. As shown in **Table J-1**, the threshold of human hearing is defined as 0 dBA; very quiet conditions (e.g., a library) are approximately 40 dBA;

normal daily activity are levels between 50 dBA and 70 dBA; noisy conditions are levels above 70 dBA; and loud, intrusive, and deafening conditions are levels approaching 130 dBA.

Table J-1
Common Noise Levels

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

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

In considering these values, it is important to note that the dBA scale is logarithmic, meaning that each increase of 10 dBA describes a doubling of perceived loudness. Thus, the background noise in an office, at 50 dBA, is perceived as twice as loud as a library at 40 dBA. For most people to perceive an increase in noise, it must be at least 3 dBA. At 5 dBA, the change will be readily noticeable.

SOUND LEVEL DESCRIPTORS

Because the sound pressure level unit of dBA describes a noise level at just one moment and very few noises are constant, other ways of describing noise that fluctuates over extended periods have been developed. One way is to describe the fluctuating sound heard over a specific time period as if it had been a steady, unchanging sound. For this condition, a descriptor called the equivalent sound level, L_{eq}, can be computed. L_{eq} is the constant sound level that, in a given situation and time period (e.g., 1 hour, denoted by $L_{eq(1)}$, or 24 hours, denoted by $L_{eq(24)}$), conveys the same sound energy as the actual time-varying sound. Statistical sound level descriptors such as L_1, L_{10}, L_{50}, L_{90}, and L_x, are used to indicate noise levels that are exceeded 1, 10, 50, 90, and x percent of the time, respectively.

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

L_{eq} and the levels of exceedance will depend on the character of the noise. In community noise measurements, it has been observed that the L_{eq} is generally between L_{10} and L_{50}.

For purposes of the Proposed Actions, the L_{10} descriptor has been selected as the noise descriptor to be used to satisfy applicable interior noise criteria. The 1-hour L_{10} is the noise descriptor used in the *CEQR Technical Manual* noise exposure guidelines for City environmental impact review classification.

C. NOISE STANDARDS AND CRITERIA

NEW YORK CEQR NOISE CRITERIA

The *CEQR Technical Manual* sets external noise exposure standards (see **Table J-2**). Noise exposure is classified into four categories: acceptable, marginally acceptable, marginally unacceptable, and clearly unacceptable. The noise level specified for outdoor areas requiring serenity and quiet is 55 dBA $L_{10(1)}$.

Table J-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
Outdoor area requiring serenity and quiet[2]		$L_{10} \leq 55$ dBA	---------- Ldn ≤ 60 dBA ----------	N/A	N/A	N/A	N/A	N/A	N/A
Hospital, nursing home		$L_{10} \leq 55$ dBA		55 < L_{10} ≤ 65 dBA	---------- 60 < Ldn ≤ 65 dBA ----------	65 < L_{10} ≤ 80 dBA	(i) 65 < Ldn ≤ 70 dBA, (II) 70 ≤ Ldn	L_{10} > 80 dBA	---------- Ldn ≤ 75 dBA ----------
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} > 80 dBA	
	10 PM to 7 AM	$L_{10} \leq 55$ dBA		55 < L_{10} ≤ 70 dBA		70 < L_{10} ≤ 80 dBA		L_{10} > 80 dBA	
School, museum, library, court, house of worship, transient hotel or motel, public meeting room, auditorium, outpatient 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)	
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–10PM)	
Industrial, public areas only[4]	Note 4	Note 4		Note 4		Note 4		Note 4	

Notes:
[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.
[3] One may use 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).
Source:
New York City Department of Environmental Protection (adopted policy 1983).

The *CEQR Technical Manual* defines attenuation requirements for buildings based on exterior noise level (see **Table J-3**). Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 45 dBA or lower for noise-sensitive uses and interior noise levels of 50 dBA or lower for commercial/office/administrative uses and are determined based on exterior $L_{10(1)}$ noise levels.

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

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

Notes:
[A] The above composite window-wall attenuation values are for residential dwellings and community facility development. Commercial uses would be 5 dBA less in each category. All the above categories require a closed-window situation and hence an alternate means of ventilation.
[B] Required attenuation values increase by 1 dBA increments for L_{10} values greater than 80 dBA.
Source:
New York City Department of Environmental Protection.

ENVIRONMENTAL CONDITIONS FOR BUILDINGS IN MX DISTRICTS

The Proposed Actions would change the zoning on Sites A, B, and C to a mixed-use zoning district that allows manufacturing and residential uses. Zoning Resolution (ZR) Section 123-32− Environmental Conditions requires that all new dwelling units (DUs) in Special Mixed Use Districts be provided with a minimum of 35 dBA window-wall attenuation to maintain an interior noise level of 45 dBA or less. The 35 dBA window-wall attenuation is for a closed-window condition; consequently, a means of alternate ventilation that does not degrade the acoustical performance of the building façade is required. However, it is possible to review and alter the minimum attenuation requirements via a process overseen by the New York City Mayor's Office of Environmental Remediation (OER), which could be undertaken at a later time.

D. EXISTING NOISE LEVELS

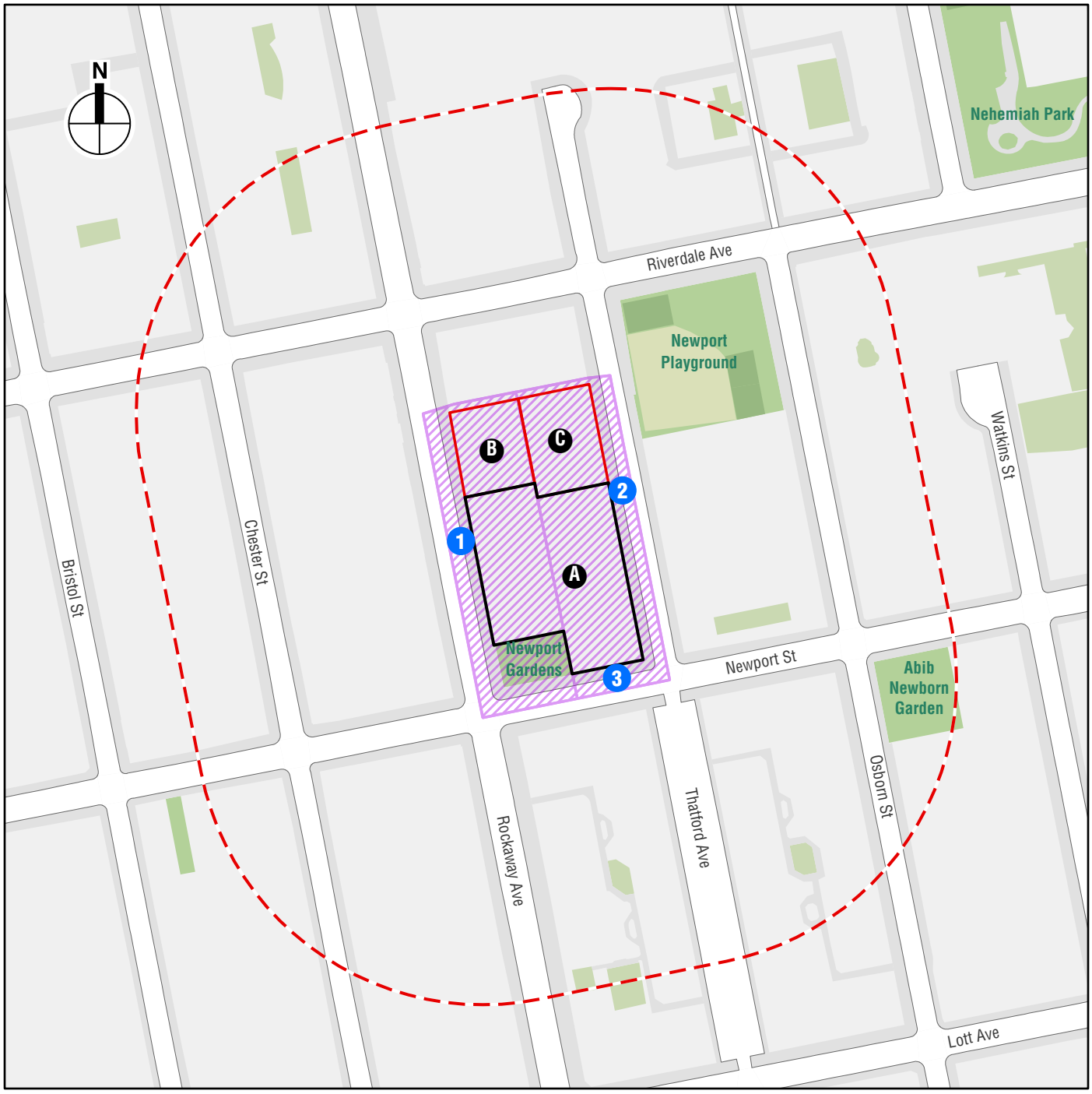
Existing noise levels at the Project Site were measured at receptors 1, 2, and 3, as shown in **Figure J-1.**

At the receptor sites, the existing noise levels were measured for 20-minute periods during the three weekday peak periods—AM (8:00 AM to 9:00 AM), midday (MD) (12:00 PM to 1:00 PM), and PM (5:00 PM to 6:00 PM). Measurements were performed on May 2, 2018 and May 8, 2018.

EQUIPMENT USED DURING NOISE MONITORING

Measurements were performed using a Brüel & Kjær Type 2260 Sound Level Meter (SLM), a Brüel & Kjær Type 4189 ½-inch microphone, and a Brüel & Kjær Sound Level Type 4231 Calibrator. The Brüel & Kjær SLM is a Type 1 instrument according to ANSI Standard S1.4-1983 (R2006). The SLM has a laboratory calibration date within 1 year of the date of the measurements, as is standard practice. At the receptor sites, the microphone was mounted on a tripod at a height of approximately 5 feet above the ground. The microphone was mounted away from any large reflecting surfaces that could affect the sound level measurements. The SLM was calibrated before and after readings with a Brüel & Kjær Type 4231 Sound Level Calibrator. Measurements at the location were made on the A-scale (dBA). The data were digitally recorded by the SLM and displayed at the end of the measurement period in units of dBA. Measured quantities included L_{eq}, L_1, L_{10}, L_{50}, and L_{90}. A windscreen was used during the sound measurements except for calibration. All measurement procedures were based on the guidelines outlined in ANSI Standard S1.13-2005.

1/21/2020



0 400 FEET

Proposed Project Site

Projected Development Sites

Rezoning Area

Study Area (400-foot perimeter)

1 *Noise Receptors*

Noise Receptor Locations

803 ROCKAWAY AVENUE REZONING

Figure J-1

NOISE MEASUREMENT RESULTS

The results of the peak-hour existing noise level measurements conducted at the Project Site are summarized in **Table J-4**.

Table J-4
Existing Noise Levels in dBA

Site	Location	Time Period	L_{eq}	L_1	L_{10}	L_{50}	L_{90}
1	Rockaway Avenue between Riverdale Avenue and Newport Street	AM	66.6	78.0	68.8	62.4	56.4
		MD	65.9	75.0	67.8	62.8	58.6
		PM	65.2	75.3	67.8	62.3	56.6
2	Thatford Avenue between Riverdale Avenue and Newport Street	AM	61.1	72.6	64.4	54.2	50.6
		MD	64.8	71.7	66.2	65.0	59.5
		PM	60.4	72.6	61.3	57.1	55.0
3	Newport Street between Rockaway Avenue and Thatford Avenue	AM	62.4	71.0	64.6	59.4	55.6
		MD	62.7	73.4	64.7	59.1	56.3
		PM	63.0	72.0	65.8	60.6	56.8

Note: Noise measurements were performed by AKRF, Inc. on May 2, 2018 and May 8, 2018.

At the receptor sites, vehicular traffic was the dominant noise source. Measured levels are moderate and reflect the level of vehicular activity on the adjacent roadways. In terms of the CEQR criteria, the existing noise levels at all three receptor sites are in the "marginally acceptable" category.

E. NOISE ATTENUATION MEASURES

As shown in **Table J-3**, the *CEQR Technical Manual* has set noise attenuation values for buildings based on exterior $L_{10(1)}$ noise levels in order to maintain interior noise levels of 45 dBA or lower for residential uses. As discussed above, ZR Section 123-32 requires a minimum window-wall attenuation level of 35 dBA to maintain interior noise levels of 45 dBA or less at all DUs. The measured exterior $L_{10(1)}$ noise levels were used to determine the building attenuation values for the proposed buildings. Based on the measured noise levels shown in **Table J-4**, there would be no specific requirement for attenuation per the *CEQR Technical Manual* noise exposure guideline since the levels are below the threshold requiring anything beyond standard façade construction to ensure acceptable interior noise levels. However, the minimum 35 dBA of façade attenuation and the requirement for an alternate means of ventilation included in ZR Section 123-32, as enforced by the New York City Department of Buildings (DOB), still apply. Further study under the purview of OER would be required to alter the attenuation requirements. Regardless of the final attenuation requirement, requirements of ZR Section 123-32 would be sufficient to ensure acceptable interior noise levels at all DUs. In accordance with MX zoning requirements, the projected development sites would meet these façade attenuation requirements as well as the requirements for an alternate means of ventilation for the residential or day care use portions of the building. Therefore, no significant adverse impacts would occur.

PLAYGROUND NOISE

Noise generated by use of the nearby Newport Playground at the Proposed Project was evaluated based upon measurements made at a series of New York City school playgrounds for the SCA.[1]

[1] *SCA Playground Noise Study*, AKRF, Inc., October 23, 1992.

Table J-5 shows maximum hourly playground boundary noise levels. Playground L_{10} noise levels are assumed to be 3 dBA greater than L_{eq} values, as described in the SCA study.

Table J-5
Reference Playground Boundary Noise $L_{eq(1)}$ Noise Levels (dBA)

Early Childhood	Elementary Schools	Intermediate Schools	High Schools
71.5	71.4	71.0	68.2
Source: SCA Playground Noise Study, AKRF, Inc., October 23, 1992.			

Geometric spreading and the consequent dissipation of sound energy with increasing distance from the playground decreases noise levels at varying distances from the playground boundary. Based upon measurements and acoustical principles, hourly noise levels were assumed to decrease by the following values at the specified distances from the playground boundary: 4.8 dBA at 20 feet, 6.8 dBA at 30 feet, and 9.1 dBA at 40 feet. For all distances between 40 and 300 feet, a 4.5-dBA drop-off per doubling of distances from the playground boundary was assumed.

Using the reference playground boundary noise levels for early childhood schools, noise levels from the playground were projected to the nearest building façade of the Proposed Project and added to the measured existing noise levels. The playground would result in a maximum $L_{10(1)}$ noise level of 69.0 dBA at the proposed building, which is considered "marginally acceptable" in *CEQR Technical Manual* criteria and below the threshold requiring façade attenuation according to CEQR noise exposure guidance.

MANUFACTURING USE DEMISING PARTITION NOISE ATTENUATION REQUIREMENTS

For the condition in which a newly introduced noise-sensitive use (i.e., residential and noise-sensitive community facility uses) would exist on the same lot with manufacturing use, the two uses would be separated by a demising partition, which would provide noise attenuation. Noise levels were measured at an existing representative manufacturing use, and based on the measured level and maximum acceptable noise levels for a noise-sensitive space the necessary performance for demising partitions between light manufacturing use and noise-sensitive spaces was determined. As with the façade attenuation analysis described above, the acceptable interior noise level threshold is 45 dBA or lower for residential and noise sensitive community facility uses. The Proposed Project would be a newly constructed building and the design of its demising partitions between the manufacturing use and noise-sensitive space would be required to provide the minimum noise attenuation established by the analysis described above.

NOISE SURVEY PROCEDURES AND RESULTS

The Fodera Bass Guitar workshop located in the Industry City complex in Brooklyn New York was selected as a representative manufacturing use to establish worst-case interior noise levels for existing and future manufacturing uses. Noise levels in the workshop include woodworking machinery (e.g., saws, routing machines, sanders, etc.) as well as ventilation equipment. The measured noise levels, shown in **Table J-6**, serve as a conservative representation of the types of light manufacturing and industrial work that make up expected manufacturing uses.

Table J-6
Measured Sound Pressure Levels at the Fodera Guitar Workshop (dBA)

Description	L_{eq}	L_1	L_{10}	L_{50}	L_{90}	L_{min}	L_{max}
Ambient Workshop Noise (includes routers, saws, sanders, and ventilation equipment)	90.1	96.3	93.6	89.3	82.1	78.9	96.5

INTERIOR DEMISING PARTITION REQUIREMENTS

Demising partitions for residences are required by DOB code to provide at least STC 50. Based on measured noise levels from the representative manufacturing use, demising partitions separating manufacturing uses from noise-sensitive uses that meet this STC 50 requirement would result an interior noise level of 45 dBA or less. In addition to residences, the Proposed Project would include noise sensitive community facility space. To ensure that noise levels at any noise-sensitive use adjacent to manufacturing uses included in the Proposed Project would be in the acceptable range, all demising partitions between a noise-sensitive space and manufacturing space would be required to meet the STC 50 code requirement for residential demising partitions. The STC 50 requirement for all demising partitions between noise sensitive space and manufacturing space would be required through a Restrictive Declaration, which would be recorded with the Department of Finance and would be binding with the property.

F. MECHANICAL SYSTEM

The building mechanical systems (i.e., heating, ventilation, and air conditioning systems) would be designed to meet all applicable noise regulations (i.e., Subchapter 5, Section 24-227 of the New York City Noise Control Code and the New York City Building Code) and to avoid producing levels that would result in any significant increase in ambient noise levels. ✷

Appendix 1

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: ROCKAWAY AVE. REZONING
Date received: 5/8/2018

Properties with no Archaeological significance:

1) ADDRESS: 432 THATFORD AVENUE, BBL: 3036030001
2) ADDRESS: NEWPORT STREET, BBL: 3036030007
3) ADDRESS: 803 ROCKAWAY, BBL: 3036030010
4) ADDRESS: 785 ROCKAWAY AVENUE, BBL: 3036030019
5) ADDRESS: 400 THATFORD AVENUE, BBL: 3036030042
6) ADDRESS: 412 THATFORD AVENUE, BBL: 3036030045
7) ADDRESS: 416 THATFORD AVENUE, BBL: 3036030049
8) ADDRESS: 424 THATFORD AVENUE, BBL: 3036030053
9) ADDRESS: 230 RIVERDALE AVENUE, BBL: 3036030025

Gina Santucci 5/16/2018

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 33356_FSO_DNP_05162018.doc

Landmarks Preservation Commission

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

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

ENVIRONMENTAL REVIEW

Project number: DEPARTMENT OF CITY PLANNING / 19DCP220K
Project: ROCKAWAY AVE. REZONING
Date Received: 12/11/2019

Properties with no Architectural or Archaeological significance:

1) 432 THATFORD AVENUE, BBL: 3036030001
2) NEWPORT STREET, BBL: 3036030007
3) 803 ROCKAWAY, BBL: 3036030010
4) 785 ROCKAWAY AVENUE, BBL: 3036030019
5) 230 RIVERDALE AVENUE, BBL: 3036030025
6) 400 THATFORD AVENUE, BBL: 3036030042
7) 412 THATFORD AVENUE, BBL: 3036030045
8) 416 THATFORD AVENUE, BBL: 3036030049
9) 424 THATFORD AVENUE, BBL: 3036030053

Gina Santucci

12/11/2019

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 33356_FSO_GS_12112019.docx

Appendix 2

Print Form

Jamaica Bay Watershed Protection Plan
Project Tracking Form

The Jamaica Bay Watershed Protection Plan, developed pursuant to Local Law 71 of 2005, mandates that the New York City Department of Environmental Protection (DEP) work with the Mayor's Office of Environmental Coordination (MOEC) to review and track proposed development projects in the Jamaica Bay Watershed (http://www.nyc.gov/html/oec/downloads/pdf/ceqr/Jamaica_Bay_Watershed_Map.jpg) that are subject to CEQR in order to monitor growth and trends. If a project is located in the Jamaica Bay Watershed, (the applicant should complete this form and submit it to DEP and MOEC. This form must be updated with any project modifications and resubmitted to DEP and MOEC.

The information below will be used for tracking purposes only. It is not intended to indicate whether further CEQR analysis is needed to substitute for the guidance offered in the relevant chapters of the CEQR Technical Manual.

A. GENERAL PROJECT INFORMATION

1. CEQR Number: P2017K023 1a. Modification ☐
2. Project Name: 803 Rockaway Avenue Rezoning
3. Project Description:

   Rezoning of Block 3603 in Brownsville, Brooklyn from M1-1 to MX (M1-4/R6A & M1-4/R7A equivalent) to facilitate the construction of a new mixed use building on Lots 1, 10, 45, 49, and 53, which would consist of ground floor light manufacturing with affordable and supportive housing on floors above.

4. Project Sponsor: The Bridge LLC
5. Required approvals: See Attachment 1
6. Project schedule (build year and construction schedule): 2023

B. PROJECT LOCATION:

1. Street address: 803 Rockaway Avenue
2. Tax block(s): 3603 Tax Lot(s): 1, 10, 19, 42, 45, 49, 53, and p/o 25
3. Identify existing land use and zoning on the project site: M1-1 light manufacturing
4. Identify proposed land use and zoning on the project site: See Attachment 1 and Figure 3a
5. Identify land use of adjacent sites (include any open space): See Attachment 1 and Figure 4
6. Describe existing density on the project site and the proposed density:

Existing Condition	Proposed Condition
1 story Mfg, 1 FAR or below	8-story mixed use buildings FAR 4.6

7. Is project within 100 or 500 year floodplain (specify)? ☐ **100 Year** ☐ **500 Year** ☒ **No**

C. GROUND AND GROUNDWATER

1. Total area of in-ground disturbance, if any (in square feet): 70,822 sf
2. Will soil be removed (if so, what is the volume in cubic yards)? 28,000
3. Subsurface soil classification:
   (per the New York City Soil and Water Conservation Board): UFA, UFAI, UoA
4. If project would change site grade, provide land contours (**attach** map showing existing in 1' contours and proposed in 1' contours).
5. Will groundwater be used (list volumes/rates)? ☐ **Yes** ☐ **No**

   Volumes: Rates:
6. Will project involve dewatering (list volumes/rates)? ☐ **Yes** ☐ **No**

   Volumes: Rates:
7. Describe site elevation above seasonal high groundwater:

D. HABITAT

1. Will vegetation be removed, particularly native vegetation? ☐ **Yes** ☒ **No**

   If YES,
   - **Attach** a detailed list (species, size and location on site) of vegetation to be removed (including trees >2" caliper, shrubs, understory planting and groundcover).
   - **List** species to remain on site.
   - **Provide** a detailed list (species and sizes) of proposed landscape restoration plan (including any wetland restoration plans).
2. Is the site used or inhabited by any rare, threatened or endangered species? ☐ **Yes** ☒ **No**
3. Will the project affect habitat characteristics? ☐ **Yes** ☒ **No**

   If YES, describe existing wildlife use and habitat classification using "Ecological Communities of New York State." at http://www.dec.ny.gov/animals/29392.html.
4. Will pesticides, rodenticides or herbicides be used during construction? ☐ **Yes** ☐ **No**

   If YES, estimate quantity, area and duration of application.

   Not known, would only be used as necessary and only those approved for use within New York
5. Will additional lighting be installed? ☐ **Yes** ☐ **No**

   If YES and near existing open space or natural areas, what measures would be taken to reduce light penetration into these areas?

   Not known, project sites are inland and would not greatly contribute to artificial light.

E. SURFACE COVERAGE AND CHARACTERISTICS

(describe the following for both the existing and proposed condition):

	Existing Condition	Proposed Condition
1. ***Surface area:***		
Roof:	53,575 sf	70,822 sf
Pavement/walkway:	12,977 sf	0 sf
Grass/softscape:	0 sf	The proposed project includes a roof garden at second story
Other (describe):	0 sf	
2. ***Wetland*** (regulated or non-regulated) area and classification:	No wetlands in the project area	No wetlands in the project area
3. ***Water surface area:***	No surface water in the project area	No surface water in the project area

4. ***Stormwater management*** (describe):

Existing – how is the site drained?

The site is located in a combined sewer area, storm water and waste water flow is conveyed to the 26th Ward WWTP on Fresh Creek.

Proposed – describe, including any infrastructure improvements necessary off-site: