Northeastern Towers Annex

Environmental Assessment Statement

CEQR No. 17DCP161Q

Prepared for:
Northeastern Towers Annex L.P.

Prepared by:
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Northeastern Towers Annex

Environmental Assessment Statement

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

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

Part I: GENERAL INFORMATION

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

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

2. *Project Name* Northeastern Towers Annex

3. *Reference Numbers*

CEQR REFERENCE NUMBER (to be assigned by lead agency)	BSA REFERENCE NUMBER (if applicable)
17DCP161Q	
ULURP REFERENCE NUMBER (if applicable)	OTHER REFERENCE NUMBER(S) (if applicable) (*e.g.*, legislative intro, CAPA)
170336ZMQ, N 170337ZRQ	

4a. *Lead Agency Information*			**4b. *Applicant Information***		
NAME OF LEAD AGENCY New York City Department of City Planning			NAME OF APPLICANT Northeastern Towers Annex L.P.		
NAME OF LEAD AGENCY CONTACT PERSON Robert Dobruskin, AICP, Director, Environmental Assessment and Review Division			NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON Jay Marcus, Treasurer, Northeastern Towers Annex GP LLC		
ADDRESS 120 Broadway, 31st floor			ADDRESS 621 Degraw Street		
CITY New York	STATE NY	ZIP 10271	CITY Brooklyn	STATE NY	ZIP 11217
TELEPHONE 212-720-3423	EMAIL rdobrus@planning.nyc.gov		TELEPHONE 718-237-2017 x133	EMAIL jmarcus@fifthave.org	

5. *Project Description*

The applicant, Northeastern Towers Annex L.P., is seeking a zoning map amendment and a zoning text amendment from the New York City Planning Commission (CPC) (the "proposed actions") to facilitate the development of a residential building at 131-10 Guy R. Brewer Boulevard in the Rochdale/Springfield Gardens neighborhood of Queens Community District (CD) 12. The proposed project would rezone a portion of Block 12277, Lot 1 from an R3X district to an R6 district and will include a zoning text amendment to Appendix F of the Zoning Resolution in order to map the rezoning area as a Mandatory Inclusionary Housing Area (MIH).

The proposed actions would facilitate the development a new 10-story annex which would be constructed on a new tax lot to be created at the southern portion of the development site. The proposed new building would contain approximately 139,487 gross square feet (gsf), including 135,562 gsf of residential floor area with 129 affordable dwelling units (with 1 additional apartment for a resident superintendent), for a total of 130 dwelling units, and 3,925 gsf of community facility (senior center) uses. The proposed development would rise to a height of 10-stories (106.5 feet). The proposed development would include 100% affordable housing floor area resulting in the creation of approximately 129 affordable dwelling units for low-income senior citizens. As discussed in detail in Attachment A, "Project Description," for conservative analysis purposes, two scenarios have been analyzed under the RWCDS.

Project Location

BOROUGH Queens	COMMUNITY DISTRICT(S) 12	STREET ADDRESS 131-10 Guy R. Brewer Boulevard
TAX BLOCK(S) AND LOT(S) Block 12277, Lot 1		ZIP CODE 11434
DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS 132nd Avenue to the south, 161st Street to the west, Guy R. Brewer Boulevard to the east.		
EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY R3X		ZONING SECTIONAL MAP NUMBER 19a

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

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

☐ CITY MAP AMENDMENT	☐ ZONING CERTIFICATION	☐ CONCESSION
☒ ZONING MAP AMENDMENT	☐ ZONING AUTHORIZATION	☐ UDAAP

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

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

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

Other City Approvals Subject to CEQR (check all that apply)
☐ LEGISLATION
☒ FUNDING OF CONSTRUCTION, specify: New York City Housing Preservation and Development (HPD) Financing
☐ RULEMAKING
☐ POLICY OR PLAN, specify:
☐ CONSTRUCTION OF PUBLIC FACILITIES
☐ FUNDING OF PROGRAMS, specify:
☐ 384(b)(4) APPROVAL
☐ PERMITS, specify:
☐ OTHER, explain:

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

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

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

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

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

Physical Setting (both developed and undeveloped areas)
Total directly affected area (sq. ft.): 113,133 sf
Waterbody area (sq. ft) and type: 0 sf
Roads, buildings, and other paved surfaces (sq. ft.): 113,133 sf
Other, describe (sq. ft.): 0 sf

8. *Physical Dimensions and Scale of Project* (if the project affects multiple sites, provide the total development facilitated by the action)
SIZE OF PROJECT TO BE DEVELOPED (gross square feet): 139,487
NUMBER OF BUILDINGS: 1
GROSS FLOOR AREA OF EACH BUILDING (sq. ft.): 139,487
HEIGHT OF EACH BUILDING (ft.): 106.5'
NUMBER OF STORIES OF EACH BUILDING: 10

Does the proposed project involve changes in zoning on one or more sites? ☒ YES ☐ NO
If "yes," specify: The total square feet owned or controlled by the applicant: 113,133
The total square feet not owned or controlled by the applicant: N/A

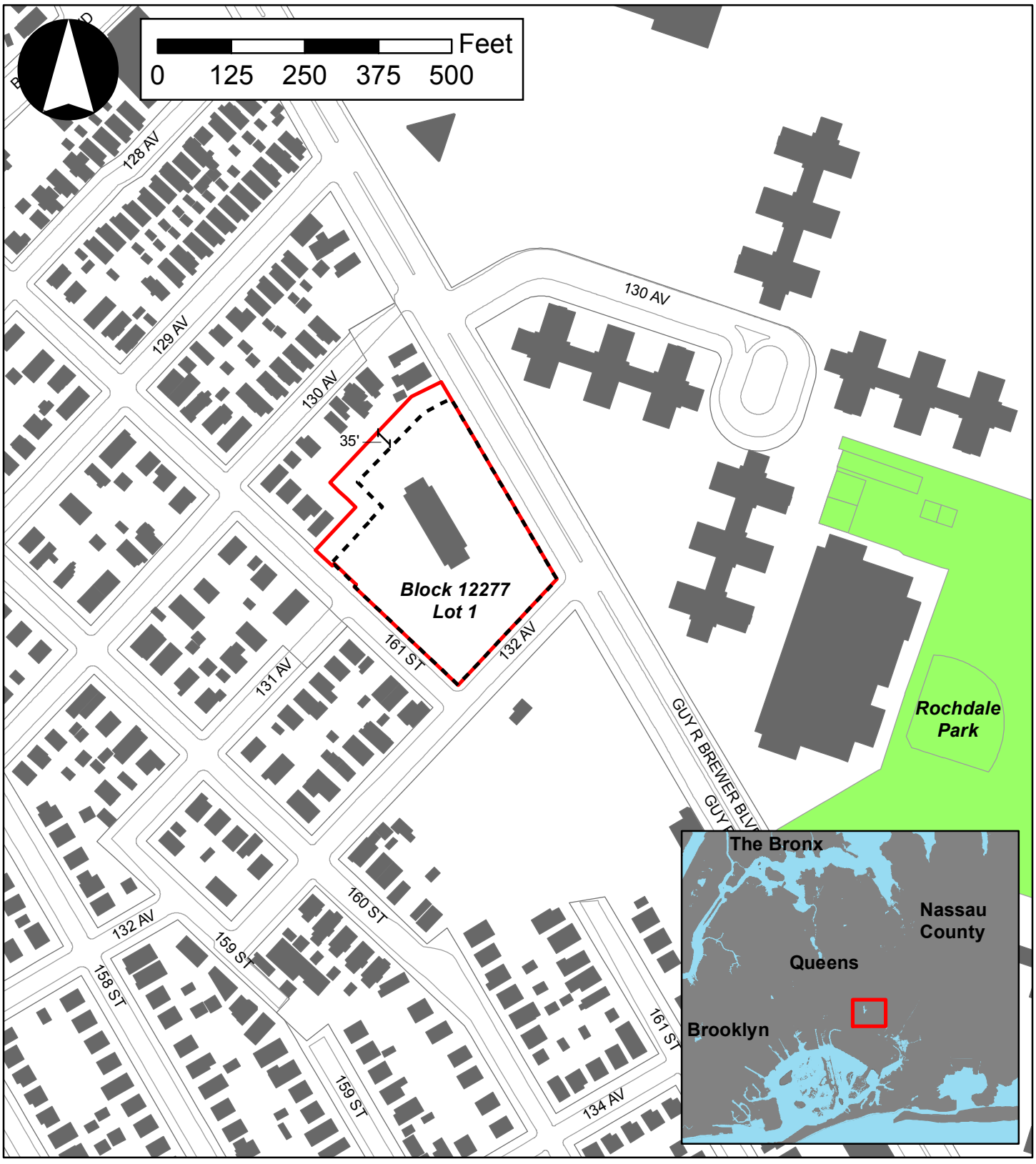
Does the proposed project involve in-ground excavation or subsurface disturbance, including, but not limited to foundation work, pilings, utility lines, or grading? ☒ YES ☐ NO
If "yes," indicate the estimated area and volume dimensions of subsurface permanent and temporary disturbance (if known):
AREA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

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

	Residential	***Commercial***	***Community Facility***	***Industrial/Manufacturing***
Size (in gross sq. ft.)	135,562	N/A	3,925	N/A
Type (*e.g.,* retail, office, school)	130 units	N/A	Senior Center	N/A

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

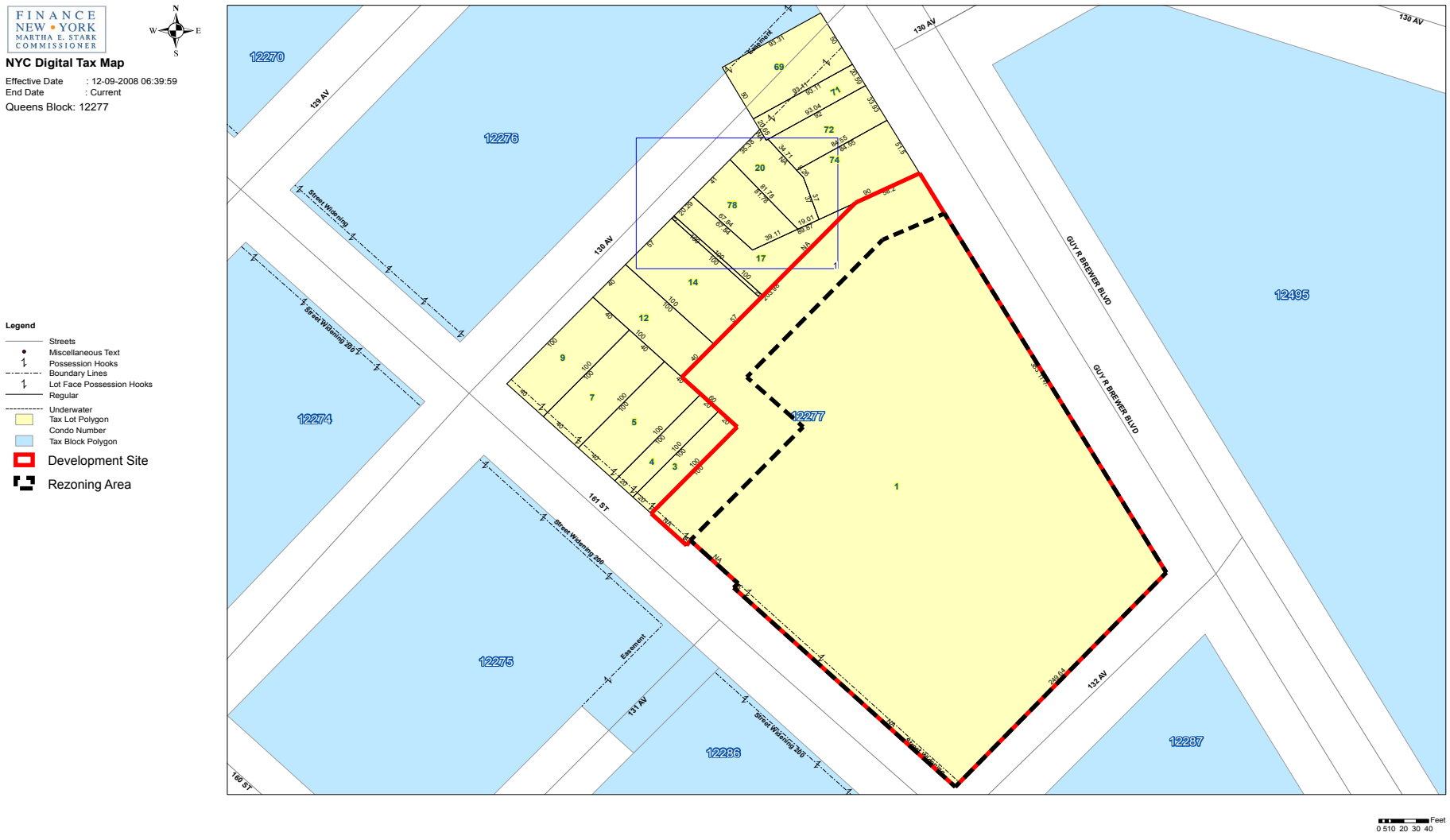
Project Location



Legend

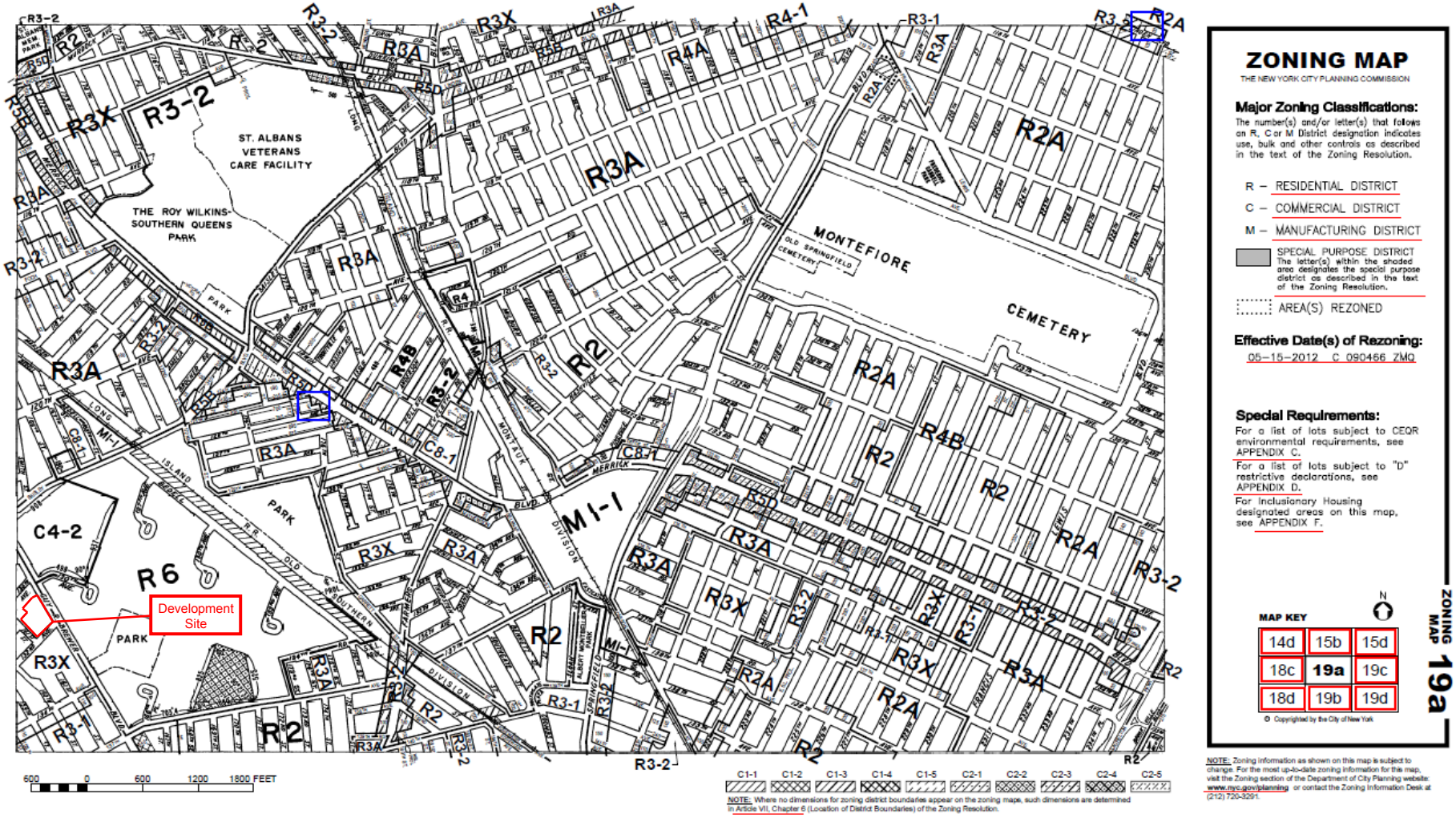
Development Site | Rezoning Area | Building Footprints | Open Space

Source: NYCDCP, DoITT



Northeastern Towers Annex EAS

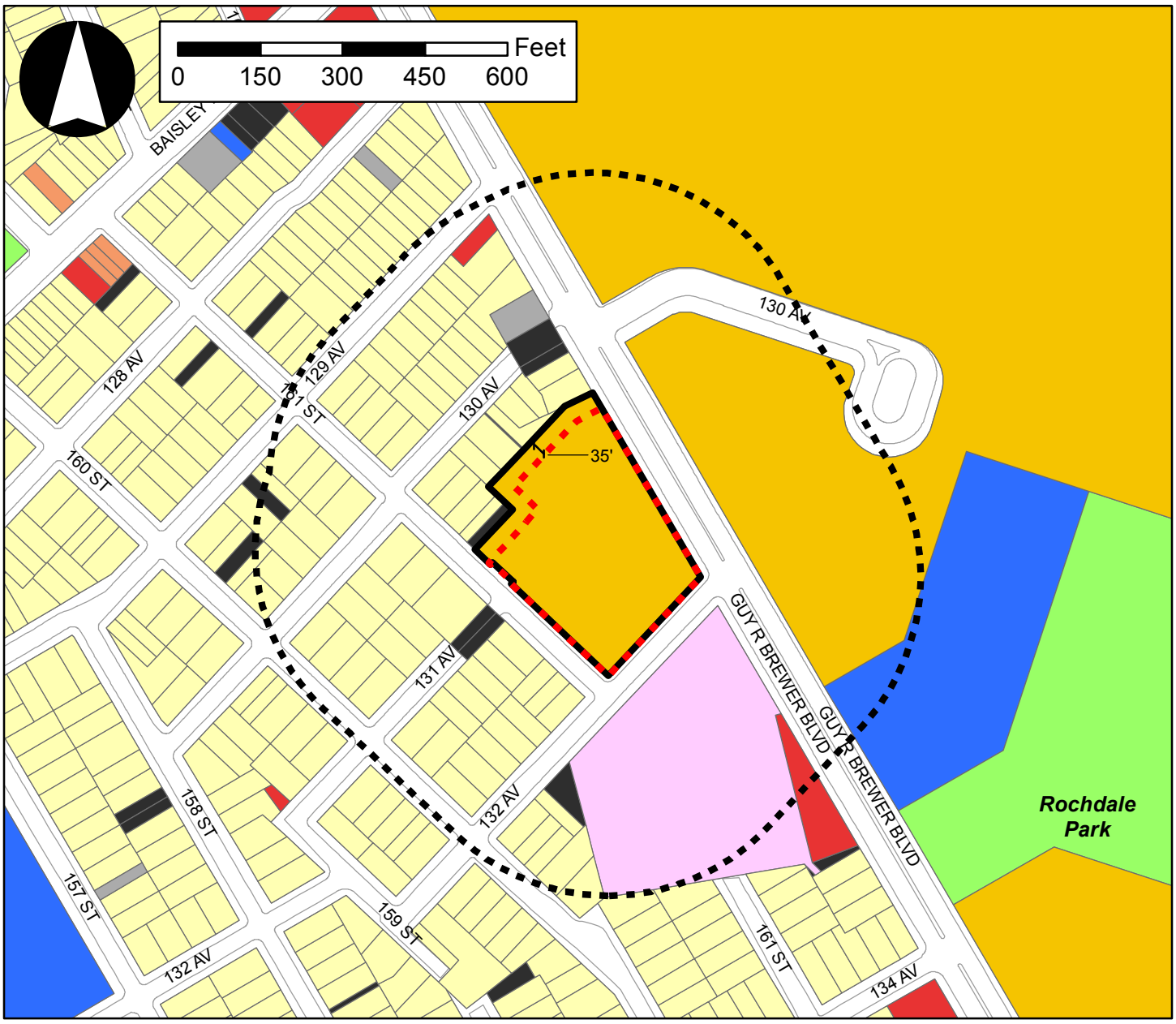
Figure 2
Tax Map



Northeastern Towers Annex EAS

Figure 3

Zoning Map



Legend

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

Source: NYCDCP, DoITT

If "yes," please specify: NUMBER OF ADDITIONAL RESIDENTS: 195 NUMBER OF ADDITIONAL WORKERS:

Provide a brief explanation of how these numbers were determined: Based on 1.5 persons per DU

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

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

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

9. *Analysis Year* CEQR Technical Manual Chapter 2

ANTICIPATED BUILD YEAR (date the project would be completed and operational): 2020

ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS: 18

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

BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE: N/A

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

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

Part II: TECHNICAL ANALYSIS

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

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

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

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

	YES	NO
(f) Would the proposed project be located in an area that is partially sewered or currently unsewered?	☐	☒
(g) Is the project proposing an industrial facility or activity that would contribute industrial discharges to a Wastewater Treatment Plant and/or generate contaminated stormwater in a separate storm sewer system?	☐	☒
(h) Would the project involve construction of a new stormwater outfall that requires federal and/or state permits?	☐	☒
11. *SOLID WASTE AND SANITATION SERVICES*: CEQR Technical Manual Chapter 14		
(a) Using Table 14-1 in Chapter 14, the project's projected operational solid waste generation is estimated to be (pounds per week): 5,371		
o Would the proposed project have the potential to generate 100,000 pounds (50 tons) or more of solid waste per week?	☐	☒
(b) Would the proposed project involve a reduction in capacity at a solid waste management facility used for refuse or recyclables generated within the City?	☐	☒
12. *ENERGY*: CEQR Technical Manual Chapter 15		
(a) Using energy modeling or Table 15-1 in Chapter 15, the project's projected energy use is estimated to be (annual BTUs): 17,104,500 Btu		
(b) Would the proposed project affect the transmission or generation of energy?	☐	☒
13. *TRANSPORTATION*: CEQR Technical Manual Chapter 16		
(a) Would the proposed project exceed any threshold identified in Table 16-1 in Chapter 16?	☒	☐
(b) If "yes," conduct the screening analyses, attach appropriate back up data as needed for each stage and answer the following questions:		
o Would the proposed project result in 50 or more Passenger Car Equivalents (PCEs) per project peak hour?	☒	☐
If "yes," would the proposed project result in 50 or more vehicle trips per project peak hour at any given intersection? ***It should be noted that the lead agency may require further analysis of intersections of concern even when a project generates fewer than 50 vehicles in the peak hour. See Subsection 313 of Chapter 16 for more information.*	☒	☐
o Would the proposed project result in more than 200 subway/rail or bus trips per project peak hour?	☐	☒
If "yes," would the proposed project result, per project peak hour, in 50 or more bus trips on a single line (in one direction) or 200 subway trips per station or line?	☐	☐
o Would the proposed project result in more than 200 pedestrian trips per project peak hour?	☐	☒
If "yes," would the proposed project result in more than 200 pedestrian trips per project peak hour to any given pedestrian or transit element, crosswalk, subway stair, or bus stop?	☐	☐
14. *AIR QUALITY*: CEQR Technical Manual Chapter 17		
(a) *Mobile Sources*: Would the proposed project result in the conditions outlined in Section 210 in Chapter 17?	☒	☐
(b) *Stationary Sources*: Would the proposed project result in the conditions outlined in Section 220 in Chapter 17?	☒	☐
o If "yes," would the proposed project exceed the thresholds in Figure 17-3, Stationary Source Screen Graph in Chapter 17? (Attach graph as needed)	☐	☒
(c) Does the proposed project involve multiple buildings on the project site?	☐	☒
(d) Does the proposed project require federal approvals, support, licensing, or permits subject to conformity requirements?	☐	☒
(e) Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to air quality that preclude the potential for significant adverse impacts?	☐	☒
15. *GREENHOUSE GAS EMISSIONS*: CEQR Technical Manual Chapter 18		
(a) Is the proposed project a city capital project or a power generation plant?	☐	☒
(b) Would the proposed project fundamentally change the City's solid waste management system?	☐	☒
(c) If "yes" to any of the above, would the project require a GHG emissions assessment based on the guidance in Chapter 18?	☐	☐
16. *NOISE*: CEQR Technical Manual Chapter 19		
(a) Would the proposed project generate or reroute vehicular traffic?	☐	☒
(b) Would the proposed project introduce new or additional receptors (see Section 124 in Chapter 19) near heavily trafficked roadways, within one horizontal mile of an existing or proposed flight path, or within 1,500 feet of an existing or proposed rail line with a direct line of site to that rail line?	☒	☐
(c) Would the proposed project cause a stationary noise source to operate within 1,500 feet of a receptor with a direct line of sight to that receptor or introduce receptors into an area with high ambient stationary noise?	☐	☒
(d) Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to noise that preclude the potential for significant adverse impacts?	☐	☒
17. *PUBLIC HEALTH*: CEQR Technical Manual Chapter 20		
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Air Quality;	☒	☐

	YES	NO
Hazardous Materials; Noise?		

(b) If "yes," explain why an assessment of public health is or is not warranted based on the guidance in Chapter 20, "Public Health." Attach a preliminary analysis, if necessary. As discussed in the EAS, the proposed actions would not result in significant adverse Air Quality, Hazardous Materials, or Noise impacts. Therefore, an assessment of public health is not warranted.

18. *NEIGHBORHOOD CHARACTER*: CEQR Technical Manual Chapter 21

(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Land Use, Zoning, and Public Policy; Socioeconomic Conditions; Open Space; Historic and Cultural Resources; Urban Design and Visual Resources; Shadows; Transportation; Noise?	☒	☐

(b) If "yes," explain why an assessment of neighborhood character is or is not warranted based on the guidance in Chapter 21, "Neighborhood Character." Attach a preliminary analysis, if necessary. The proposed project does not have the potential to result in significant adverse impacts to land use, zoning, and public policy, socioeconomic conditions, open space, historic and cultural resources, urban design and visual resources, shadows, transportation, or noise. Nor would the proposed project result in a combination of moderate effects to several elements that cumulatively may affect neighborhood character. Therefore, an assessment of neighborhood character is not warranted.

19. *CONSTRUCTION*: CEQR Technical Manual Chapter 22

(a) Would the project's construction activities involve:

o Construction activities lasting longer than two years?	☐	☒
o Construction activities within a Central Business District or along an arterial highway or major thoroughfare?	☐	☒
o Closing, narrowing, or otherwise impeding traffic, transit, or pedestrian elements (roadways, parking spaces, bicycle routes, sidewalks, crosswalks, corners, *etc.*)?	☒	☐
o Construction of multiple buildings where there is a potential for on-site receptors on buildings completed before the final build-out?	☐	☒
o The operation of several pieces of diesel equipment in a single location at peak construction?	☒	☐
o Closure of a community facility or disruption in its services?	☐	☒
o Activities within 400 feet of a historic or cultural resource?	☐	☒
o Disturbance of a site containing or adjacent to a site containing natural resources?	☐	☒
o Construction on multiple development sites in the same geographic area, such that there is the potential for several construction timelines to overlap or last for more than two years overall?	☐	☒

(b) If any boxes are checked "yes," explain why a preliminary construction assessment is or is not warranted based on the guidance in Chapter 22, "Construction." It should be noted that the nature and extent of any commitment to use the Best Available Technology for construction equipment or Best Management Practices for construction activities should be considered when making this determination.

Proposed new construction on the project site may result in temporary disruptions, including noise, dust, and traffic associated with delivery of materials and arrival of workers on the project site. There is also the potential for the closing and/or narrowing of traffic lanes and sidewalks as well as the operation of several pieces of diesel equipment on the construction site. These effects, however, would be temporary (approximately 18 months) and would occur in both the No-Action and With-Action conditions. All applicable city, state, and federal guidelines and regulations would be followed to ensure that any impacts are properly mitigated. Therefore, none of these disruptions should be considered significant and construction of the proposed project is not expected to result in significant adverse impacts.

20. *APPLICANT'S CERTIFICATION*

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

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

APPLICANT/REPRESENTATIVE NAME	DATE
Jay Marcus, Treasurer, Northeastern Towers Annex GP LLC	05/19/2017

SIGNATURE

PLEASE NOTE THAT APPLICANTS MAY BE REQUIRED TO SUBSTANTIATE RESPONSES IN THIS FORM AT THE

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

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

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

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

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

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

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

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

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

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

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

TITLE	LEAD AGENCY
Deputy Director, Environmental Assessment and Review Division	Department of City Planning
NAME	DATE
Olga Abinader	5/19/2017
SIGNATURE	

I. INTRODUCTION

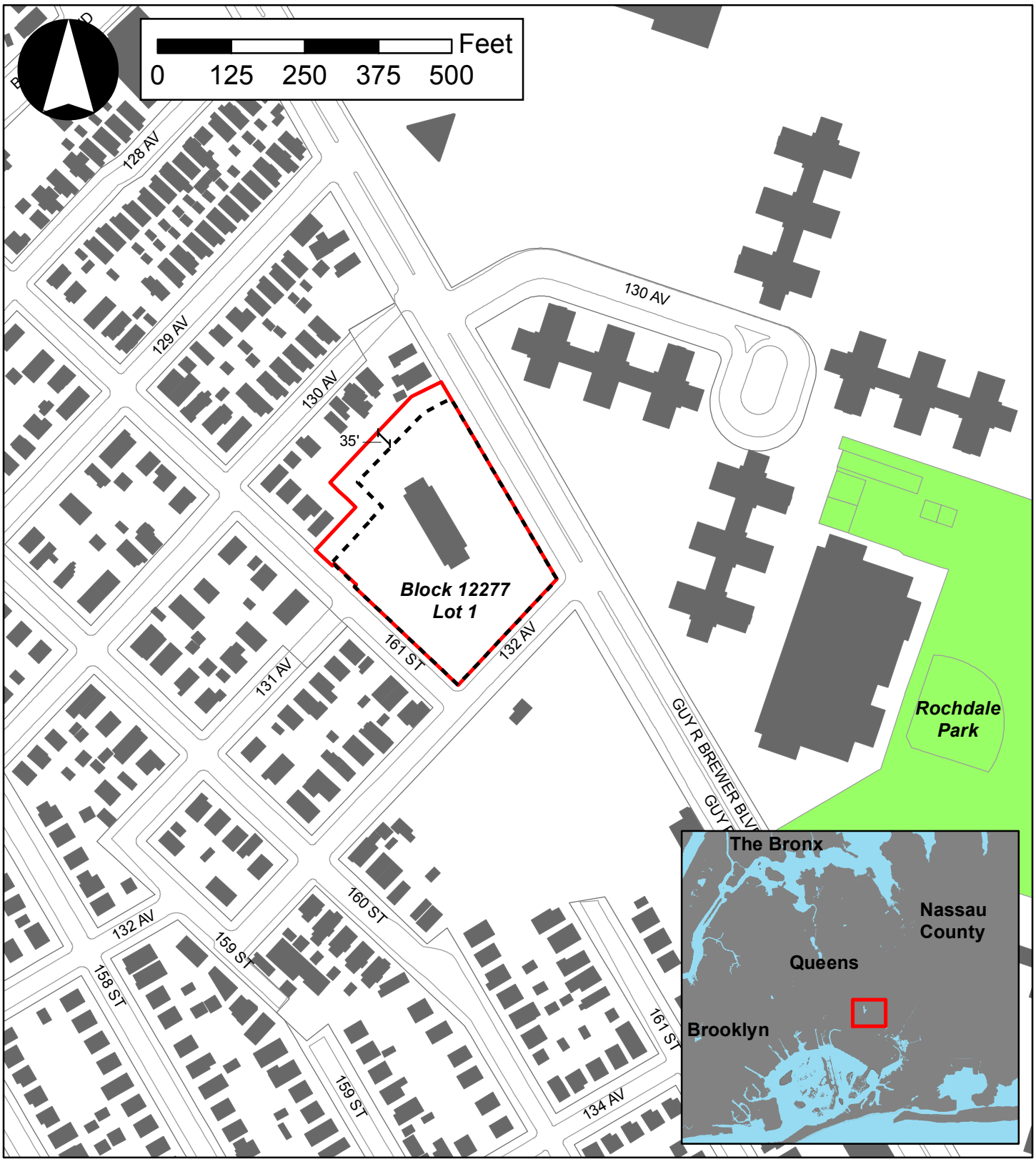
The applicant, Northeastern Towers Annex L.P., is seeking a zoning map amendment and a zoning text amendment from the New York City Planning Commission (CPC) (the "proposed actions") to facilitate the development of a residential building at 131-10 Guy R. Brewer Boulevard in the Rochdale/Springfield Gardens neighborhood of Queens Community District (CD) 12. The proposed project would rezone Block 12277, portion of Lot 1 from an R3X district to an R6 district. The proposed actions would also include a Zoning Text amendment to Appendix F of the Zoning Resolution to make the rezoning area applicable as a Mandatory Inclusionary Housing Area (MIHA, Option 1 or 2), which requires the residential portion of the proposed development to provide at least 25% to 30% of the proposed dwelling units as affordable pursuant to ZR 23-154(d)(3). The MIH area would be mapped coterminous with the rezoning area.

The proposed development site comprises approximately 113,133-square-feet (sf) on one lot (Block 12277, Lot 1), which is owned by the applicant and bounded by Guy R. Brewer Boulevard to the east, 132nd Avenue to the south, and 161st Street to the west (see Figure A-1). As shown in Figure A-2, the proposed R6 district would be mapped on a portion of Lot 1 (approximately 98,400 sf). An approximate 35 foot buffer area would be created along the northern portion of Lot 1 which would remain R3X (14,733 sf) (see Figure A-2). The development site is currently occupied by a 12-story residential building with a total of 110 affordable DUs (with 1 additional apartment for a resident superintendent), all of which are reserved for low-income senior citizens. Upon approval of the proposed actions, the existing 12-story building would remain while a new 10-story annex would be constructed on a new tax lot to be created at the southern portion of the development site. The proposed new building would contain approximately 139,487 gross square feet (gsf) (128,078 zoning square feet (zsf)), including 129 dwelling units (with 1 additional apartment for a resident superintendent) and 3,925 gsf of community facility uses (senior center). The proposed development would rise to a height of 10-stories (106.5 feet). The proposed development would include 100% affordable housing floor area, resulting in the creation of approximately 129 Affordable Independent Residences for Seniors (AIRS).

Development of the proposed project would also be facilitated by New York City Housing Preservation and Development (HPD) financing through the Senior Affordable Rental Apartments (SARA) program, 4% Low Income Housing Tax Credits (LIHTC), and tax exempt bonds from the New York City Housing Development Corporation (HDC).

However, while the applicant intends on developing the proposed project described above ("Scenario 1"), because the proposed actions would result in an R6 zoning district, an alternate reasonable worst-case development scenario (RWCDS) will be considered for conservative analysis purposes ("Scenario 2"). It is assumed that in the absence of the proposed development of the affordable senior DUs, the site could be redeveloped with an approximately 222,493 gsf mixed-use development that would include 159,493 gsf (155,854 zsf) of residential uses and 63,000 gsf (60,000 zsf) of community facility uses (assumed to be medical office). The proposed development would result in 159 typical family DUs of which 25% to 30% would be affordable (40 to 48 DUs). The MIH area would apply to the proposed rezoning area. Approximately 230 accessory parking spaces would be accommodated in a parking

Figure A-1
Project Location

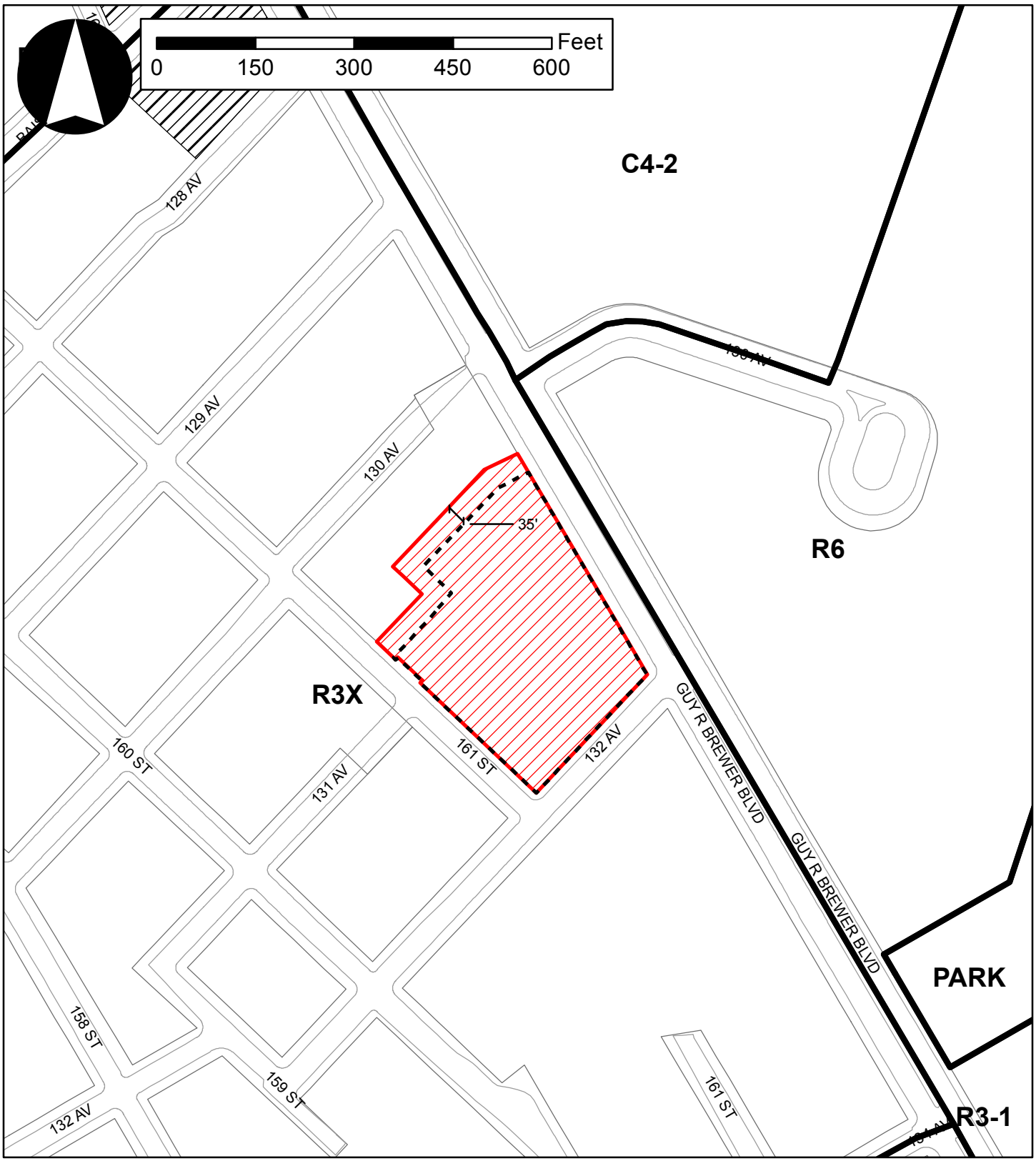


Legend

Development Site | Rezoning Area | Building Footprints | Open Space

Source: NYCDCP, DoITT

Figure A-2
Proposed Zoning



Legend

Development Site | Rezoning Area | Zoning Districts | C1-3 Overlay

Source: NYCDCP, DoITT

garage with two levels: one at grade and one below grade with entrances along Guy R. Brewer Boulevard and 161st Street. The proposed residential portion of the building would be 14-stories (137') with frontage along 132nd Avenue and Guy R. Brewer Boulevard and the proposed community facility portion of the building would be 7-stories (73') with frontage along 132nd Avenue and 161st Street. In the future With-Action condition, it is assumed that the existing 12-story residential building within the rezoning area would remain. The overall FAR of the development site would be 2.73.

The Environmental Assessment Statement (EAS) will analyze whichever scenario presents the worst case for each technical area.

II. BACKGROUND AND EXISTING CONDITIONS

Background

The development site was originally zoned R3-2 prior to the 2005 Springfield Gardens rezoning (C 050194 ZMQ). The existing building on the development site was constructed in the 1979 and contains a 12-story residential building comprised of 90,881 square feet of floor area. The development site contains 110 AIRS units, formerly known as nonprofit residences for the elderly and was constructed under HUD's Section 202 Supportive Housing for the Elderly loan program, which serves persons over the age of 62 and the mobility impaired.

Two major rezonings have occurred in the surrounding area since 2002. The Springfield Gardens Rezoning of 2005 (C 050194 ZMQ) rezoned 68 blocks of the Springfield Gardens/Rochdale area from R3-2 to R3X and R3-1. As noted above, this rezoning also rezoned the development site. The goal of the rezoning was to ensure future development or expansion reflected the existing low-density neighborhood character.

To the north of the development along Guy R. Brewer Boulevard and above Baisley Boulevard, 530 blocks of the South Jamaica area were rezoned as part of the South Jamaica Rezoning (C 10145 ZMQ) in May of 2011. The rezoning created lower density zoning districts while allowing for a moderate increase in residential and commercial density in appropriate corridors.

Existing Conditions

Proposed Rezoning Area/Proposed Development Site (Applicant's Property)

The development site is located at 131-10 Guy R. Brewer Boulevard (Block 12277, Lot 1) in the Rochdale/Springfield Gardens neighborhood of Queens Community District 12 (refer to Figure A-1). The approximately 113,133 sf development site is comprised of one tax lot, which is currently occupied by an existing 12-story residential building with 45 accessory parking spaces (refer to Figure A-3). The site has approximately 384 feet of frontage on Guy R. Brewer Boulevard, a two-way, four lane arterial, 249 feet of frontage on 132nd Avenue, a two-way street, and 330 feet of frontage on 161st Street, a two-way street. The project site is zoned R3X and has an existing built Floor Area Ratio (FAR) of 0.8, which is greater than the permitted maximum FAR of 0.5 (0.6 with the attic allowance). R3X contextual districts are mapped in lower-density neighborhoods comprised of one and two family detached homes on small lots.



1. View of Development Site looking northeast from132nd Ave. and 161st St.



2. View of Development Site looking northwest from132nd Ave.



3. View of Development Site looking northwest from 132nd Ave. and Guy R. Brewer Blvd.



4. View of Development Site looking west

Surrounding Area

Land uses in the vicinity of the development site consist primarily of residential uses, but also include transportation/utility uses, and vacant uses. Rochdale Village is a predominant land use in the area and occupies a superblock to the east of the project site along the east side of Guy R. Brewer Boulevard. Rochdale Village is a large, 20-building, 14-story multi-family complex constructed under the Mitchell Lama housing program. To the west of Guy R. Brewer Boulevard, residential uses are less dense, consisting of one and two family buildings on smaller lots. Immediately to the south of the development site, across 132nd Avenue, is an approximately 300,000 square foot lot which is owned by NYC Department of Environmental Protection (DEP) and contains a subsurface water supply tank, which was formerly owned by the Jamaica Bay Water Supply Company and has been decommissioned for over 11 years. The Catherine and Count Basie Middle School 72 is located to the southeast of the rezoning area, on the Rochdale Village superblock.

Guy R. Brewer Boulevard serves as the major north-south thoroughfare in the vicinity of the project site, while the side streets carry two-way, local traffic. The remainder of the subject block (Block 12277) contains 15 tax lots containing residential and vacant uses. These tax lots, also zoned R3X, include 11 one and two family buildings with varying frontages along 161st Street, 130th Avenue, and Guy R. Brewer Boulevard.

There are limited transit services in the immediate vicinity of the project site. The Q111, Q113/114, and QM21 bus routes are located within the vicinity of the site. The Q111 bus route provides local service between Jamaica and Rosedale; the Q113/114 provides local service between Jamaica and Far Rockaway; the QM21 bus route provides express service between Rochdale Village and Manhattan. Additionally, the Locust Manor station of the LIRR, serving the Babylon, Far Rockaway, and Long Beach lines, is located approximately 1 mile east of the development site.

III. THE PROPOSED ACTIONS

The proposed development requires the following discretionary land use actions:

Zoning Map Amendment: The proposed residential development requires a zoning map amendment in order to rezone Block 12277, p/o Lot 1 from an R3X zoning district to an R6 zoning district. As shown in Figure A-2, the proposed R6 district would be mapped on a portion of Lot 1 (approximately 98,400 sf). An approximate 35 foot buffer area would be created along the northern portion of Lot 1 which would remain R3X (14,733 sf) (see Figure A-2). With the proposed zoning map amendment, residential (Use Groups (UG) 1 and 2, and community facility (UG) 3 and 4; which include uses such as libraries, schools, and houses of worship) would be permitted as-of-right.

Zoning Text Amendment: The proposed zoning text amendment would amend Appendix F of the Zoning Resolution (ZR) to apply the Mandatory Inclusionary Housing (MIH) program to the rezoning area in Queens Community District 12.

MIH generally requires that all new residential developments, enlargements, and conversions provide permanently affordable housing set-asides.[1] It includes two primary options that pair set-aside

[1] The affordability requirement in MIH designated areas applies to all residential developments of over 10 DUs or 12,500 zsf; developments between 10 and 25 DUs or between 12,500 and 25,000 zsf also have the option of making a payment into an affordable housing fund in lieu of directly providing affordable housing.

percentages with different affordability levels to reach a range of low and moderate incomes while accounting for the financial feasibility tradeoff inherent between income levels and size of the affordable set-aside. When MIH is applied, the applicant, CPC and City Council choose one or more of the two primary options based on a consideration of area housing conditions, needs, and income levels within and near the area covered by the proposed action. The two basic options are: 1) At least 25 percent of the residential floor area shall be provided as housing affordable to households at an average of 60 percent of the Area Median Income index ("AMI"), with no unit targeted at a level exceeding 130 percent of AMI, with 10 percent provided as affordable to households at an average of 40 percent of AMI; or 2) At least 30 percent of the residential floor area shall be provided as housing affordable to households at an average of 80 percent of the Income Index ("AMI"), with no unit targeted at a level exceeding 130 percent of AMI. In addition, the City Planning Commission and the City Council may also add one or both of two other options: 1) At least 20 percent of the residential floor area shall be provided as housing affordable to households at an average of 40 percent AMI; or 2) at least 30 percent of the residential floor area shall be provided as housing affordable to households at 115 percent of AMI, with 5 percent required at 70 percent of AMI and 5 percent required at 90 percent AMI.

The MIH zoning specifies a maximum permitted residential floor area ratio (FAR). With the designation of the project area as a MIH area, the maximum permitted residential FAR would be 3.6 in the proposed R6 zoning district. The maximum FAR for AIRS seniors would be 3.9 FAR under quality housing regulations.

It should be noted that while MIH would apply to the proposed rezoning area, the proposed development would be exempt from the MIH affordability options as it would be a 100% AIRS building.

Development of the proposed project would also be facilitated by New York City Housing Preservation and Development (HPD) financing through the Senior Affordable Rental Apartments program (SARA), 4% Low Income Housing Tax Credits (LIHTC), and tax exempt bonds from the New York City Housing Development Corporation (HDC).

The requested actions would permit the applicant to construct a 10-story residential building that would contain approximately 135,562 gsf of residential uses (129 affordable senior DUs with 1 additional apartment for a resident superintendent) and approximately 3,925 gsf of community facility uses (senior center) for a total of 139,487 gsf (128,078 zsf) on Block 12277, Lot 1 in the Rochdale/Springfield Gardens neighborhood of Queens CD 12.

IV. PURPOSE AND NEED OF THE PROPOSED ACTIONS

Overall, the applicant believes that the proposed actions would serve to meet the need for affordable housing for low-income seniors in this area of the City. Additionally, the proposed actions would be consistent with the bulk, density, and use currently occupying the rezoning area.

Under existing zoning regulations, uses permitted as-of-right on the project site include Use Groups 1-4, which include residential and community facility uses. With the proposed zoning map amendment, Use Groups 1-4 would remain the only groups permitted on the development site. In addition, the proposed zoning text amendment would result in the creation of 129 permanent affordable dwelling units for senior citizens. The changes associated with the proposed actions would be considered beneficial, including the development of housing on an appropriate site and the provision of much needed affordable residential opportunities for low-income seniors in the surrounding community.

The proposed project aims to meet the need for affordable housing for the increasingly elderly population in this neighborhood and to provide an opportunity for low, very low, and extremely low income seniors to remain in their neighborhood and the city generally as they age in place. One third of the apartments will be set aside for homeless seniors referred by a City or State agency.

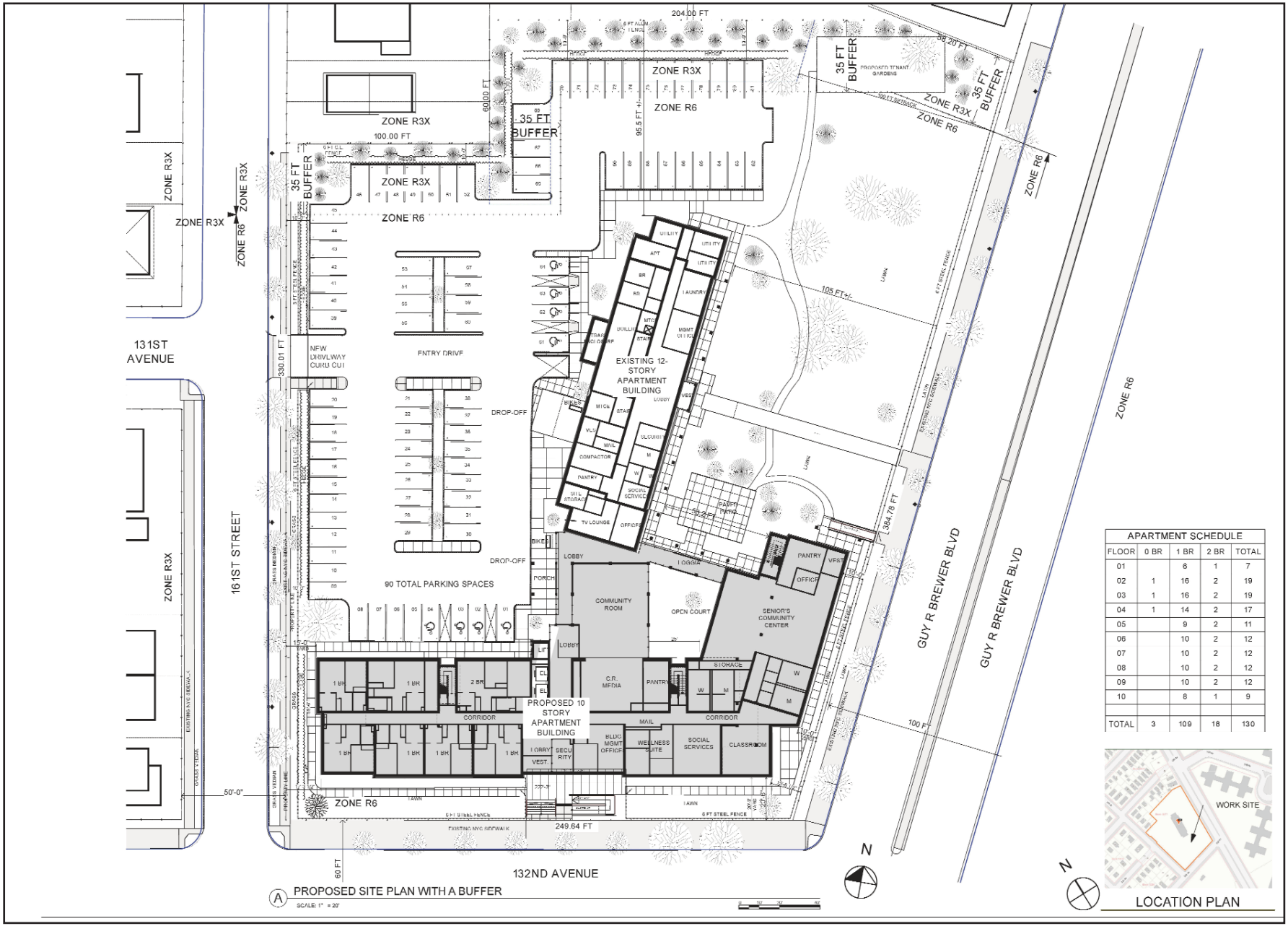
V. DESCRIPTION OF THE PROPOSED DEVELOPMENT

The applicant is proposing a 10-story residential annex on the development site. Upon approval of the proposed actions, the existing 12-story building would remain while a new 10-story annex would be constructed on a new tax lot to be created at the southern portion of the development site. The creation of the new tax lot is necessary as: (1) the lenders and tax credit equity investor will require a tax lot which is separate from the existing building for the new mortgages and (2) the U.S. Department of Housing and Urban Development (HUD) will need to release its mortgages and regulatory agreement from the new tax lot on which the new building will be developed. The new building on the development site will contain approximately 139,487 gsf (128,078 zsf). The existing 12-story residential building on the development site would remain in the future with the proposed actions. With the existing residential building, the proposed development would include approximately 232,095 gsf (218,959 zsf) of total floor area with a combined 241 DUs. The total overall FAR on the zoning lot would be 1.94, below the maximum permitted blended FAR of 2.18. The proposed 10-story annex would include a total of 129 DUs (with 1 additional apartment for a resident superintendent) with 100% of the residential floor area dedicated to affordable housing (129 DUs). All 129 affordable apartments will be considered AIRS and restricted to low income seniors, defined as 62 years of age or older with incomes at or below 60 percent of AMI. One third of the apartments will be set aside for homeless seniors referred by a City or State agency. As part of the proposed development, a total of 90 accessory parking spaces would be provided on-site; 85 spaces provided for 35 percent of the 241 DUs and five additional spaces for senior center employees. Access to the parking lot would be via 161st Street.

As shown in Figure A-4, the site plan for the proposed new building would have a frontage of 249 feet along 132nd Avenue, and would be 10-stories with a height of approximately 106.5 feet (for building section, see Figure A-5). Amenities for residents would be located on the cellar level, as well as the first and fourth floors, and would include a senior center, community room, library and media rooms, and numerous common spaces. Residential uses would be located on floors 1 through 10.

VI. ANALYSIS FRAMEWORK

As described above, the applicant is proposing to rezone a portion of Block 12277, Lot 1 (approximately 98,400 sf) from an R3X zoning district to an R6 zoning district. The remaining portion of Lot 1 (14,733 sf) would continue to be zoned R3X. The proposed development site has a total area of 113,133 sf (including both the proposed R6 and existing R3X districts). The proposed R6 district would permit a maximum FAR of 2.43 for residential uses and a maximum FAR of 4.8 for community facility uses. With the designation of the project area as a MIH area, the maximum permitted residential FAR would be 3.6 in the proposed R6 zoning district. The maximum FAR for AIRS would be 3.9 FAR under quality housing regulations.



APARTMENT SCHEDULE

FLOOR	0 BR	1 BR	2 BR	TOTAL
01		6	1	7
02	1	16	2	19
03	1	16	2	19
04	1	14	2	17
05		9	2	11
06		10	2	12
07		10	2	12
08		10	2	12
09		10	2	12
10		8	1	9
TOTAL	3	109	18	130

For Illustriative Purposes Only
Source: SMA Architecture Planning Interiors PC



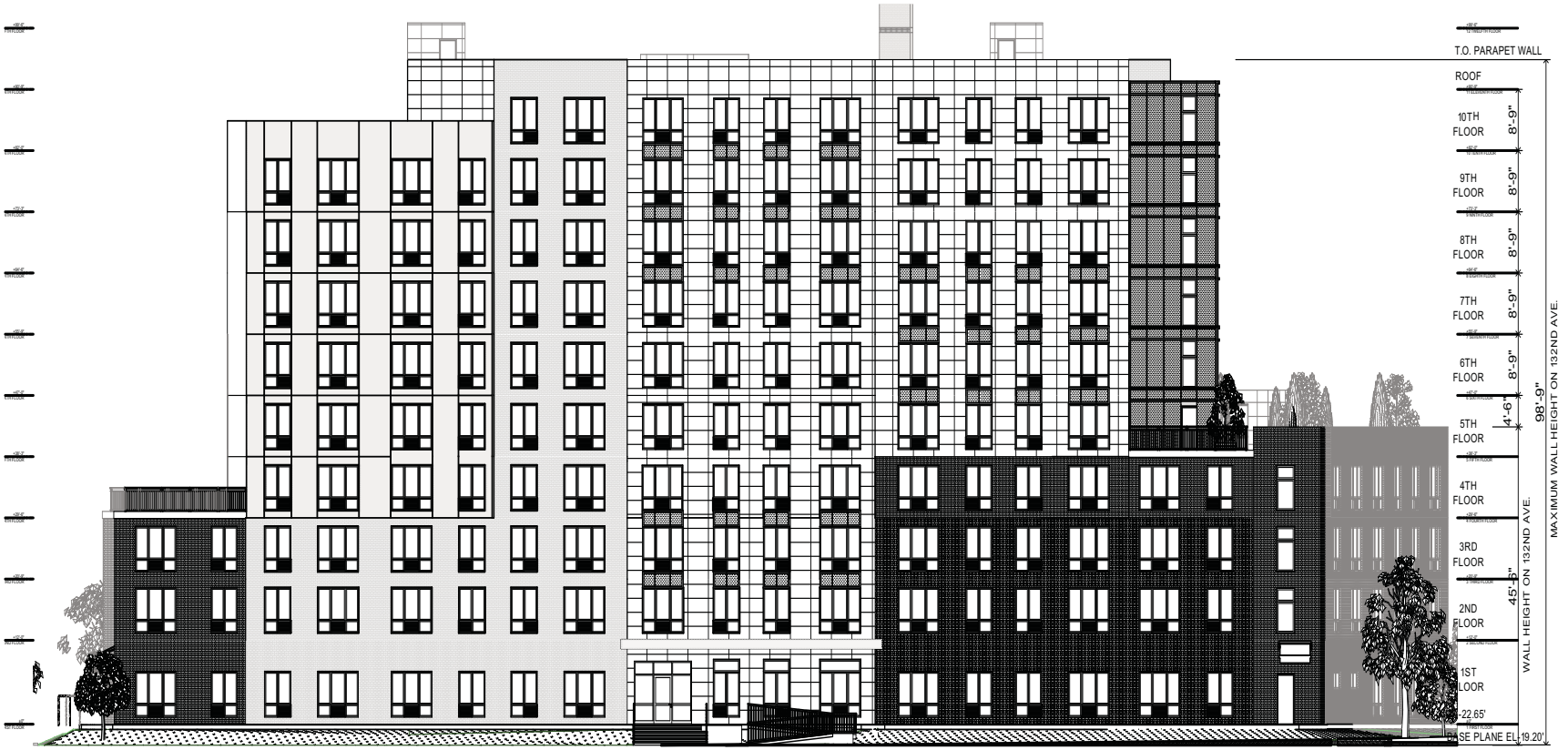
Northeastern Towers Annex EAS

Figure A-5a
Proposed Project Rendering
For Illustriative Purposes Only



Northeastern Towers Annex EAS

Figure A-5b
Proposed Project Rendering
For Illustriative Purposes Only



132ND AVENUE ELEVATION

SCALE: 1" = 20'

0 10' 20' 40'

Northeastern Towers Annex EAS

Figure A-5c
Proposed Project Elevation
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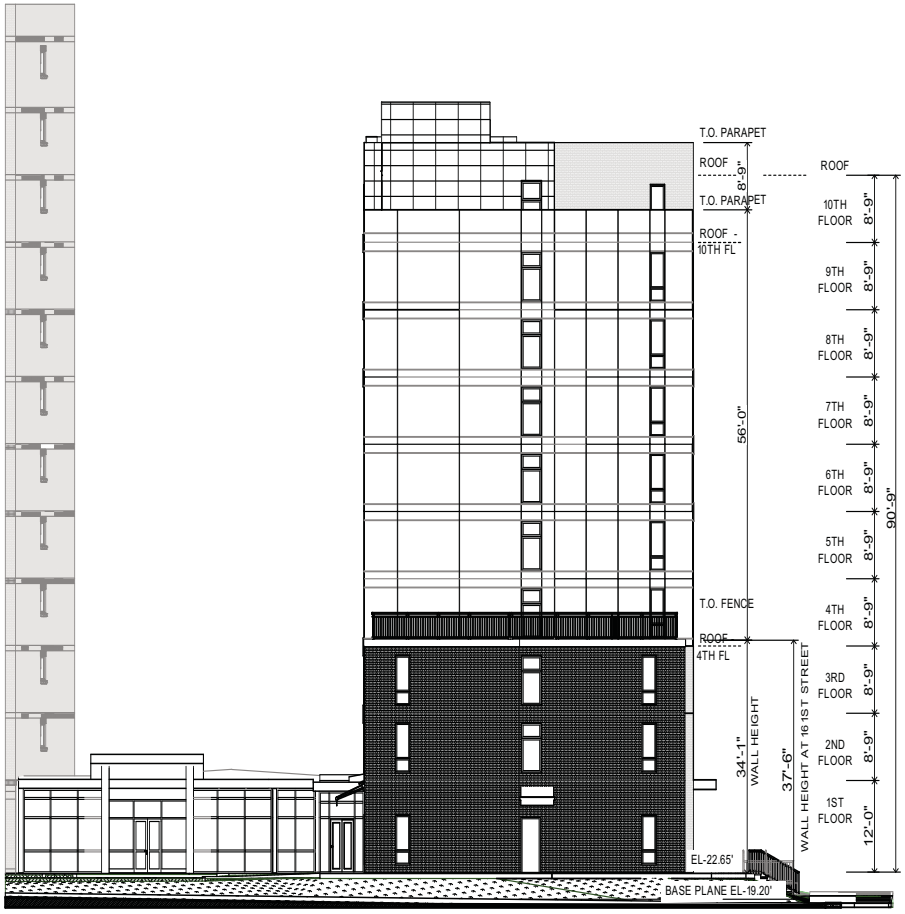


161ST STREET ELEVATION

SCALE: 1" = 20'

0 10' 20' 40'



GUY R BREWER BLVD ELEVATION

SCALE: 1" = 20'

0 10' 20' 40'

Identification of Development Sites

In projecting the amount and location of new development, several factors have been considered in identifying likely development sites. These include known development proposals, past and current development trends, and the development site criteria described below. The first step in establishing the development scenario was to identify those sites where new development could be reasonably expected to occur.

Development sites are typically identified based on the following criteria:

- Lots located in areas where a substantial increase in permitted FAR is proposed;
- Lots with a total size of 5,000 square feet (sf) or larger;
- Underutilized lots (defined as vacant or lots constructed to less than or equal to half of the proposed FAR under the proposed zoning); and
- Lots located in areas where changes in use would be permitted.

Certain lots that meet these criteria were excluded from the scenario based on the following conditions because they are very unlikely to be redeveloped as a result of the proposed rezoning:

- Lots where construction activity is actively occurring or has recently been completed;
- Sites of schools (public and private), municipal libraries, government offices, large medical centers, and houses of worship. These facilities may meet the development site criteria, because they are built to less than half of the permitted floor area under current zoning and are on larger lots. However, these facilities have not been redeveloped or expanded despite the ability to do so, and it is extremely unlikely that the increment of additional FAR permitted under the proposed zoning would induce redevelopment or expansion of these structures. Additionally, for government-owned properties, development and/or sale of these lots may require discretionary actions from the pertinent government agency;
- Multi-unit buildings (existing individual buildings with six or more residential units are unlikely to be redeveloped because of the required relocation of tenants in rent-stabilized units);
- Certain large commercial structures such as multi-story office buildings and hotels. Although these sites may meet the criteria for being built to less than half of the proposed permitted floor area, some of them are unlikely to be redeveloped due to their current or potential profitability, the cost of demolition and redevelopment, and their location.
- Lots whose location or highly irregular shape would preclude or greatly limit future as-of-right development. Generally, development on highly irregular lots does not produce marketable floor space.
- Lots utilized for public transportation and/or public utilities.

The proposed development site currently has a total built FAR of approximately 0.8, which is approximately 33 percent over the maximum residential FAR of 0.6 allowed by the current R3X zoning and 25 percent of the proposed maximum residential FAR of 2.43 allowed by the proposed R6 zoning. As detailed in Section I above, the applicant intends to build an additional residential building on Lot 1 on Block 12277. As discussed above, the development site currently contains 110 affordable dwelling units (with 1 additional apartment for a resident superintendent). Additionally, the rezoning area only includes the applicant's property (Lot 1). Therefore, the applicant-owned site (Lot 1) is considered a

known projected development site for environmental analysis purposes. As discussed in detail above, the applicant is proposing to construct an approximately 139,487 gsf (128,078 zsf) residential building on the development site.

As such, for RWCDS purposes, one projected development site has been identified in the project area. The proposed development site, which is under the applicant's control, represents the RWCDS for analysis purposes. As discussed in detail below, the RWCDS will have two scenarios for conservative analysis purposes: 1) the applicant's proposal as described above (Scenario 1); 2) a multi-family residential building and community facility use (Scenario 2 - described in detail under "The Future With the Proposed Actions" section below).

Build Year

Construction of the proposed project is expected to occur over an approximately 18-month period and would be completed and fully operational by 2020. Therefore, the technical analyses assess current conditions and forecast these conditions to the expected 2020 build year for the purposes of determining potential impacts.

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

In the future without the proposed actions, the project area's existing R3X zoning would remain in place, and activities in zoning UGs 1-4 would be allowed as-of-right with a maximum permitted FAR of 0.6 for residential uses and a maximum permitted FAR of 1.0 for community facility uses.

Rezoning Area/Proposed Development Site (Applicant's Property)

It is anticipated that the proposed development site would remain in its current condition. In absence of the proposed actions the proposed rezoning area would continue to be occupied by a 12-story residential building with 110 affordable DUs for low-income seniors (with 1 additional apartment for a resident superintendent) and a total built FAR of 0.8.

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

As described above, the applicant is proposing to rezone a portion of Block 12277, Lot 1 (approximately 98,400 sf) from an R3X zoning district to an R6 zoning district. The remaining portion of Lot 1 (14,733 sf) would continue to be zoned R3X. The proposed development site has a total area of 113,133 sf (including both the proposed R6 and existing R3X districts). The proposed R6 district would permit a maximum FAR of 2.43 for residential uses and a maximum FAR of 4.8 for community facility uses. With the designation of the project area as a MIH area, the maximum permitted residential FAR would be 3.6 in the proposed R6 zoning district. The maximum FAR for AIRS would be 3.9 FAR under quality housing regulations.

Rezoning Area/Proposed Development Site (Applicant's Property)

Because the applicant is a well-established affordable housing developer and is currently working on the details of the funding commitments with HPD, by 2020 under the With-Action condition, it is expected that the applicant would complete the proposed development, which would be facilitated by the proposed actions. As discussed above, the applicant is proposing a 10-story residential annex on the development site. Upon approval of the proposed actions, the existing 12-story building would remain

while a new 10-story annex would be constructed on a new tax lot to be created at the southern portion of the development site. The new building on the development site will contain approximately 139,487 gsf (128,078 zsf). The existing 12-story residential building on the development site would remain in the future with the proposed actions. With the existing residential building, the proposed development would include approximately 232,095 gsf (218,959 zsf) of total floor area with a combined 241 DUs. The total overall FAR on the zoning lot would be 1.94, below the maximum permitted blended FAR of 2.18. The proposed 10-story annex would include a total of 129 DUs (with 1 additional apartment for a resident superintendent) with 100% of the residential floor area dedicated to affordable housing (129 DUs). All 129 affordable apartments will be considered AIRS and restricted to low income seniors, defined as 62 years of age or older with incomes at or below 60 percent of AMI. One third of the apartments will be set aside for homeless seniors referred by a City or State agency.

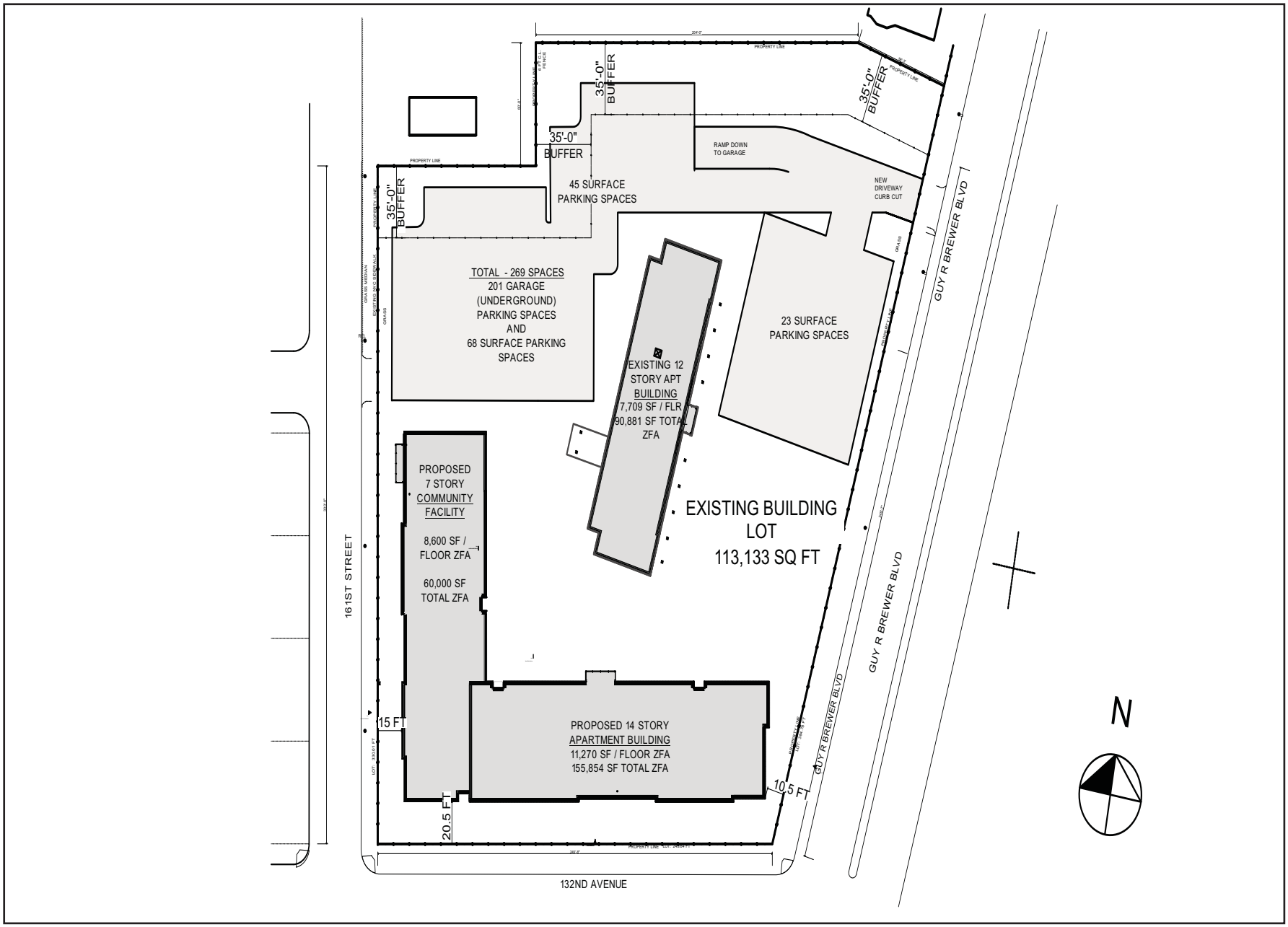
It is assumed that in the absence of the proposed development of the affordable senior DUs, the site could be redeveloped with an approximately 222,493 gsf mixed-use development that would include 159,493 gsf (155,854 zsf) of residential uses and 63,000 gsf (60,000 zsf) of community facility uses (assumed to be medical office). The proposed development would result in 159 typical family DUs of which 40 to 48 DUs would be affordable. Approximately 230 accessory parking spaces would be accommodated in a parking garage with two levels: one at grade and one below grade with entrances along Guy R. Brewer Boulevard and 161st Street. The proposed residential portion of the building would be 14-stories with frontage along 132nd Avenue and Guy R. Brewer Boulevard and the proposed community facility portion of the building would be 7-stories with frontage along 132nd Avenue and 161st Street (refer to Figure A-6). In the future With-Action condition, it is assumed that the existing 12-story residential building within the rezoning area would remain. The overall FAR of the development site would be 2.73.

The Environmental Assessment Statement (EAS) will analyze whichever scenario presents the worst case for each technical area. Appendix 6 of this EAS includes a detailed RWCDS analytical framework discussion.

As shown in Table A-1, the net increment for analysis for Scenario 1 includes 135,562 gsf of senior affordable housing (130 DUs), 3,925 gsf of community facility use (senior center) and 51 accessory parking spaces.

Table A-1: Reasonable Worst Case Development Scenario for Analysis: Scenario 1

Use	No-Action	With-Action	Net Increment
Residential – Senior Affordable	92,608 gsf (111 DUs)	228,170 gsf (241 DUs)	**+135,562 gsf (130 DUs)**
Community Facility – Senior Center	0 sf	3,925 gsf	**+3,925 gsf**
Parking – Accessory	39 spaces	90 spaces	**+51 spaces**



For Illustriative Purposes Only
Source: SMA Architecture Planning Interiors PC

Northeastern Towers Annex EAS

Figure A-6
Scenario 2 - Proposed Site Plan

As shown in Table A-2, the net increment for analysis for Scenario 2 includes 159,493 gsf of residential development (159 DUs), 63,000 gsf of community facility (assumed to be medical office), and 230 accessory parking spaces.

Table A-2: Reasonable Worst Case Development Scenario for Analysis: Scenario 2

Use	No-Action	With-Action	Net Increment
Residential – Senior Affordable/Multi-Family	92,608 gsf (111 Senior DUs)	252,101 (270 Senior/Multi-Family DUs)	**+159,493 gsf (159 Multi-Family DUs)**
Community Facility	0	63,000 gsf	**+ 63,000 gsf**
Parking – Accessory	39 spaces	269 spaces	**230 spaces**

VII. REQUIRED APPROVALS

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

I. INTRODUCTION

This Environmental Assessment Statement ("EAS") has been prepared in accordance with the guidelines and methodologies presented in the 2014 *City Environmental Quality Review ("CEQR") Technical Manual*. For each technical area, thresholds are defined, which if met or exceeded, require that a detailed technical analysis be undertaken. Using these guidelines, preliminary screening assessments were conducted for the proposed actions to determine whether detailed analysis of any technical area may be appropriate.

The supplemental screening assessments contained herein identified that detailed analyses are required in the areas of Land Use, Zoning, and Public Policy, Community Facilities, Open Space, Urban Design and Visual Resources, Water and Sewer Infrastructure, Transportation, Air Quality, Noise, and Hazardous Materials. These analyses are provided in Attachments C, D, E, F, G, H, I, J, and K respectively, and are summarized in this attachment. Per the supplemental screening assessments provided in this attachment, more detailed analyses of the following technical areas are not required: Shadows, Historic and Cultural Resources, and Hazardous Materials. Table B-1 presents a summary of analysis screening information for the proposed actions.

As described in Attachment A, "Project Description," the applicant is proposing a 10-story residential annex on the development site. Upon approval of the proposed actions, the existing 12-story building would remain while a new 10-story annex would be constructed on a new tax lot to be created at the southern portion of the development site. The new building on the development site will contain approximately 139,487 gsf (128,078 zsf). With the existing residential building, the proposed development would include approximately 232,095 gsf (218,959 zsf) of total floor area with a combined 241 DUs. The total overall FAR on the zoning lot would be 1.94, below the maximum permitted blended FAR of 2.18. The proposed 10-story annex would include a total of 129 DUs (with 1 additional apartment for a resident superintendent) with 100% of the residential floor area dedicated to affordable housing (129 DUs). All 129 affordable apartments will be considered Affordable Independent Residences for Seniors (AIRS) and restricted to low income seniors, defined as 62 years of age or older with incomes at or below 60 percent of AMI. One third of the apartments will be set aside for homeless seniors referred by a City or State agency. As part of the proposed development, a total of 90 accessory parking spaces would be provided on-site; 85 spaces provided for 35 percent of the 241 DUs and five additional spaces for senior center employees. Access to the parking lot would be via 161st Street.

However, while the applicant intends on developing the proposed project described above ("Scenario 1"), because the proposed actions would result in an R6 zoning district, an alternate reasonable worst-case development scenario (RWCDS) will be considered for conservative analysis purposes ("Scenario 2"). It is assumed that in the absence of the proposed development of the affordable senior DUs, the site could be redeveloped with an approximately 222,493 gsf mixed-use development that would include 159,493 gsf (155,854 zsf) of residential uses and 63,000 gsf (60,000 zsf) of community facility uses (assumed to be medical office). The proposed development would result in 159 typical family DUs of which 40 to 48 DUs would be affordable. Scenario 2 would also include 230 new accessory parking spaces on-site. Parking would be accommodated in a parking garage with two levels: one at grade and one below grade with entrances along Guy R. Brewer Boulevard and 161st Street. The proposed residential portion of the

building would be 14-stories with frontage along 132nd Avenue and Guy R. Brewer Boulevard and the proposed community facility portion of the building would be 7-stories with frontage along 132nd Avenue and 161st Street. In the future With-Action condition, it is assumed that the existing 12-story residential building within the rezoning area would remain. The overall FAR of the development site would be 2.73.

Table B-1: Summary of CEQR Technical Areas Screening

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

Notes: Pursuant to *CEQR Technical Manual* guidelines, the EAS considers two RWCDS (RWCDS- Scenario 1 (proposed senior affordable housing) and RWCDS- Scenario 2 (mixed-use development) for conservative analysis purposes, which are described in detailed in Attachment A, "Project Description." The EAS analyzes the RWCDS that presents the worst case for each respective technical area. Both RWCDS scenarios are analyzed for the following technical areas: Land Use, Zoning, & Public Policy, Historic & Cultural Resources, Hazardous Materials, Air Quality, and Noise. Scenario 2 is analyzed for Community Facilities, Open Space, Shadows, Urban Design & Visual Resources, Water & Sewer Infrastructure, and Transportation.

II. SUPPLEMENTAL SCREENING AND SUMMARY OF DETAILED ANALYSES

Land Use, Zoning, and Public Policy

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

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

Community Facilities and Services

Potential direct or indirect effects of a proposed action can trigger the need for analysis of community facilities. Direct effects occur if a project would "physically alter a community facility, whether by displacement or other physical change." Indirect effects occur if a project would add population to an area, which may potentially affect service delivery. While no community facilities would be directly displaced by the proposed actions, Scenario 2 could result the development of 159 typical family residential units, of which 40 to 48 would be considered affordable. The *CEQR Technical Manual* provides density thresholds, which are used to make an initial determination of whether detailed studies are necessary to determine potential indirect impacts. These density thresholds are summarized in Table B-2.

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

Community Facility	Threshold for Detailed Analysis	Minimum Number of Residential Units in Queens that Trigger Detailed Analyses
Public Elementary/Intermediate Schools	50 or more elementary/intermediate school students	124
Public High Schools	150 or more high school students	1,068
Libraries	More than five percent increase in ratio of residential units to libraries in the borough	622
Health Care Facilities (outpatient)	Introduction of sizeable new neighborhood	N/A
Child Care Centers (publicly funded)	More than 20 eligible children under age six based on number of low- to moderate-income units	139
Fire Protection	Introduction of sizeable new neighborhood	N/A
Police Protection	Introduction of sizeable new neighborhood	N/A

Source: *CEQR Technical Manual*

Public Schools

As Scenario 2 would result in the incremental development of more than 90 DU, it is expected to generate more than 50 elementary and intermediate school students per *CEQR Technical Manual* criteria, and a detailed assessment of the potential impacts of the proposed actions on public schools is provided in Attachment D, "Community Facilities." As Scenario 2 would not exceed the threshold for a detailed high school analysis, the public school analysis is focused solely on public elementary and intermediate schools. As presented in Attachment D, the proposed actions would not result in significant adverse impacts on community facilities. The 159 DUs would be expected to generate 45 elementary school students and 19 intermediate school students in Sub-district 3 of Community School District (CSD) 27. As discussed in Attachment D, the proposed actions would not result in a significant adverse impact to public elementary or intermediate schools.

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

As the proposed actions would not result in the introduction of a sizeable new neighborhood, would not result in a more than five percent increase in the ratio of residential units to libraries in Queens (i.e., would result in the development of fewer than 622 DU), and would not result in more than 139 affordable dwelling units, analyses of fire and police protection, health care facilities, libraries, and child care facilities are not warranted, and significant adverse impacts are not anticipated in these technical areas.

Open Space

An open space assessment may be necessary if a proposed action could potentially have a direct or indirect effect on open space resources in the project area. A direct effect would "physically change, diminish, or eliminate an open space or reduce its utilization or aesthetic value." An indirect effect may occur when the population generated by a proposed action would be sufficient to noticeably diminish the ability of an area's open space to serve the existing or future population. According to the guidelines established in the *CEQR Technical Manual*, if a project is not located within an area that is "underserved" or "well-served" by open space, a project that would generate fewer than 200 residents or 500 employees is typically not considered to have indirect effects on open space.

Scenario 2 would generate 500 residents in the rezoning area, which would exceed the CEQR threshold of a net increase in 200 residents in area that is neither underserved nor well-served by open space, and therefore requires further assessment pursuant to *CEQR Technical Manual* guidelines.[1] As the number of employees generated by Scenario 2 would be 250, which is less than the *CEQR Technical Manual* analysis threshold of 500, an analysis of non-residential indirect open space impacts is not warranted and the analysis focuses solely on the potential for residential study area indirect open space impacts.

As shown in Attachment E, "Open Space," the proposed actions would not result in significant adverse open space impacts.

Shadows

A shadows assessment considers proposed actions that result in new shadows long enough to reach a publicly accessible open space or historic resource (except within an hour and a half of sunrise or sunset). For proposed actions resulting in structures less than 50 feet high, a shadow assessment is generally not necessary unless the site is adjacent to a park, historic resource, or important natural feature (if the features that make the structure significant depend on sunlight).

As detailed in Attachment A, "Project Description," the proposed project (Scenario 1) would have a height of 106 feet. Under Scenario 2, a 137-foot mixed-use building could be developed on the development site. As Scenario 2 would result in a taller building than Scenario 1, Scenario 2 is analyzed for its potential to result in significant adverse shadow impacts. As sunlight sensitive open space resources are located within the vicinity of the proposed development site, Tier 1 and Tier 2 Screening Assessments were conducted to determine whether Scenario 2 would result in new shadows long enough to reach sunlight-sensitive resources, as compared to No-Action condition.

[1] Based on 3.14 persons/household in Queens CD 12 (2010 Census) and 4 employees per 1,000 sf/office

Preliminary Screening Assessment

Tier 1 Screening Assessment

According to the 2014 *CEQR Technical Manual*, the longest shadow a structure will cast in New York City, except for periods close to dawn or dusk, is 4.3 times its height and occurs on December 21, the Winter Solstice. As such, the longest shadow that could be cast by the proposed development site would be approximately 589 feet in length, as shown in Figure B-1. As also shown in Figure B-1, Scenario 2 With-Action longest shadow area would reach Rochdale Park located within Rochdale Village which is a publicly accessible open space resource. Therefore, a Tier 2 Screening Assessment is warranted.

Tier 2 Screening Assessment

According to the 2014 *CEQR Technical Manual,* if any portion of a sunlight-sensitive resource lies within the longest shadow study area, a Tier 2 screening assessment is warranted.

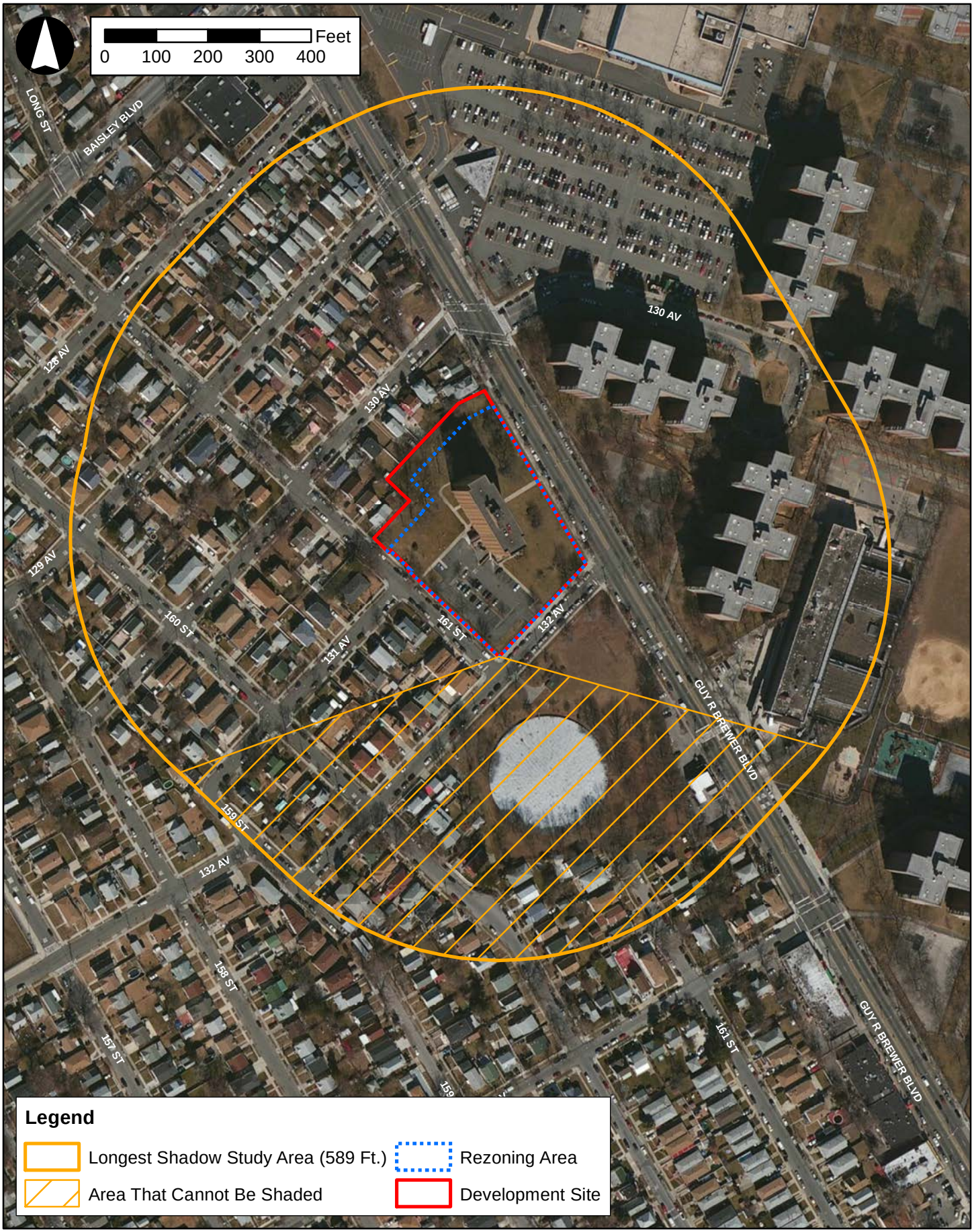
Because of the path that the sun travels across the sky in the northern hemisphere, no shadow can be cast in a triangular area south of any given project site. In New York City, this area lies between -108 and +108 degrees from true north. If none of the sunlight-sensitive resources lay within the area that can be shaded by the proposed project, no further assessment of shadows is necessary. As shown in Figure B-1, the playground does not fall within the area that cannot be shaded by the proposed project. Therefore, a Tier 3 Screening Assessment is warranted.

Tier 3 Screening Assessment

According to the 2014 *CEQR Technical Manual*, a Tier 3 screening assessment should be performed to determine if, in the absence of intervening buildings, shadows resulting from a proposed project can reach a sunlight-sensitive resource, thereby warranting a detailed shadows analysis. The Tier 3 screening assessment is used to determine if shadows resulting from a proposed project can reach a sunlight-sensitive resource at any time between 1.5 hours after sunrise and 1.5 hours before sunset on representative analysis dates.

As project-generated shadows could reach nearby sunlight-sensitive resources, a Tier 3 assessment was performed using three dimensional (3D) computer mapping software. The 3D model was used to calculate and display project-generated shadows on individual representative analysis dates. The model contained 3D representations of the elements in the base map used in the preceding assessments and a 3D model of the proposed project. At this stage of the assessment, surrounding buildings and structures within the study area were not included in the model so that it may be determined whether project-generated shadows would reach any sunlight-sensitive resources.

Figures B-1a and B-1b illustrates the range of project-generated shadows that could occur in the absence of existing buildings on the four representative analysis days. The Tier 3 analysis shows that, in the absence of intervening buildings, Rochdale Park would not receive project-generated shadows. Therefore, a detailed shadows analysis is not required and no significant adverse shadows impacts are anticipated.


Feet
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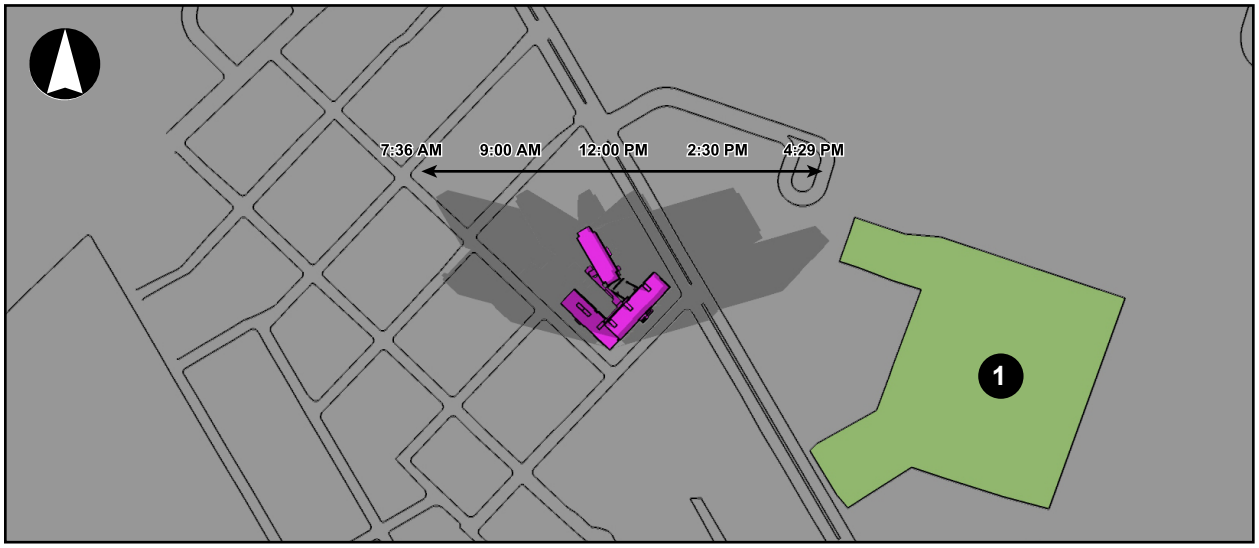
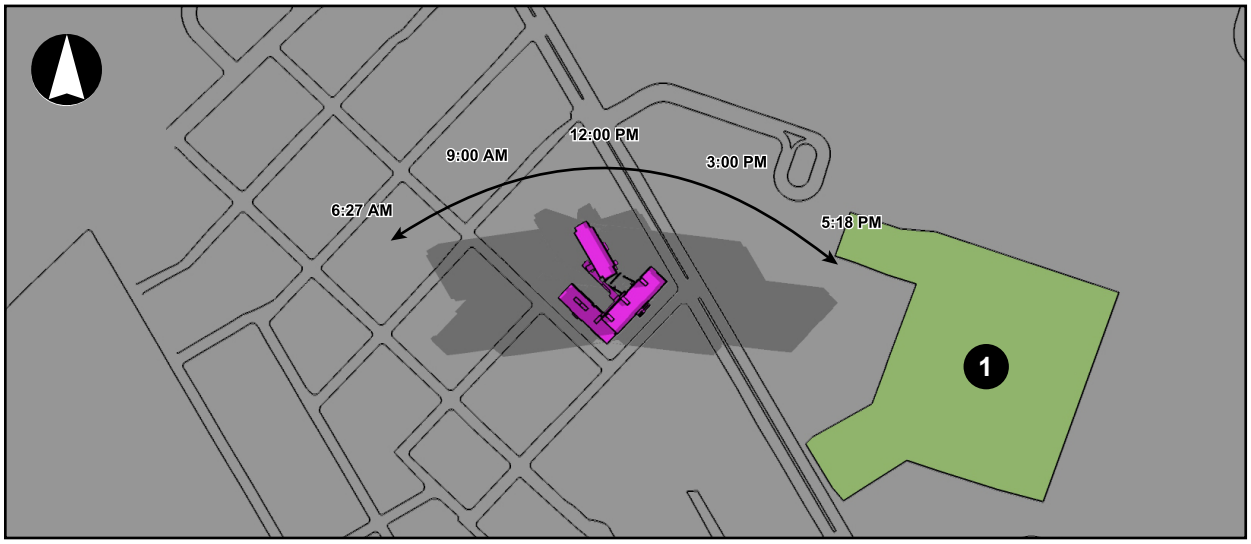
GUY R BREWER BLVD
Legend
Longest Shadow Study Area (589 Ft.)
Rezoning Area
Area That Cannot Be Shaded
Development Site

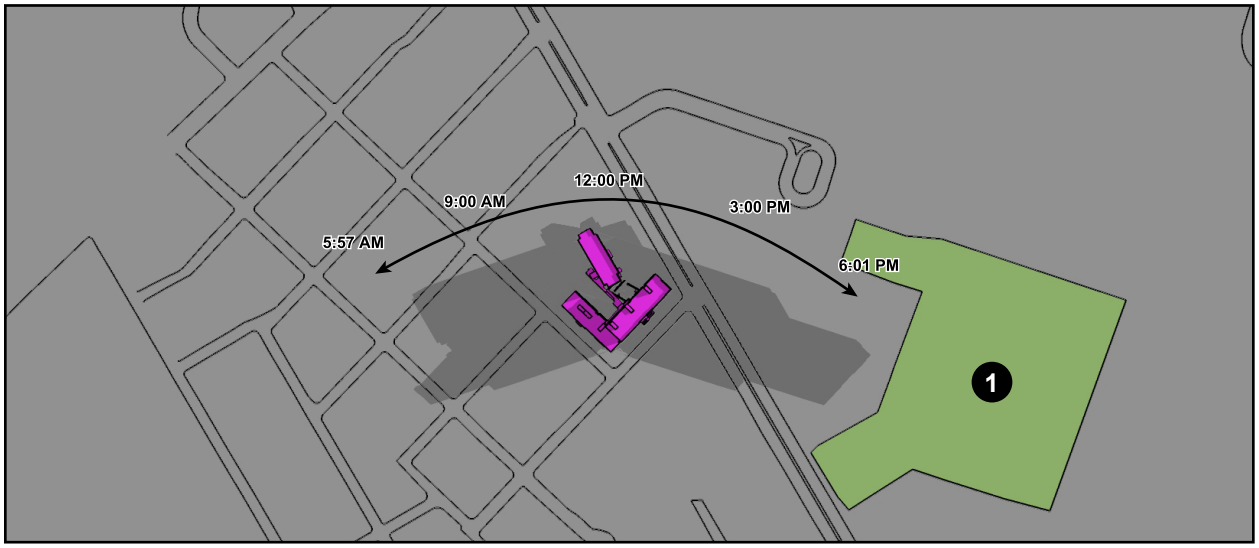


MARCH 21/SEPTEMBER 21

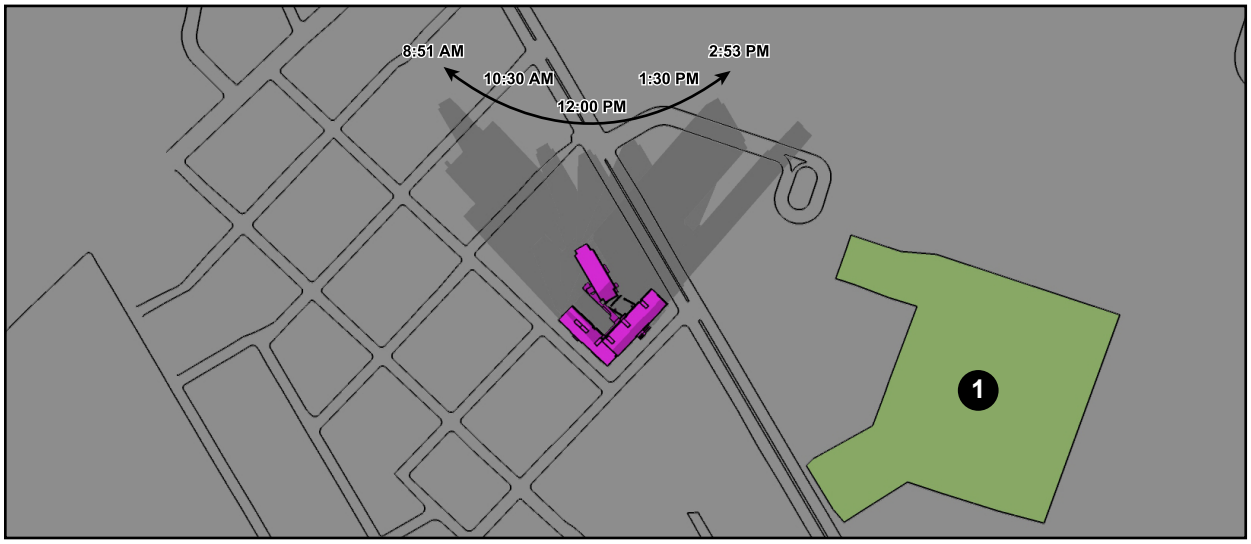


MAY 6/AUGUST 6

Proposed Development | 1 Open Space | Incremental Shadow



JUNE 21



DECEMBER 21

Proposed Development | 1 Open Space | Incremental Shadow

Historic and Cultural Resources

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

As the proposed actions would result in in-ground construction, LPC reviewed the project to determine whether the proposed development site contains any historic resources. In a letter dated April 17, 2017, LPC determined that the proposed development site does not contain any architectural or archaeological significant resources (see Appendix 1 for the LPC letter). As such, no significant adverse impacts to historic and cultural resources are expected as a result of the proposed actions and a detailed analysis is not warranted.

Urban Design and Visual Resources

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

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

The proposed actions include the rezoning of an R3X residential district to a R6 residential district, which would result in a development that would differ from what is permitted as-of-right, and as such, an analysis of urban design and visual resources is appropriate. This analysis is provided in Attachment F, "Urban Design and Visual Resources." As discussed in Attachment F, there would be no significant adverse impacts to urban design and visual resources as a result of the proposed actions.

Natural Resources

The 2014 *CEQR Technical Manual* defines natural resources as (1) the City's biodiversity (plants, wildlife and other organisms); (2) any aquatic or terrestrial areas capable of providing suitable habitat to sustain the life processes of plants, wildlife, and other organisms; and (3) any areas capable of functioning in support of the ecological systems that maintain the City's environmental stability. Two possibilities

determine whether a significant adverse impact on a natural resource might occur, and therefore, whether an assessment may be appropriate: (1) the presence of a natural resource on or near the site of the project; and (2) disturbance of that resource caused by the project.

There are no natural resources on or near the development site. The development site is located within the Jamaica Bay Watershed, as defined by the Jamaica Bay Watershed Protection Plan. The development site is located approximately 3 miles northeast of Bergen Basin, an inlet which is part of Jamaica Bay and the bay's watershed encompasses portions of Brooklyn and Queens.

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 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 the Jamaica Bay Watershed Protection Plan Project Tracking From and submit it to DEP and MOEC. This form must be updated with any project modifications and resubmitted to DEP and MOEC.

The applicant has prepared the form for submission to DEP and MOEC. A copy of the form is provided in Appendix 2. As the proposed development would comply with all applicable building and environmental regulations, including those related to stormwater management, it is not expected to result in any significant adverse natural resources impacts and no further analysis is warranted.

Hazardous Materials

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

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

Water and Sewer Infrastructure

According to the 2014 *CEQR Technical Manual,* a preliminary water supply infrastructure analysis is needed if the project would result in an exceptionally large demand for water (e.g., more than one million gallons per day [mgd]), or is located in an area that experiences low water pressure (i.e., areas at the end of the water supply distribution system such as the Rockaway Peninsula or Coney Island). As the rezoning area is not located in an area that experiences low water pressure and the proposed actions would not result in an incremental water demand exceeding one mgd, a detailed analysis is not warranted.

The development site is located in a separately sewered area. A preliminary sewer assessment is warranted if a project located in a separately sewered area in an existing R3 zoning district exceeds 25

residential units or 50,000 sf of commercial, public facility, and community facility space or more. As the proposed development meets this *CEQR Technical Manual* threshold, a preliminary sewer assessment is warranted and is provided in Attachment G, "Water and Sewer Infrastructure". As discussed in Attachment G, no significant adverse impacts would occur to water and sewer infrastructure as a result of the proposed actions.

Transportation

The objective of a transportation analysis is to determine whether a proposed action may have a potentially significant adverse impact on traffic operations and mobility, public transportation facilities and services, pedestrian elements and flow, safety of all roadway users (pedestrians, bicyclists, and vehicles), on- and off-street parking or goods movement.

The 2014 *CEQR Technical Manual* identifies minimum incremental development densities that potentially require a transportation analysis. Development at less than the development densities shown in Table 16-1 of the 2014 *CEQR Technical Manual* generally result in fewer than 50 peak-hour vehicle trips, 200 peak-hour subway/rail or bus transit riders, and 200 peak-hour pedestrian trips, where significant adverse impacts are considered unlikely. In Zone 5 (which includes the rezoning area) the development thresholds include an increment of 100 DUs for residential, 10,000 sf for local retail, and 15,000 sf for community facility. According to the 2014 *CEQR Technical Manual*, if an action would result in development greater than one of the minimum development density thresholds in Table 16-1, a Level 1 (Project Trip Generation) Screening Assessment should be prepared. In most areas of the city, including the rezoning area, if the proposed action is projected to result in fewer than 50 peak-hour vehicle trips, 200 peak-hour subway/rail or bus transit riders, or 200 peak-hour pedestrian trips, it is unlikely that further analysis would be necessary. If these trip-generation screening thresholds are exceeded, a Level 2 (Project-generated Trip Assignment) Screening Assessment should be prepared to determine if the proposed action would generate or divert 50 peak-hour vehicle trips through any intersection, 200 peak-hour subway trips through a single station, 50 peak-hour bus trips on a single bus route in the peak direction, or 200 peak-hour pedestrian trips through a single pedestrian element. If any of these Level 2 screening thresholds are met or exceeded, detailed analysis for the respective mode is required.

As discussed in detail in Attachment H, "Transportation," Scenario 2 would exceed the Level 2 screening thresholds for traffic, and as such, a detailed analysis of traffic is provided in Attachment H. As discussed in Attachment H, the proposed actions would not result in any significant adverse impacts to traffic. As further discussed in Attachment H, Scenario 2 does not warrant a detailed analysis of parking, transit or pedestrians.

Scenario 1 would result in a 139,487 gsf residential building and would include a total of 129 DUs (with 1 additional apartment for a resident superintendent) with 100% of the residential floor area dedicated to affordable housing (129 DUs). All 129 affordable apartments will be considered AIRS and restricted to low income seniors, defined as 62 years of age or older with incomes at or below 60 percent of AMI. The proposed building would also include 3,925 gsf of community facility uses (senior center). As shown in Attachment H, Scenario 1 would generate less than 50 vehicle trips, 200 transit trips, and 200 pedestrian trips in the weekday AM, weekday midday, weekday PM, and Saturday midday peak hours. Accordingly, Scenario 1 would be unlikely to result in any significant adverse transportation impacts and no further analysis is warranted.

Air Quality

According to the guidelines provided in the 2014 *CEQR Technical Manual*, air quality analyses are conducted in order to assess the effect of an action on ambient air quality (i.e., the quality of the surrounding air), or effects on the project because of ambient air quality. Air quality can be affected by "mobile sources," pollutants produced by motor vehicles, and by pollutants produced by fixed facilities, i.e., "stationary sources." As per the 2014 *CEQR Technical Manual*, an air quality assessment should be carried out for actions that can result in either significant adverse mobile source or stationary source air quality impacts. Per the EAS Form, further analysis of air quality mobile sources from action-generated vehicle trips has been screened out in accordance with 2014 *CEQR Technical Manual* assessment screening thresholds. As Scenario 2 includes a 201 space accessory parking garage, a mobile source garage air quality analysis was prepared and is discussed in detail in Attachment I, "Air Quality." As discussed in the attachment, the proposed actions would not result in any significant adverse mobile source air quality impacts.

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

Both RWCDS scenarios were analyzed for potential stationary source impacts, which is provided in Attachment I, "Air Quality." As discussed in detail Attachment I, the stationary source air quality analysis determined that the proposed development site on Block 12277, Lot 1 and would require an (E) designation that would specify the location of the boiler stack. As discussed therein, no significant adverse stationary air quality impacts are expected in the future with the proposed actions.

Noise

The proposed actions would introduce residential and community facility uses under both Scenario 1 and 2. Consistent with the 2014 *CEQR Technical Manual*, existing noise levels should be measured and compared to the Noise Exposure Guidelines for these types of uses presented in Table 19-2 of the Manual. As such, a noise analysis has been prepared and is provided in Attachment J, "Noise." As discussed in detail Attachment J, based on the noise analysis, the maximum predicted Wth-Action L_{10} noise levels adjacent to the development site are expected to be 65.7 dBA along the development site's 161st Street frontage, 67.4 dBA along the site's 132nd Avenue frontage, and 68.5 dBA along the site's Guy R. Brewer Boulevard frontage. Given that maximum predicted With-Action L_{10} noise levels at all three locations fall below 70 dBA, based on CEQR guidelines, no additional window/wall attenuation measures would be required outside of standard modern construction practices on any of the proposed building site's facades in order to maintain the acceptable interior noise levels of 45 dBA or lower for the proposed residential and community facility uses. Therefore, the proposed actions would not result in any significant adverse noise impacts related to building attenuation requirements.

However, as discussed in detail in Attachment J, because the proposed AIRS development under Scenario 1 would receive assistance from the U.S. Department of Housing and Urban Development (HUD), the building attenuation analysis concludes that in order to meet HUD interior noise level guidelines, 25 dBA of building attenuation would be required along the Guy R. Brewer Boulevard frontage. The requirement for this level of façade attenuation as well as the requirement for an alternate means of ventilation will be included in an (E) designation for the development site.

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

I. INTRODUCTION

Under 2014 *City Environmental Quality Review* (CEQR) *Technical Manual* guidelines, a land use analysis evaluates the uses and development trends in the area that may be affected by a proposed action, and determines whether that proposed action is compatible with those conditions or may affect them. Similarly, the analysis considers the action's compliance with, and effect on, the area's zoning and other applicable public policies.

The applicant, Northeastern Towers Annex L.P., is seeking a zoning map amendment and a zoning text amendment from the New York City Planning Commission (CPC) (the "proposed actions") to facilitate the development of a residential building at 131-10 Guy R. Brewer Boulevard in the Rochdale/Springfield Gardens neighborhood of Queens Community District (CD) 12. The proposed actions would rezone Block 12277, portion of Lot 1 from an R3X district to an R6 district and will include a zoning text amendment to Appendix F of the Zoning Resolution in order to map the rezoning area as a Mandatory Inclusionary Housing Area (MIHA).

The proposed development site comprises approximately 113,133-square-feet (sf) on one lot (Block 12277, Lot 1), which is owned by the applicant and bounded by Guy R. Brewer Boulevard to the east, 132nd Avenue to the south, and 161st Street to the west. The proposed R6 district would be mapped on a portion of Lot 1 (approximately 98,400sf). An approximate 35 foot buffer area would be created along the northern portion of Lot 1 which would remain R3X (14,733 sf). The development site is currently occupied by a 12-story residential building with a total of 110 affordable DUs (with 1 additional apartment for a resident superintendent), all of which are reserved for low-income senior citizens. Upon approval of the proposed actions, the existing 12-story building would remain while a new 10-story annex would be constructed on a new tax lot to be created at the southern portion of the development site. The proposed new building would contain approximately 139,487 gross square feet (gsf), including 129 dwelling units (with 1 additional apartment for a resident superintendent) and 3,925 gsf of community facility uses (senior center). The proposed development would rise to a height of 10-stories (106.5 feet). The proposed development would include 100% affordable housing floor area, resulting in the creation of approximately 129 Affordable Independent Residences for Seniors (AIRS).

Development of the proposed project would also be facilitated by New York City Housing Preservation and Development (HPD) financing through the Senior Affordable Rental Apartments program (SARA), 4% Low Income Housing Tax Credits (LIHTC), and tax exempt bonds from the New York City Housing Development Corporation (HDC).

However, while the applicant intends on developing the proposed project described above ("Scenario 1"), because the proposed actions would result in an R6 zoning district, an alternate reasonable worst-case development scenario (RWCDS) will be considered for conservative analysis purposes ("Scenario 2"). It is assumed that in the absence of the proposed development of the affordable senior DUs, the site could be redeveloped with an approximately 222,493 gsf mixed-use development that would include 159,493 gsf (155,854 zsf) of residential uses and 63,000 gsf (60,000 zsf) of community facility

uses (assumed to be medical office). The proposed development would result in 159 typical family DUs of which 25% to 30% would be affordable (40 to 48 DUs). Approximately 230 new parking spaces would also be created under Scenario 2. Parking would be accommodated in a parking garage with two levels: one at grade and one below grade with entrances along Guy R. Brewer Boulevard and 161st Street. The proposed residential portion of the building would be 14-stories with frontage along 132nd Avenue and Guy R. Brewer Boulevard and the proposed community facility portion of the building would be 7-stories with frontage along 132nd Avenue and 161st Street. In the future With-Action condition, it is assumed that the existing 12-story residential building within the rezoning area would remain. The overall FAR of the development site would be 2.73.

Under CEQR guidelines, a preliminary land use assessment, which includes a basic description of existing and future land uses and zoning, should be provided for all projects that would affect land use or would change the zoning on a site, regardless of the project's anticipated effects. CEQR also requires a detailed assessment of land use conditions if a detailed assessment has been deemed appropriate for other technical areas, or in generic or area-wide zoning map amendments. Therefore, this chapter includes a detailed analysis that involves a thorough description of existing land uses and zoning within the rezoning area and the broader study area. Following the guidelines of the 2014 *CEQR Technical Manual,* the detailed analysis describes existing and anticipated future conditions to a level necessary to understand the relationship of the proposed action to such conditions, assesses the nature of any changes to these conditions that would be created by the proposed action, and identifies those changes, if any, that could be significant or adverse. The detailed assessment discusses existing and future conditions with and without the proposed actions in the 2020 analysis year for a primary study area (coterminous with the rezoning area), and a secondary (400 foot) study area surrounding the rezoning area.

For conservative analysis purposes, a discussion of both RWCDS scenarios is included in the analysis presented below.

II. PRINCIPAL CONCLUSIONS

No significant adverse impacts on land use, zoning, or public policy, as defined by the guidelines for determining impact significance set forth in the 2014 *CEQR Technical Manual*, are anticipated in the future with the proposed actions in the primary or secondary study areas. The proposed actions would not directly displace any land uses so as to adversely affect surrounding land uses, nor would it generate land uses that would be incompatible with land uses, zoning, or public policies in the secondary study area. The proposed actions would not create land uses or structures that would be incompatible with the underlying zoning, nor would it cause a substantial number of existing structures to become non-conforming. The proposed actions would also not result in land uses that conflict with public policies applicable to the primary or secondary study areas.

The proposed actions would result in an overall increase in residential and community facility uses within the primary study area, when compared to conditions in the future without the proposed actions. The proposed zoning map amendment would allow for residential and community facility uses at a scale and density that is compatible with the existing zoning designations in the surrounding area

III. METHODOLOGY

The purpose of this attachment is to examine the effects of the proposed actions and determine whether or not it would result in any significant adverse impacts on land use, zoning, or public policy. The analysis methodology is based on the guidelines of the 2014 *CEQR Technical Manual* and examines the proposed action's consistency with land use patterns and development trends, zoning regulations, and other applicable public policies.

According to the 2014 *CEQR Technical Manual*, a detailed assessment of land use, zoning, and public policy may be appropriate when needed to sufficiently inform other technical reviews and determine whether changes in land use could affect conditions analyzed in those technical areas. Therefore, this attachment includes a detailed analysis that involves a thorough description of existing land uses within the directly affected area and the broader study area. Following the guidelines of the 2014 *CEQR Technical Manual*, the detailed analysis describes existing and anticipated future conditions to a level necessary to understand the relationship of the proposed action to such conditions, assesses the nature of any changes on these conditions that would be created by the proposed action, and identifies those changes, if any, that could be significant or adverse.

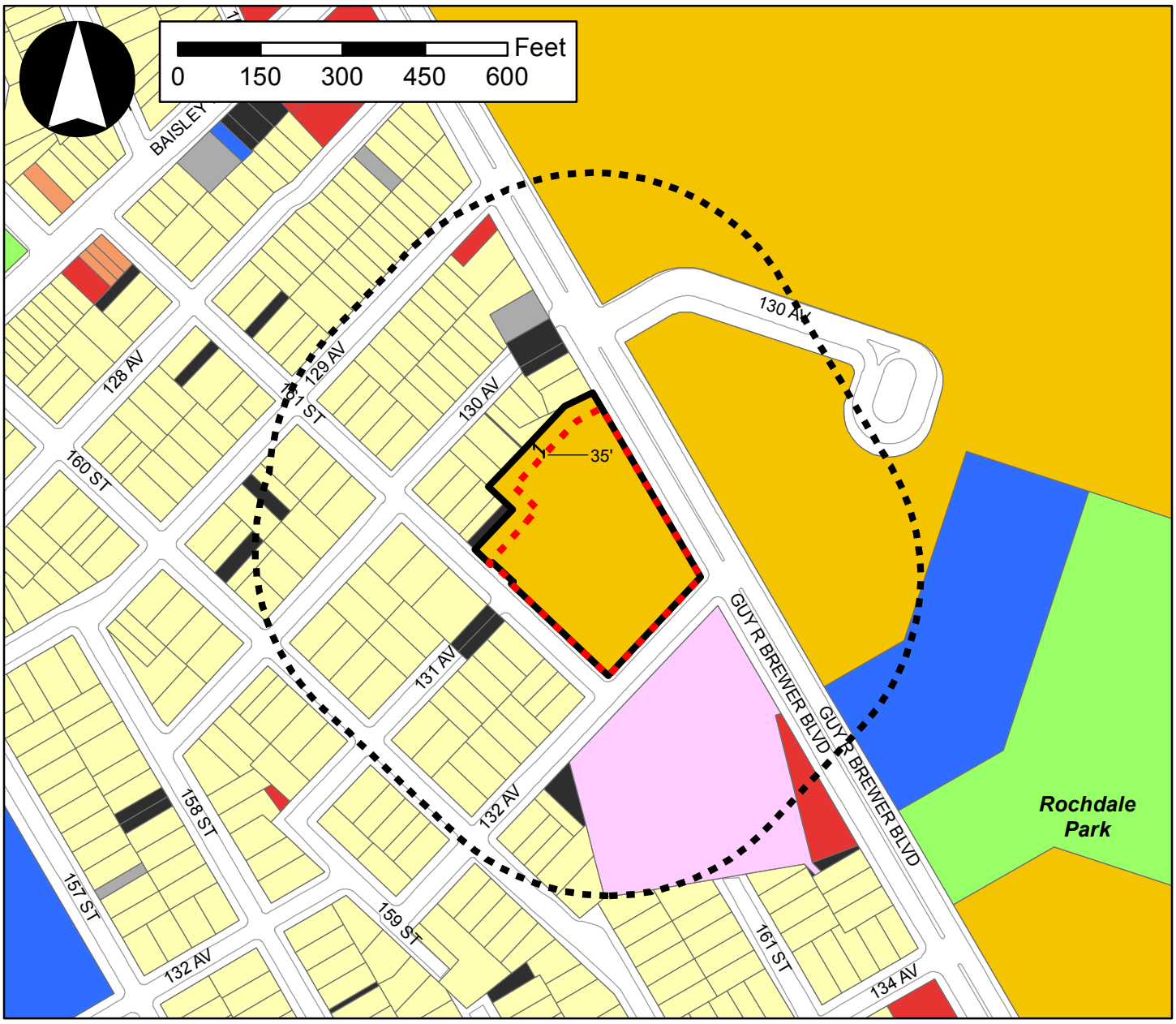
Existing land uses were identified through review of a combination of sources including field surveys and secondary sources such as the City's Primary Land Use Tax Lot Output (PLUTO™) data files for 2014, and websites such as NYC Open Accessible Space Information System (OASIS, www.oasisnyc.net) and NYCityMap (http://gis.nyc.gov/doitt/nycitymap/). New York City Zoning Maps and the Zoning Resolution of the City of New York were consulted to describe existing zoning districts in the study areas and provided the basis for the zoning evaluation of the future No-Action and future With-Action conditions. Relevant public policy documents, recognized by the New York City Department of City Planning (DCP) and other City agencies, were utilized to describe existing public policies pertaining to the study areas.

Analysis Year

The analysis year is the proposed action's anticipated completion date of 2020. Therefore the future No-Action condition accounts for land use and development projects, initiatives, and proposals that are expected to be completed by 2020.

Study Area Definition

According to the 2014 *CEQR Technical Manual*, the appropriate study area for land use, zoning, and public policy is related to the type and size of the proposed project, as well as the location and context of the area that could be affected by the project. Study area radii vary according these factors, with suggested study areas ranging from 400 feet for a small project to 0.5 miles for a very large project. In accordance with CEQR guidelines, land use, zoning, and public policy are addressed and analyzed for two geographical areas: (1) the rezoning area (also referred to as the primary study area); and (2) a secondary study area. The secondary study area extends an approximate 400 feet from the boundary of the rezoning area and encompasses areas that have the potential to experience indirect impacts as a result of the proposed actions. It is generally bounded by 160th Street to the west, 132nd Avenue to the south, 129th Avenue to the north, and Guy R. Brewer Boulevard to the east. Both the primary and secondary study areas have been established in accordance with 2014 *CEQR Technical Manual* guidelines and can be seen in Figure C-1, "Land Use Study Area."



Legend

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

Source: NYCDCP, DoITT

IV. PRELIMINARY ASSESSMENT

Land Use and Zoning

A preliminary assessment, which includes a basic description of existing and future land uses and zoning, should be provided for all projects that would affect land use or would change the zoning on a site, regardless of the project's anticipated effects. In addition, under CEQR guidelines, if a detailed assessment is required in the technical analyses of socioeconomic conditions, neighborhood character, transportation, air quality, noise, infrastructure, or hazardous materials, a detailed land use assessment is appropriate. Furthermore, for some projects, such as generic or area-wide zoning map amendments, more detailed land use and zoning information is necessary to sufficiently inform other technical reviews and determine whether changes in land use could affect conditions analyzed in those technical areas. This EAS provides detailed assessments of water and sewer infrastructure, transportation, air quality, and noise; therefore a detailed assessment of land use and zoning is warranted and is provided in Section V below. As a detailed assessment is warranted for the proposed actions, the information that would typically be included in a preliminary assessment (e.g., physical setting, present land use, zoning information, etc.) has been incorporated into the detailed assessment in Section V below. As discussed in the detailed assessment, the proposed actions are not expected to adversely affect land use or zoning.

Public Policy

According to the 2014 *CEQR Technical Manual*, a project that would be located within areas governed by public policies controlling land use, or that has the potential to substantially affect land use regulation or policy controlling land use, requires an analysis of public policy. A preliminary assessment of public policy should identify and describe any public policies, including formal plans or published reports, which pertain to the study area. If the proposed action could potentially alter or conflict with identified policies, a detailed assessment should be conducted; otherwise, no further analysis of public policy is necessary.

Besides zoning, other public policies applicable to portions of the primary and secondary study areas is *Housing New York*.

The proposed rezoning area and surrounding area are not part of an urban renewal area, coastal zone boundary, nor are there any designed in-place industrial parks within the area. No siting of public facilities is proposed as part of the proposed actions, and therefore a Fair Share analysis is not warranted. As discussed in the detailed assessment, the proposed actions are not expected to adversely affect any public policies.

V. DETAILED ASSESSMENT

Existing Conditions

Land Use

The land use study area consists of both a primary study area, which is coterminous with the boundaries of the rezoning area, where the land use effects of the proposed actions are direct, and a secondary study area consisting of properties within an approximate 400 foot radius of the boundaries of the rezoning area. These study areas and their associated land uses are shown in Figure C-1.

Existing Land Uses in the Primary Study Area

The development site is located at 131-10 Guy R. Brewer Boulevard (Block 12277, Lot 1) in the Rochdale/Springfield Gardens neighborhood of Queens Community District 12. The approximately 113,133 sf development site is comprised of one tax lot. The proposed R6 district would be mapped on a portion of Lot 1 (approximately 98,400 sf). An approximate 35 foot buffer area would be created along the northern portion of Lot 1 which would remain R3X (14,733 sf).

The development site is located on the west side of Guy R. Brewer Boulevard between 130th and 132nd Avenues. The development site is defined by a large irregular-shaped corner lot developed with a 12-story building. It is in an R3X zoning district, which was mapped as part of the Springfield Gardens Rezoning (C 050194 ZMQ) in 2005 and was zoned R3-2 prior to the rezoning.

The 12-story building located on the development site was developed under the R3-2 zoning district in 1979 and contains 12-stories at a height of 110 feet and 90,881 square feet of floor area (0.80 FAR). The development site contains 110 AIRS units and one superintendent unit and was constructed under HUD's Section 202 Supportive Housing for the elderly loan program, which serves persons over the age of 62 and the mobility impaired. The existing tower covers only 7% of the zoning lot, with the remaining area devoted to an accessory parking lot containing 45 spaces and open space, made accessible from a single driveway along 132nd Avenue with a single 30-foot-wide curb cut. The remainder of the property contains landscaped areas.

The development site is situated along Guy R. Brewer Boulevard, which is an arterial thoroughfare that runs north-south and connects South Jamaica with the Belt Parkway. Guy R. Brewer Boulevard is classified as a 'wide' street with 100 feet in width. The development site also contains frontage along 132nd Avenue and 161st Street, which are both classified as 'narrow' streets with 60 and 50 feet in width, respectively.

Existing Land Uses in the Secondary Study Area

Table C-1 summarizes the existing generalized land uses within the secondary study area by tax lots and land area. Overall, as reflected in the table and in Figure C-1, the land use secondary study area contains a general mix of uses, with the largely predominant land use being residential which collectively occupies 91.1% of the total land area within the study area.

The Springfield Gardens portion of the surrounding area predominantly consists of one- and two- family detached homes in the R3X zoning district with driveways along a typical urban street grid. Immediately

across Guy R. Brewer Boulevard to the east is the Rochdale Village development, which is entirely within a large R6 and C4-2 district that encompasses a 120-acre superblock (Block 12495). Rochdale Village is considerably more dense and vertical than the residential area to the west, which predominantly contains detached one- and two-family houses. Rochdale Village contains twenty 13- and 14-story towers and 5,860 dwelling units. The zoning lot containing the residential and commercial retail area of Rochdale Village consists of 6,940,450 square feet of floor area (1.49 FAR). In addition to these residential towers, the development contains a retail complex on the northern end of the block, as well as several schools, including the Catherine and Count Basie Middle School 72, which serves grades 6-8 and enrolls 887 students (and Austin Martin High School) and recreational open space area (containing a playground and ball field), directly across Guy R. Brewer Boulevard immediately to the east of the development site.

Immediately to the south of the development site, across 132nd Avenue, is an approximately 300,000 square foot lot which is owned by the New York City Department of Environmental Protection (DEP) and contains a subsurface water supply tank, which was formerly owned by the Jamaica Bay Water Supply Company and has been decommissioned for over 11 years. At this time, DEP has conveyed that there are no plans to develop the site in the foreseeable future.

Table C-1: Land Uses within 400 feet of the Rezoning Area

Land Use	Lot Area (sq ft)	% of Total Land Area
Residential	*5,122,791*	*91.1%*
One and Two Family	337,131	6.0%
Multi-Family Walkup	0	0.0%
Multi-Family Elevator Buildings	4,785,660	85.1%
Mixed Residential and Commercial	0	0.0%
Commercial and Office	16,824	0.30%
Industrial and Manufacturing	0	0.0%
Transportation and Utility	296,088	5.3%
Public Facilities and Institutions	161,277	2.8%
Open Space	0	0.0%
Parking Facilities	5,580	0.1%
Vacant Land	21,952	0.4%
All Others or No Data	0	0.0%
Total	**5,624,512**	**100%**

Source: 2016 DCP PLUTO Data

There are limited transit services in the immediate vicinity of the project site. The Q111, Q113/114, and QM21 bus routes are located within the vicinity of the site. The Q111 bus route provides local service between Jamaica and Rosedale; the Q113/114 provides local service between Jamaica and Far Rockaway; the QM21 bus route provides express service between Rochdale Village and Manhattan. Additionally, the Locust Manor station of the Long Island Rail Road (LIRR), serving the Babylon, Far Rockaway, and Long Beach lines, is located approximately 1 mile east of the development site.

Zoning

The assessment of zoning uses the same study areas used for land use: the primary study area, consisting of the proposed rezoning area/project site; and the secondary study area, an area within roughly a 400 foot radius of the project area boundary.

Existing Zoning in the Primary Study Area

The proposed development site comprises Block 12277, Lot 1 and is zoned R3X. The R3X zoning district allows single- and two-family detached residences and some community facility uses. The R3X zoning district permits Use Groups 1–4 (residential and community facility uses). The maximum permitted residential FAR is 0.5 (0.6 with an attic allowance) while 1.0 FAR is permitted for community facility uses. The maximum permitted height within the district is 35 feet for residential buildings and one accessory parking space must be provided per dwelling unit.

Existing Zoning in the Secondary Study Area

The secondary study area contains R3X, R6, and C4-2 districts (see Figure C-2). Table C-2 lists the zoning classifications of the primary and secondary study areas.

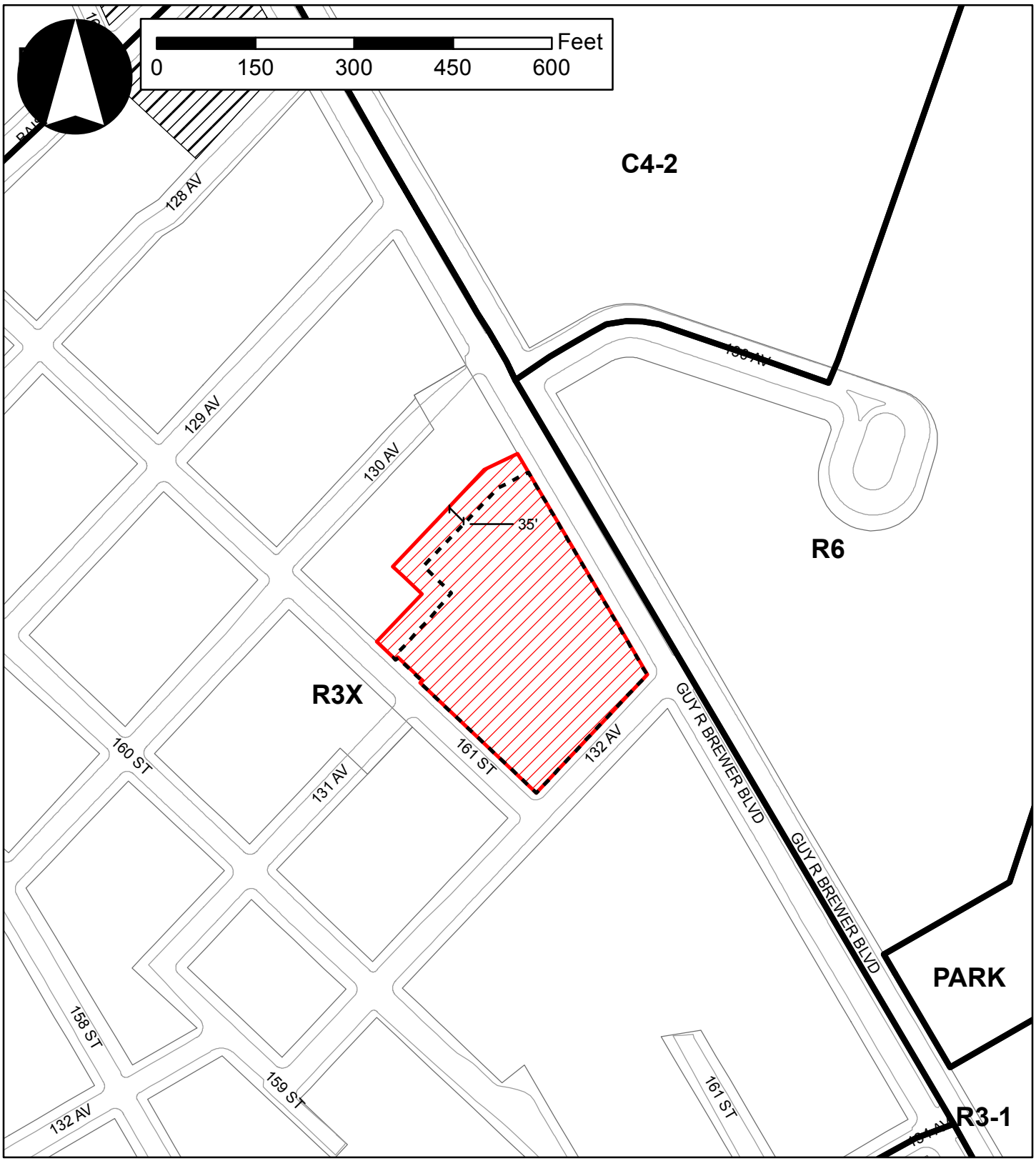
Table C-2: Primary and Secondary Study Area Existing Zoning Districts

District	Definition/General Use	Maximum FAR
R3X	R3X districts are low-density contextual residential districts. R3X districts permit only one- and two-family detached homes on lots that must be at least 35 feet wide. Residential and community facility uses (UG 1-4) are permitted as of right in R3X districts.	R: 0.5; CF: 1.0
R6	In R6 medium-density districts residential and community facility uses (UG 1-4) are permitted as of right.	R: 2.43; CF: 4.8
C4-2	Commercial district that permits commercial, residential, and community facility uses (UG 1-4, 6, 8, 9, 10, 12).	R: 2.43 C: 3.4 CF: 4.8

Notes: CF: community facility, R: residential, C: commercial, M: manufacturing

The R6 district permits residential and community facility buildings developed pursuant to height factor or quality housing regulations. For height factor regulations, the R6 zoning district allows a maximum FAR from 0.78 to 2.43 for residential use; the required open space ratio (OSR) ranges from 27.5 to 37.5 percent. The sky exposure plane determines the maximum height for R6 buildings under quality housing regulations. Accessory parking is required for 70% of dwelling units. The C4-2 district is mapped in regional commercial centers, and permits a wider range commercial retail uses than C1 or C2 commercial overlays (including Use Groups 6, 8, 9 10 and 12). The maximum commercial FAR in C4-2 districts is 3.4 FAR, with 0.78-2.43 FAR permitted for residential use (the residential equivalent of R6 districts). The maximum permitted building height in C4 districts is also governed by the sky exposure plane, as an R6 district equivalent. Parking requirements vary by use with 50-70% required for residential units.

Figure C-2
Proposed Zoning



Legend

Development Site | Rezoning Area | Zoning Districts | C1-3 Overlay

Source: NYCDCP, DoITT

Public Policy

Primary & Secondary Study Areas

Housing New York

Housing New York is a five-borough, ten-year strategy to address the City's affordable housing crisis. The plan, which was created through coordination with 13 agencies and with input from over 200 individual stakeholders, outlines more than 50 initiatives to support our goal of building or preserving 200,000 units of high-quality affordable housing to meet the needs of more than 500,000 people. The goals of the *Housing New York* plan are:

- Foster diverse, livable neighborhoods;
- Preserve the affordability and quality of the existing housing stock;
- Build new affordable housing for all New Yorkers;
- Promote homeless, senior, supportive and accessible housing;
- Refine City financing tools and expanding funding sources for affordable housing.

The key initiative of Housing New York is the Mandatory Inclusionary Housing (MIH) program, which would require a share of new housing to be affordable in areas that are rezoned to support new housing production. Under the MIH program, affordable housing is required, not optional, when developers build in a newly rezoned area, whether rezoned as part of a City neighborhood plan or a private rezoning application. As discussed above, the proposed actions includes a text amendment to Appendix F of the New York City Zoning Resolution to map a MIH area consistent with the proposed rezoning area. Scenario 1 includes the development 129 affordable apartments that will be considered AIRS and restricted to low income seniors, defined as 62 years of age or older with incomes at or below 60 percent of AMI. One third of the apartments will be set aside for homeless seniors referred by a City or State agency. Scenario 2 could include the development of 159 DUs (of which 40 to 48 would be affordable) and 63,000 gsf of community facility uses. As both scenarios would include affordable housing, the proposed actions would be consistent with this policy and further analysis is not warranted.

Future Without the Proposed Actions (No-Action Condition)

Land Use

Primary Study Area

It is anticipated that the proposed development site would remain in its current condition in the future without the proposed actions. In absence of the proposed actions, therefore, the proposed development site would continue to be occupied by a 12-story residential building with a total of 110 DUs and 45 surface parking spaces.

Secondary Study Area

In the future without the proposed actions, no new development is anticipated within the secondary study area by the build year of 2020.

Zoning

No changes to zoning on the development site or in the secondary study area are anticipated in the future without the proposed actions.

Public Policy

There would be no changes in public policy applicable to the primary or secondary study areas planned in the future without the proposed actions.

Future With the Proposed Actions (With-Action Condition)

This section describes the land use, zoning, and public policy conditions that would result from the proposed actions by 2020 and evaluates the potential for the proposed actions to result in significant adverse impacts.

Land Use

Per CEQR methodology, although changes in land use could lead to impacts in other technical areas, significant adverse land use impacts are extraordinarily rare in the absence of an impact in another technical area. Also, according to the 2014 *CEQR Technical Manual*, many land use changes may be significant, but not adverse.

In the future with the proposed actions, the development site is expected to be redeveloped with residential uses and community facility uses with a greater amount of development than would occur under the 2020 No-Action condition.

Primary Study Area

With the proposed zoning map change from R3X to R6 residential and community facility uses would continue to be permitted in the project area. The proposed R6 zoning district would allow residential uses up to a maximum FAR of 2.43 (3.6 with Inclusionary Housing Program in a Mandatory Inclusionary Housing Area) and community facilities up to 4.8 FAR.

By 2020 under the With-Action condition, it is expected that the applicant would complete the proposed development described above, which would be facilitated by the proposed actions, as previously stated.

However, while the applicant intends on developing the proposed project described above (“Scenario 1”), because the proposed actions would result in an R6 zoning district, an alternate reasonable worst-case development scenario (RWCDS) will be considered for conservative analysis purposes (“Scenario 2”). It is assumed that in the absence of the proposed development of the affordable senior DUs, the site could be redeveloped with an approximately 222,493 gsf mixed-use development that would include 159,493 gsf (155,854 zsf) of residential uses and 63,000 gsf (60,000 zsf) of community facility

uses (assumed to be medical office). The proposed development would result in 159 typical family DUs of which 40 to 48 DUs would be affordable. Approximately 230 accessory parking spaces would be accommodated in a parking garage with two levels: one at grade and one below grade with entrances along Guy R. Brewer Boulevard and 161st Street. The proposed residential portion of the building would be 14-stories with frontage along 132nd Avenue and Guy R. Brewer Boulevard and the proposed community facility portion of the building would be 7-stories with frontage along 132nd Avenue and 161st Street. In the future With-Action condition, it is assumed that the existing 12-story residential building within the rezoning area would remain. The overall FAR of the development site would be 2.73.

As shown in Table C-3, the net increment for analysis for Scenario 1 includes 135,562 gsf of senior affordable housing (130 DUs), 3,925 gsf of community facility use (senior center) and 51 accessory parking spaces.

Table C-3: Reasonable Worst Case Development Scenario for Analysis: Scenario 1

Use	No-Action	With-Action	Net Increment
Residential – Senior Affordable	92,608 gsf (111 DUs)	228,170 gsf (241 DUs)	**+135,562 gsf (130 DUs)**
Community Facility – Senior Center	0 sf	3,925 gsf	**+3,925 gsf**
Parking – Accessory	39 spaces	90 spaces	**+51 spaces**

As shown in Table C-4, the net increment for analysis for Scenario 2 includes 159,493 gsf of residential development (159 DUs), 63,000 gsf of community facility (assumed to be medical office), and 230 accessory parking spaces.

Table C-4: Reasonable Worst Case Development Scenario for Analysis: Scenario 2

Use	No-Action	With-Action	Net Increment
Residential – Senior Affordable/Multi-Family	92,608 gsf (111 Senior DUs)	252,101 (270 Senior/Multi-Family DUs)	**+159,493 gsf (159 Multi-Family DUs)**
Community Facility	0	63,000 gsf	**+ 63,000 gsf**
Parking – Accessory	39 spaces	269 spaces	**230 spaces**

Assessment

Under Scenario 1, the proposed actions would introduce residential uses on a site currently occupied by residential uses. Overall, the applicant believes that the proposed actions would serve to meet the need for affordable housing for low-income seniors in this area of the City. Additionally, the proposed actions would be consistent with the bulk, density, and use currently occupying the rezoning area and the secondary study area. The proposed actions would result in the same permitted uses as the existing R3X zoning allows.

In the instance that affordable senior housing is not developed at this site, the proposed actions have the potential to result in a mixed-use development. The potential residential and community facility uses would also complement the project area and surrounding area by creating compatible uses.

As such, the proposed actions would result in development that, in addition to being appropriate for the development site, would complement and improve the existing land use character of the secondary study area as a whole. As such, the proposed actions would not result in significant adverse impacts to land use on the development site or within the approximate 400-foot secondary study area.

Secondary Study Area

Assessment

The proposed actions would not result in significant adverse impacts to land use within the secondary study area.

Overall, the proposed actions would not adversely affect existing land use patterns and trends. The changes associated with the proposed actions would be considered beneficial, providing much needed affordable residential opportunities in this community.

Accordingly, the proposed actions would not result in significant adverse land use impacts.

Zoning

In the future with the proposed actions, the existing zoning in the primary study area (rezoning area) would change. The proposed zoning changes as a result of the proposed actions are shown in Figure C-2.

Proposed Zoning Map Changes

Assessment

As shown in Figure C-2, the proposed actions would result in a zoning map amendment to the primary study area. The existing R3X zoning designation in the rezoning area would be replaced with a R6 zoning district, which would continue to allow residential and community facility development. The rezoning area is located adjacent to an existing R6 zoning district to the east. Therefore, the proposed actions would extend the existing zoning with similar districts onto the project area. In addition, as the existing residential building on the development site is not compliant with maximum FAR regulations of the R3X district, the proposed rezoning would make this building compliant. Accordingly, the proposed actions would not result in significant adverse zoning impacts.

I. INTRODUCTION

The *City Environmental Quality Review* (CEQR) *Technical Manual* defines community facilities as public or publicly-funded facilities including schools, libraries, day care centers, health care facilities, and fire and police protection services. This attachment examines the potential effects of the proposed actions by 2020 on the capacity and provision of services by those community facilities.

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

As described in Attachment A, "Project Description," under Scenario 2 for the proposed actions, a total of 159 multi-family units would be developed in the rezoning area, in addition to community facility uses. Compared to the No-Action condition, the proposed actions would result in the incremental development of 159 dwelling units (DUs), including up to 48 affordable DUs. No community facilities are located on the project site under existing conditions. Accordingly, as there would be no direct effects to existing community facilities resulting from the proposed actions, this analysis concentrates on the potential for indirect effects.

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

As discussed in Attachment B, "Supplemental Screening," Scenario 2 exceeds the *CEQR Technical Manual* analysis thresholds in the areas of public elementary and intermediate schools. Therefore, a detailed analysis of these services is provided below. The population anticipated to be introduced as a result of the proposed actions would not exceed the *CEQR Technical Manual* thresholds requiring detailed analysis of other community facilities, including high schools, child care facilities, libraries, health care facilities, and fire and police protection services.

II. PRINCIPAL CONCLUSIONS

The proposed actions would not result in significant adverse impacts on community facilities. The 159 DUs generated under Scenario 2 are expected to generate 45 elementary school students and 19 intermediate school students in Sub-district 3 of Community School District (CSD) 27. While CSD 27, Sub-district 3 elementary schools would operate over capacity in the future with the proposed actions (115.3 percent utilization rate), as under No-Action conditions, as the proposed actions would only increase the elementary school utilization rates by 1.5 percentage points, no significant adverse elementary school impacts would result, in accordance with *CEQR Technical Manual* impact criteria. In addition, CSD 27, Sub-district 3 intermediate schools would operate below capacity in the future with the proposed actions. Therefore, the proposed actions would not result in significant adverse intermediate school impacts.

III. PUBLIC ELEMENTARY AND INTERMEDIATE SCHOOLS

Methodology

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

Based on the multipliers presented in Table 6-1a of the *CEQR Technical Manual*, the RWCDS under Scenario 2 would result in 159 incremental DUs which would generate approximately 64 new elementary and intermediate school students (45 elementary and 19 intermediate school students), which exceeds the threshold of 50 students for detailed analysis. The RWCDS under Scenario 2 would also generate an estimated 22 new high school students compared to No-Action conditions, which would not trigger the *CEQR Technical Manual* threshold of 150 students for detailed analysis of high schools. Therefore, the following schools analysis focuses on elementary and intermediate school levels only.

Pursuant to *CEQR Technical Manual* guidelines, this analysis assesses the potential effects of the proposed project on elementary and intermediate schools located within the study area, defined as Sub-district 3 of CSD 27 (see Figure D-1). Children residing in the rezoning area would most likely attend the elementary and intermediate schools in this study area. The following schools analysis presents the most recent capacity, enrollment, and utilization rates for elementary and intermediate schools in the study area. Future No-Action conditions are then predicted based on enrollment projections and proposed development projects,[1] and the future utilization rate for school facilities is calculated by adding the estimated enrollment from proposed residential developments in the schools study area to DOE's projected enrollment and then comparing that number with projected school capacity. DOE's most recent enrollment projections (Actual 2014, Projected 2015-2024) are posted on the New York City School Construction Authority's (SCA's) website.[2] In addition, any new school projects identified in the DOE 2015-2019 Five-Year Capital Plan (and/or subsequent amendments) are included if construction has begun. According to the *CEQR Technical Manual*, some schools may be included in the analysis if they are in the

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

Community Facilities: Public Schools



Legend

- Development Site
- 6 Public Elementary and Intermediate Schools
- Community Facilities Study Area
- Community School Districts (CSD)
- Community School Subdistricts

Source: NYCDCP, DoITT

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

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

Existing Conditions

Elementary Schools

As described above, elementary schools in New York City are located in geographically defined school districts. As shown in Figure D-1, the rezoning area is located within the boundaries of CSD 27, Sub-district 3. Analyzed schools located in CSD 27, Sub-district 3 serving elementary students can generally be defined by one of two categories: elementary or K-8 schools. Public elementary schools (P.S.) serve pre-kindergarten or kindergarten through 5th grades and K-8 schools serve pre-kindergarten or kindergarten through 8th grades. For analysis purposes, the elementary and the P.S. component of K-8 schools have been combined.

As shown in Figure D-1 and Table D-1, there are seven public schools located within Sub-district 3 of CSD 27 that serve elementary students, including three elementary schools serving both elementary and intermediate levels. The zoned elementary school for the project site is P.S. 45, located at 126-28 150th Street.

Table D-1 provides the existing capacity, enrollment, and utilization figures for elementary schools within Sub-district 3 of CSD 27 during the 2015-2016 academic year. As shown in Table D-1, the 7 schools within CSD 27, Sub-district 3 that serve elementary levels had a target capacity of 2,988 seats and enrollment of 3,350 students, for a utilization of approximately 112.1 percent and a shortfall of 362 seats.

Intermediate Schools

Analyzed schools located in CSD 27, Sub-district 3 serving intermediate students can generally be defined by one of three categories: intermediate, secondary, and K-8 schools. Intermediate schools (IS) serve 6th through 8th grades; secondary schools serve 6th through 12th grades; and K-8 schools serve pre-kindergarten or kindergarten through 8th grades. For analysis purposes, the intermediate and IS components of K-8 schools and secondary schools have been combined.

Table D-1 shows the existing capacity, enrollment, and utilization figures for intermediate schools within CSD 27, Sub-district 3. As shown in Table D-1, in the 2015-2016 academic year there were five public schools within the study area that served intermediate students, including two intermediate school and three schools serving both elementary and intermediate levels. The zoned intermediate schools for the project site are I.S. 226 and Hawtree Creek Middle School.

Table D-1: 2015-2016 Public Elementary and Intermediate School Enrollment, Capacity, and Utilization in CSD 27, Sub-district 3

Map No.[1]	Name	Address	Enrollment	Target Capacity	Available Seats	Utilization (%)
Elementary Schools						
1	P.S. 45	126-28 150th Street	360	404	44	89.1
2	P.S. 96	130-01 Rockaway Blvd.	309	180	-129	171.7
3	P.S. 123	145-01 119th Avenue	698	647	-51	107.9
4	P.S. 124	129-15 150th Avenue	761	530	-230	143.4
5	P.S. 124	125-20 Sutphin Avenue	50	48	-2	105.3
6	P.S. 155	130-02 115th Avenue	566	513	-53	110.3
7	P.S. 223	125-20 Sutphin Blvd.	606	666	60	91.0
Total Elementary Schools in Sub-district 3 of CSD 27			**3,350**	**2,988**	**-362**	**112.1**
Intermediate Schools						
8	P.S. 45 (I.S. Component)[2]	126-28 150th Street	31	35	4	89.1
9	P.S. 124 (I.S. Component)[2]	129-15 150th Avenue	448	313	-316	143.4
10	P.S. 124 (I.S. Component)[2]	125-20 Sutphin Avenue	30	28	-2	105.3
11	I.S. 226	121-10 Rockaway Blvd.	928	1,186	258	78.2
12	Hawtree Creek Middle School	121-10 Rockaway Blvd.	347	413	66	84.0
Total Intermediate Schools in Sub-district 3 of CSD 27			**1,784**	**1,975**	**191**	**90.4**

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

As shown in Table D-1, CSD 27, Sub-district 3 had a target capacity of 1,975 intermediate school seats in the 2015-2016 academic year and an enrollment of 1,784 students, for a total utilization of approximately 90.4 percent and 191 available seats.

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

In the 2020 future without the proposed actions, future utilization of public elementary and intermediate schools serving the study area would be affected by changes in enrollment mainly due to: (1) aging of the existing student body and new arrivals born in the area or moving to it; and (2) changes in capacity, or number of available seats, in the schools as a result of planned construction of new schools or building additions.

Capacity Changes

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

No elementary school or intermediate school capacity changes are anticipated within CSD 27, Sub-district 3 by 2020 in the future without the proposed actions.

Enrollment Changes

Estimates of future enrollment are derived from the latest available DOE enrollment projection data for CSD 27, Sub-district 3 for 2020 (Actual 2014, Projected 2015-2024). In the 2020 future without the proposed actions, DOE projections show that demand for public elementary schools in CSD 27, Sub-district 3 is expected to decrease by approximately 10.1 percent (to 3,009) and intermediate enrollment is forecasted to decrease by approximately 6.4 percent (to 1,657). The enrollment projections focus on natural growth of the City's student population and other population increases and do not account for new residential developments planned for the area (i.e., No-Action projects).

A small amount of new residential development is also planned in the study area by the analysis year of 2020. Using numbers derived from the SCA's Projected New Housing Starts for Sub-district 3 of CSD 27, approximately 22 new elementary school students and 10 new intermediate school students are expected to be added to the study area by the 2020 analysis year. As such, 2020 projected elementary and intermediate school enrollment in the future without the proposed actions would increase to 3,031 and 1,975, respectively.

Elementary Schools

As discussed above, in the 2020 future without the proposed actions, CSD 27, Sub-district 3 elementary school enrollment is expected to decrease to 3,379, while capacity will remain the same. Based on these changes, elementary schools in Sub-district 3 of CSD 27 are expected to remain operating above capacity (approximately 113.1 percent utilization), with a shortfall of 391 seats (see Table D-2).

Table D-2: 2020 No-Action Estimated Public Elementary and Intermediate School Enrollment, Capacity, and Utilization in CSD 27, Sub-district 3

	2020 Projected Enrollment[1]	Students Generated from Development in No-Action	Total Projected Enrollment in No-Action	Projected Capacity	Seats Available	Utilization (%)
Elementary Schools	3,379	22	3,401	2,988	-391	113.1
Intermediate Schools	1,657	10	1,667	1,975	308	84.4

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

Intermediate Schools

As shown in Table D-2, with no changes to CSD 27, Sub-district 3 intermediate school capacity anticipated in the 2020 future without the proposed actions and intermediate school enrollment expected to decrease to 1,667, the utilization rate for intermediate schools in CSD 27, Sub-district 3 is expected to decrease to approximately 84.4 percent, with a surplus of 308 seats.

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

As described in Attachment A, "Project Description," under Scenario 2, the proposed actions would facilitate the incremental development of 159 residential units in the rezoning area by 2020. Based on *CEQR Technical Manual* student generation rates, the estimated school age population generated by these 159 residential units would include 45 elementary school students and 19 intermediate school students.

Elementary Schools

In the future with the proposed actions, elementary schools in Sub-district 3 of CSD 27 would continue to operate above capacity as under No-Action conditions. As shown in Table D-3, the addition of 45 elementary school students generated by the proposed actions would increase the utilization by approximately 1.5 percentage points to 115.3 percent. The proposed actions would somewhat exacerbate the projected 2020 overcrowded conditions in elementary schools in Sub-district 3 of CSD 27. However, the *CEQR Technical Manual* states that if the impact assessment finds that if a proposed actions would cause an increase in utilization of less than five percent in a sub-district, no significant impact would occur. As the proposed actions would generate 45 elementary school students and would result in an increase of only 1.5 percentage points over the No-Action condition, no significant adverse impacts on elementary schools would result, per the criteria of the *CEQR Technical Manual*.

Table D-3: 2020 With-Action Estimated Public Elementary and Intermediate School Enrollment, Capacity, and Utilization for CSD 27, Sub-district 3

	2020 No-Action Total Projected Enrollment	New Students Generated by Proposed Actions	Total Future With-Action Projected Enrollment	Projected Capacity	Seats Available	Utilization (%)	Increase in Utilization (%) from No-Action condition
Elementary Schools	3,379	45	3,424	2,988	-458	115.3	+1.5
Intermediate Schools	1,667	19	1,686	1,975	289	85.4	+1.0

Intermediate Schools

As shown in Table D-3, the addition of 19 intermediate school students to CSD 27, Sub-district 3 would increase intermediate school enrollment to 1,686 in the With-Action condition. As under No-Action conditions, CSD 27, Sub-district 3 intermediate schools would operate below capacity, with the proposed actions expected to increase the study area intermediate school utilization by 1.0 percentage points to 85.4 percent. There would be a surplus of 289 seats in the future with the proposed actions.

As the *CEQR Technical Manual* states that if the impact assessment finds that if a proposed actions would cause an increase in utilization of less than five percent in a sub-district, no significant impact would occur. As the proposed actions would generate 19 intermediate school students and would result in an increase of only 1.0 percentage points over the No-Action condition, no significant adverse impacts to intermediate schools would occur, per the criteria of the *CEQR Technical Manual*.

I. INTRODUCTION

An open space assessment may be necessary if a proposed action could potentially have a direct or indirect effect on open space resources in the project area. A direct effect would "physically change, diminish, or eliminate an open space or reduce its utilization or aesthetic value." An indirect effect may occur when the population generated by a proposed action would be sufficient to noticeably diminish the ability of an area's open space to serve the existing or future population. According to the guidelines established in the 2014 *CEQR Technical Manual,* if a project site is located in an area considered neither well-served nor underserved by open space, an analysis of indirect effects on open space is warranted if a proposed action would add more than 200 residents and/or 500 employees. The rezoning area is located in an area considered to be neither well-served nor underserved by open space.

The proposed development of a 129 DUs of senior affordable housing would not exceed the CEQR threshold for an analysis of open space (Scenario 1). As discussed in detail in Attachment A, "Project Description," an alternate mixed-use scenario that could result in 159 residential multi-family dwelling units and 63,000 gsf of community facility use is also being considered for conservative analysis purposes (Scenario 2). Under Scenario 2, approximately 500 new residents and 250 new employees would be introduced to the area as result of the proposed actions.[1]

Although the Scenario 2 would not have a direct effect on existing open space resources in the area, it is expected to introduce approximately 500 new residents, exceeding the 2014 *CEQR Technical Manual* threshold for open space analysis. A quantitative assessment was conducted to determine whether the proposed actions would significantly reduce the amount of open space available for the area's residential population. As the proposed actions would not result in 500 or more workers, the analysis of open space will focus exclusively on the open space needs of the study area's residential population.

II. PRINCIPAL CONCLUSIONS

According to the 2014 *CEQR Technical Manual*, a proposed action may result in a significant adverse impact on open space resources if (a) there would be direct displacement/alteration of existing open space within the study area that has a significant adverse effect on existing users; or (b) it would reduce the open space ratio and consequently overburden existing facilities or further exacerbate deficiency in open space. The 2014 *CEQR Technical Manual* also states that "if the area exhibits a low open space ratio indicating a shortfall of open space, even a small decrease in the ratio as a result of the action may cause an adverse effect." A five percent or greater decrease in the open space ratio is considered to be "substantial", and a decrease of less than one percent is generally considered to be insignificant unless open space resources are extremely limited. The open space study area analyzed in this attachment is located in an area that is not considered underserved or well-served by open space as defined in the 2014 *CEQR Technical Manual Appendix: Open Space Maps*.

1 Based on 3.14 persons/household in Queens CD 12 (2010 Census) and 4 employees per 1,000 sf/office

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

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

- If the decrease in the open space ratio approaches or exceeds five percent, it is generally considered to be a substantial change warranting more detailed analysis.
  - The closer the ratio is to 2.5 acres per 1,000 residents, or when the open space in the area exceeds this ratio, a greater percentage of change (more than five percent) may be tolerated.
- If the study area exhibits a low open space ratio (e.g., below the citywide average of 1.5 acres per 1,000 residents or 0.15 acres of passive space per 1,000 nonresidential users), indicating a shortfall.

As discussed in detail below, the preliminary open space assessment shows that the proposed actions would decrease the open space ratio by 1.7 percent in the study area, which would be below the CEQR threshold of five percent for a detailed analysis. In addition, as noted above, the proposed actions would not result in any direct displacement or alteration of existing public spaces in the study area. Therefore, the proposed actions would not result in a significant adverse open space impact.

III. OPEN SPACE STUDY AREA AND METHODOLOGY

The analysis of open space resources has been conducted in accordance with the guidelines established in the 2014 *CEQR Technical Manual*. Using 2014 CEQR methodology, the adequacy of open space in the study area is assessed quantitatively using a ratio of usable open space acreage to the study area population, referred to as the open space ratio. In addition, qualitative factors are considered in making an assessment of the proposed action's effects on open space resources.

In accordance with the guidelines established in the 2014 *CEQR Technical Manual,* the open space study area is generally defined by a reasonable walking distance that users would travel to reach local open space and recreational resources. That distance is typically a half-mile radius for residential projects.

Open Space Study Area

Pursuant to 2014 CEQR guidelines, the residential open space study area includes all census tracts that have at least 50 percent of their area located within half-mile of the proposed rezoning area and all open

spaces within it that are publicly accessible. As described above, residents typically walk up to a half-mile for recreational spaces.

As shown in Figure E-1, the open space study area includes the following four Queens census tracts: 284, 288, 294, and 334.02.

Analysis Framework

Direct Effects Analysis

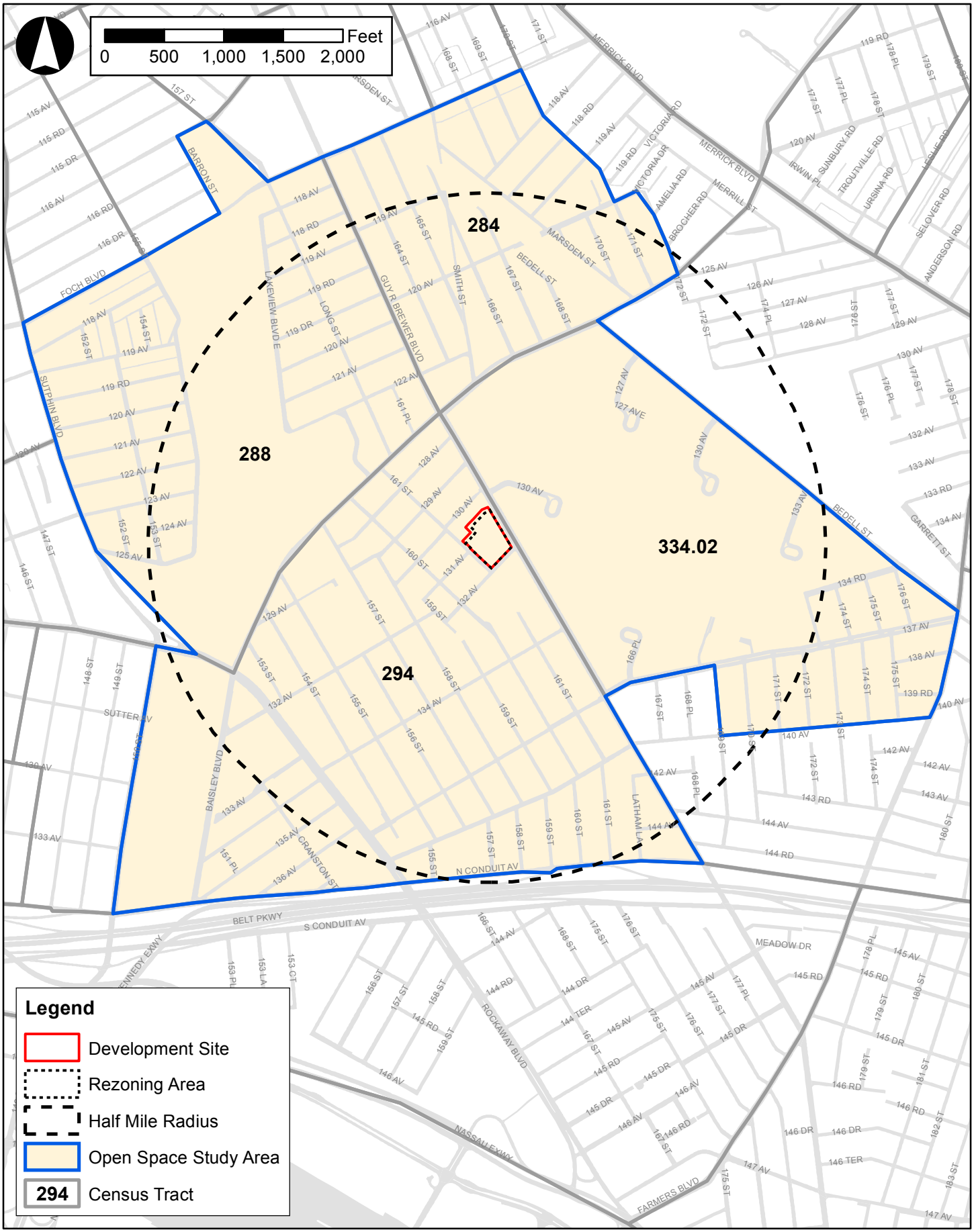
According to the 2014 *CEQR Technical Manual*, a proposed action would have a direct effect on an open space if it causes the physical loss of public open space because of encroachment onto the space or displacement of the space; changes the use of an open space so that it no longer serves the same user population; limits public access to an open space; or causes increased noise or air pollutant emissions, odors, or shadows that would affect its usefulness, whether on a permanent or temporary basis. As there are no publicly-accessible open spaces within the rezoning area, the proposed actions would not have any direct effect and no further analysis is warranted.

Indirect Effects Analysis

Indirect effects occur to an area's open spaces when a proposed action would add enough population, either workers or residents, to noticeably diminish the ability of an area's open space to serve the existing or future population. The 2014 *CEQR Technical Manual* methodology suggests conducting an initial quantitative assessment to determine whether more detailed analyses are appropriate.

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

- Characteristics of the open space users: residents. To determine the number of residents in the study area, 2011-2015 five-year ACS census data have been compiled for census tracts comprising the open space study area along with population projections of large residential developments completed since the 2011-2015 5-year ACS census data. In addition, a 0.25 percent per year (2015-2016) background growth rate is applied to the 2015 population to account for general increases in population and smaller developments not identified individually.
- An inventory of all publicly accessible passive and active recreational facilities in the open space study area.
- An assessment of the quantitative ratio of open space in the study area by computing the ratio of open space acreage to the population in the study area and comparing this open space ratio with certain guidelines. The New York Department of City Planning (DCP) generally recommends a comparison to the median ratio for community districts in New York City, which is 1.5 acres of open space per 1,000 residents.
- An evaluation of qualitative factors affecting open space use.


Feet
0 500 1,000 1,500 2,000
284
288
294
334.02
Legend
Development Site
Rezoning Area
Half Mile Radius
Open Space Study Area
294 Census Tract

- A final determination of the adequacy of open space in the open space study area.

IV. PRELIMINARY ASSESSMENT

According to the 2014 *CEQR Technical Manual*, an initial quantitative open space assessment may be useful to determine if a detailed open space analysis is necessary, or whether the open space assessment can be targeted to a particular user group. This initial assessment calculates an open space ratio by relating the existing residential population to the total open space in the study area. It then compares that ratio with the open space ratio in the future with the proposed action. If there is a decrease in the open space ratio that would approach or exceed five percent, a detailed analysis is warranted.

Pursuant to the guidelines of the 2014 *CEQR Technical Manual,* a preliminary open space assessment was conducted which provides a comparison of the total existing open space ratios and in the future with the proposed actions.

Existing Conditions

Demographic Characteristics of the Study Area

To determine the residential population served by existing open space resources, 2011-2015 five-year ACS census data were compiled for the census tracts comprising the half-mile study area and updated to 2016. With an inventory of available open space resources and the number of potential users, open space ratios were calculated and compared with existing citywide averages and planning goals set forth by DCP. Table E-1 shows the 2011-2015 five-year ACS census total population figures for each census tract in the study area, as well as for the study area as a whole. As shown in Table E-1 below, the census data indicate that the study area had a total residential population of approximately 28,948 people in 2014. Factoring in a yearly background growth factor of approximately 0.25 percent, the residential population of the study area totals approximately 29,020 people in 2016.

Table E-1: 2016 Existing Study Area Population

Census Tract	Residential Population
284	4,367
288	4,693
294	6,827
334.02	13,061
Residential Total in 2015 *Source: U.S. Census*	28,948
Background Growth (0.5%-year growth since 2015)	72
Residential Total in 2016	**29,020**

Inventory of Publicly-Accessible Open Space

According to the 2014 *CEQR Technical Manual*, open space may be public or private and may be used for active or passive recreational purposes. Pursuant to the 2014 *CEQR Technical Manual*, public open space is defined as facilities open to the public at designated hours on a regular basis and is assessed for impacts under 2014 CEQR guidelines, whereas private open space is not accessible to the general public on a regular basis, and is therefore only considered qualitatively. Field surveys and secondary sources were used to determine the number, acreage, and type of publicly accessible open space resources in the residential study area.

An open space is determined to be active or passive by the uses which the design of the space allows. Active open space is the part of a facility used for active play such as sports or exercise and may include playground equipment, playing fields and courts, swimming pools, skating rinks, golf courses, lawns and paved areas for active recreation. Passive open space is used for sitting, strolling, and relaxation, and typically contains benches, walkways and picnicking areas. However, some passive spaces can be used for both passive and active recreation; such as a green lawn or riverfront walkway, which can also be used for ball playing, jogging or rollerblading.

Within the defined study area, all publicly-accessible open spaces were inventoried and identified by their location, size, owner, type, equipment, and hours of operation. The information used for this analysis was gathered from the New York City Department of Parks and Recreation's (DPR) website; and from the New York City Oasis database and other secondary sources of information including previous CEQR environmental reviews. Figure E-2 maps their location in the study area.

As shown in Figure E-2, publicly-accessible open space and recreational resources within the half-mile study area are included in the quantitative analysis. These resources comprise a total of approximately 120.5 acres, with approximately 64.72 acres of passive open space and 55.68 acres of active open space (refer to Table E-2). The closest public open spaces to the project site are Baisley Pond Park and Rochdale Park (#1 and #3 in Figure E-2).


Feet
0 500 1,000 1,500 2,000
1
2
3
4
Legend
Development Site
Rezoning Area
Half Mile Radius
Open Space Study Area
Open Space Resources
MARSDEN ST
BEDELL ST
GARRETT ST
N CONDUIT AV
S CONDUIT AV
BELT PKWY
NASSAU EXWY
SUTTER AV
MERRICK BLVD
MERRILL ST
FOCH BLVD
SUTPHIN BLVD
LAKEVIEW BLVD E
GUY R BREWER BLVD
BAISLEY BLVD
ROCKAWAY BLVD
FARMERS BLVD
MEADOW DR
LATHAM LA
CRANSTON ST
LONG ST
SMITH ST
BARRON ST
VICTORIA DR
AMELIA RD
BROCHER RD
IRWIN PL
SUNBURY RD
TROUTVILLE RD
URSINA RD
LESLIE RD
SELOVER RD
ANDERSON RD

Table E-2: Inventory of Existing Study Area Public Open Spaces

Map No.	Name	Address/ Location	Owner	Features	Hours of Access	Total Acres	Active		Passive	
							#	%	#	%
1	Baisley Pond Park	N. Conduit Ave., 116th Ave. bet. 150th St., Sutphin Blvd., and Baisley Blvd. S.	DPR	Barbecuing Areas, Baseball Fields, Basketball Courts, Bathrooms, Bicycling and Greenways, Cricket Fields, Dog-friendly Areas, Fishing Areas, Fitness Equipment, Football Fields, Handball Courts, Playgrounds, Running Tracks, Soccer Fields, Spray Showers, Tennis Courts	Dawn to Dusk	109.6	54.8	50%	54.8	50%
2	North Rochdale Playground	Baisley Blvd. 168th St. and Bedell St.	DPR	Basketball Courts, Bathrooms, Handball Courts, Playground, Spray Showers	Dawn to Dusk	1.1	1.1	100%	0.0	0%
3	Rochdale Park	Guy R. Brewer Blvd. bet. 130th Ave. and 137th Ave.	DOE/DPR	Baseball Fields, Bathrooms, Handball Courts, Playgrounds, Recreation Centers, Spray Showers, Tennis Courts	Dawn to Dusk	8.8	7.92	90%	0.88	10%
4	South Rochdale Park	134th Rd. and 173rd St.	DPR	Basketball Courts, Fitness Equipment, Handball Courts, Playgrounds, Spray Showers	Dawn to Dusk	0.9	0.9	100%	0.00	0%
					TOTAL	**120.5**	**64.72**	**54%**	**55.68**	**46%**

Quantitative Analysis of Open Space Adequacy

The following analysis of the adequacy of open space resources within the study area takes into consideration the ratios of active, passive, and total open space resources per 1,000 residents.

As 1.5 acres of total open space per 1,000 residents is the median community district ratio in New York City, it generally represents adequate open space conditions and is used as the CEQR standard for this project. As an optimal planning goal, the City tries to achieve an overall residential open space ratio (OSR) of 2.5 acres per 1,000-population (80 percent active and 20 percent passive) for large-scale plans and proposals. However, this goal is often not feasible for many areas of the City (especially higher density areas), but serves as a benchmark that represents an area that is well served by open spaces.

In calculating the open space ratio per 1,000-user population for the study area, all of the resources listed in quantitative portion of Table E-2 were included. Table E-3 below shows that with an existing 2016 study area residential population of approximately 29,020 people, the existing total open space ratio in the study area is approximately 4.15 acres of open space per 1,000 residents. The study area has 1.91 acres of passive open space per 1,000 residents, and 2.23 acres of active open space per 1,000 residents.

Table E-3: Analysis of Adequacy of Open Space Resources in the Study Area under 2016 Existing Conditions

Study Area	**2016 Existing Conditions**
Residential Population	**29,020**
Passive Open Space Acreage	55.68
Active Open Space Acreage	64.72
Total Open Space Acreage	120.5
Open Space Ratios	
Passive	1.91
Active	2.23
Total	**4.15**

Based on the previously mentioned DCP guidelines, the half-mile study area is located within an area that is considered neither well-served nor underserved by open space, but the study area exhibits a high open space ratio, compared to the city-wide median ratio of 1.5 acres per 1,000 persons and the planning goal of 2.5 acres per 1,000 persons (0.5 acres of passive space and 2.0 acres of active space).

Future With the Proposed Actions

Rezoning Area and Study Area Population

According to the 2014 *CEQR Technical Manual*, for a preliminary assessment, the population expected with the proposed actions should be added to the existing population within the study area to determine the open space ratio in the future with the proposed actions. Scenario 2 would result in 159 dwelling units which would introduce approximately 500 new residents to the study area in the future with the proposed actions. As a result, the total study area population in the 2020 With-Action conditions would be 29,520.

Open Space Resources

The proposed actions would not result in the creation of any publicly accessible open space resources.

With-Action Open Space Ratio

The total open space ratio in the future with the proposed actions would be 4.08 acres per 1,000 residents, this represents a decrease of 0.07 acres of open space per 1,000 residents (a -1.7 percent change) over existing conditions (see Table E-5). The active open space ratio in the future with the proposed actions would be 2.19 acres per 1,000 residents, this represents a decrease of 0.04 acres of open space per 1,000 residents (a -1.8 percent change) over existing conditions. The passive open space ratio would be 1.89 acres per 1,000 residents in the future with the proposed actions, this represents a decrease of 0.02 acres of open space per 1,000 residents (a -1.0 percent change) over existing conditions. In the future with the proposed actions, the open space ratio remains above the recommended planning goal of 2.5 acres of open space per 1,000 residents and the city-wide median of 1.5 acres of open space per resident.

Table E-5: 2020 Future with the Proposed Actions: Open Space Ratios Summary

		Open Space Acreage			Open Space Ratio per 1,000 people		
Study Area Residential Population		**Total**	**Active**	**Passive**	**Total**	**Active**	**Passive**
Existing (2016)	29,020	120.5	64.72	55.68	4.15	2.23	1.91
With-Action	29,520	120.5	64.72	55.68	4.08	2.19	1.89
Percent Change Existing to With-Action	+ 1.7 %	0.0%	0.0%	0.0%	-1.7%	-1.8%	-1.0%
				OPEN SPACE GUIDELINE	2.5	2.0	0.5

Assessment

The preliminary open space analysis shows that the proposed actions would decrease the overall open space ratio by 1.7 percent in the study area, which would be well below the CEQR impact threshold of five percent. As discussed above, if the preliminary open space assessment concludes that the open space ratio would increase or remain substantially the same in the With-Action condition compared to the existing condition, no further analysis of open space is needed. Because the project area is not located in an area underserved by open space and the open space ratio in the study area would remain substantially the same as a result of the proposed project, no further analysis of open space is necessary. Additionally, as noted above, the proposed actions would not result in any direct displacement or alteration of existing public spaces in the study area. Therefore, the proposed actions would not result in a significant adverse open space impact.

I. INTRODUCTION

The *City Environmental Quality Review* (CEQR) *Technical Manual* states that the urban design components and visual resources determine the "look" of a neighborhood—its physical appearance, including the street pattern, the size and shape of buildings, their arrangement on blocks, streetscape features, natural resources, and noteworthy views that may give an area a distinctive character. Pursuant to CEQR methodology, actions that would allow a project to potentially obstruct view corridors, compete with icons in the skyline, or make substantial alterations to the streetscape of a neighborhood by noticeably changing the scale of buildings may warrant a detailed urban design and visual resources analysis. The proposed actions includes the rezoning of an R3X residential district to a R6 residential district, which would result in a development that would differ from what is permitted as-of-right, and as such, an analysis of urban design and visual resources is appropriate.

The proposed zoning map change would replace the existing R3X zoning district within the proposed rezoning area with an R6 zoning district. As discussed in Attachment A, "Project Description," the applicant is proposing a 10-story affordable senior residential annex on the development site (Scenario 1). Upon approval of the proposed actions, the existing 12-story building would remain while a new 10-story annex would be constructed on a new tax lot to be created at the southern portion of the development site. The new building on the development site will contain approximately 139,487 gsf (128,078 zsf). The existing 12-story residential building on the development site would remain in the future with the proposed actions. With the existing residential building, the proposed development would include a total of approximately 232,095 gsf (218,959 zsf) of total floor area with a combined 241 DUs. The total overall FAR on the zoning lot would be 1.94, below the maximum permitted blended FAR of 2.18. The proposed 10-story annex would include a total of 129 DUs (with 1 additional apartment for a resident superintendent) with 100% of the residential floor area dedicated to affordable housing (129 DUs). As part of the proposed development, a total of 90 accessory parking spaces would be provided on-site; 85 spaces provided for 35 percent of the 241 DUs and five additional spaces for senior center employees. Access to the parking lot would be via 161st Street.

It is assumed that in the absence of the proposed development of the affordable senior DUs, the site could be redeveloped with an approximately 222,493 gsf mixed-use development that would include 159,493 gsf (155,854 zsf) of residential uses and 63,000 gsf (60,000 zsf) of community facility uses (assumed to be medical office) (Scenario 2). The proposed development would result in 159 typical family DUs of which 25% to 30% would be affordable (40 to 48 DUs). Scenario 2 would include 230 accessory parking spaces and parking would be accommodated in a parking garage with two levels: one at grade and one below grade with entrances along Guy R. Brewer Boulevard and 161st Street. The proposed residential portion of the building would be 14-stories (137') with frontage along 132nd Avenue and Guy R. Brewer Boulevard and the proposed community facility portion of the building would be 7-stories (73') with frontage along 132nd Avenue and 161st Street. In the future With-Action condition, it is assumed that the existing 12-story residential building within the rezoning area would remain. The overall FAR of the development site would be 2.73.

As Scenario 2 would result in a larger development than Scenario 1, Scenario 2 is analyzed for potential urban design and visual resources impacts for conservative analysis purposes.

This attachment considers the potential for the proposed actions to affect the urban design characteristics and visual resources of the project area and the study area. As described in Attachment A, "Project Description," the rezoning area encompasses a portion of Lot 1 on Block 12277 in the Rochdale/Springfield Gardens neighborhood of Queens Community District (CD) 12 (see Figures F-1 and F-2). The technical analysis presented below follows the guidelines of the *CEQR Technical Manual* and addresses each of the above-listed characteristics for existing conditions, the future without the proposed actions (the No-Action conditions), and the future with the proposed actions (the With-Action conditions) for a 2020 Build Year.

II. PRINCIPAL CONCLUSIONS

Urban Design

The proposed zoning map change would replace the existing R3X residential zoning district within the proposed rezoning area with a R6 residential zoning district. Development facilitated by the proposed actions would not result in significant adverse impacts on urban design as defined by the guidelines for determining impact significance set forth in the 2014 *CEQR Technical Manual*. In the future with the proposed actions, the visual appearance on the development site would be enhanced and thus the pedestrian experience of the development site would change somewhat; however, this change would not meet the 2014 *CEQR Technical Manual* threshold for a significant adverse urban design impact in that it would not alter the arrangement, appearance, or functionality of the development site such that the alteration would negatively affect a pedestrian's experience of the area.

Visual Resources

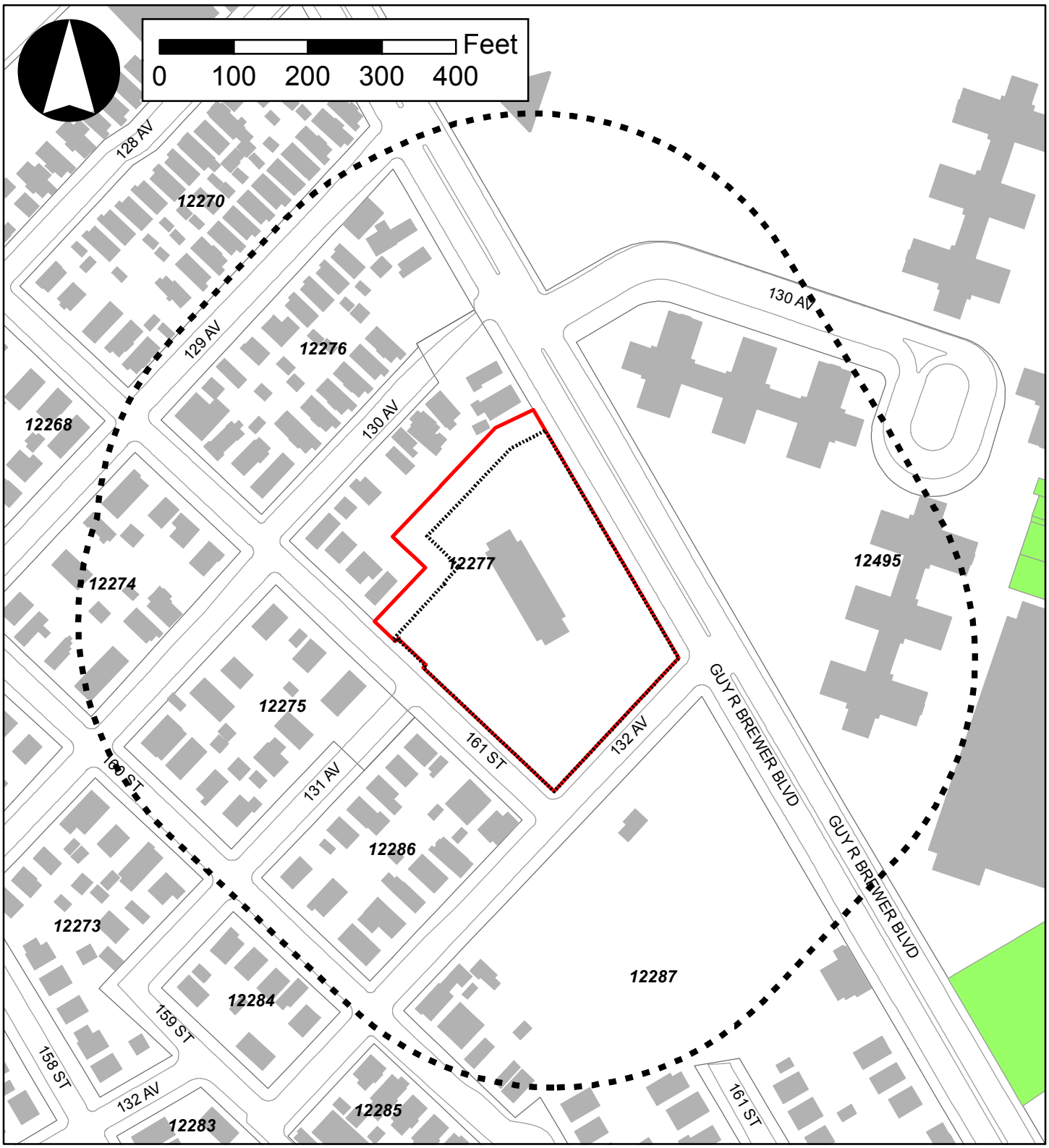
There are no visual resources that can be seen from the rezoning area. The proposed development under Scenario 2 would not obstruct or eliminate any public views or affect any existing view corridors or views to visual resources in the study area. As such, the proposed actions would not result in any significant adverse impacts to visual resources.

III. METHODOLOGY

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

- *Street Pattern and Streetscape*—the arrangement and orientation of streets define location, flow of activity, and street views and create blocks on which buildings and open spaces are arranged. Other elements including sidewalks, plantings, street lights, curb cuts, and street furniture also contribute to an area's streetscape.
- *Buildings*—building size, shape, pedestrian and vehicular entrances, lot coverage and orientation to the street are important urban design components that define the appearance of the built environment.

Figure F-1
Urban Design Study Area



Legend

- Development Site
- 400-Foot Radius
- 12277 Tax Blocks
- Rezoning Area
- Building Footprints
- Open Space

Source: NYCDCP, DoITT

Figure F-2
Aerial View of Study Area



Legend

Development Site
400-Foot Radius
Rezoning Area

Source: NYCDCP, DoITT, Google Maps

- *Open Space*—open space includes public and private areas that do not include structures, including parks and other landscaped areas, cemeteries, and parking lots.
- *Natural features*—natural features include vegetation and geologic and aquatic features that are natural to the area.
- *View Corridors and Visual Resources*—visual resources include significant natural or built features, including important view corridors, public parks, landmark structures or districts, or otherwise distinct buildings.
- *Wind* – Channelized wind pressure from between tall buildings and downwashed wind pressure from parallel tall buildings may cause winds that may jeopardize pedestrian safety.

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

Per criteria of Section 230 of the 2014 *CEQR Technical Manual*, a wind condition analysis is not warranted for the proposed actions. The proposed rezoning area is not located in a high wind location, such as directly along the waterfront, nor is it in a location where wind conditions from the waterfront are not attenuated by buildings or natural features. The rezoning area is approximately 3 miles from Jamaica Bay. Under Scenario 2, the proposed actions could result in a mixed-use building ranging in height between 73-137 feet. The development under Scenario 2 would be at a scale appropriate for the area, which conforms to the existing built context.

Study Area

The urban design study area consists of both a primary study area, which is coterminous with the boundaries of the rezoning area, where the urban design effects of the proposed action are direct, and a secondary study area (refer to Figure F-1). For the purpose of this assessment, the primary study area consists of the proposed rezoning area. The secondary study area extends an approximate 400-feet from the boundary of the rezoning area and encompasses areas that have the potential to experience indirect impacts as a result of the proposed actions. It is generally bounded by 160th Street to the west, 132nd Avenue to the south, 129th Avenue to the north, and Guy R. Brewer Boulevard to the east. Both the primary and secondary study areas have been established in accordance with 2014 *CEQR Technical Manual* guidelines.

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

IV. PRELIMINARY ASSESSMENT

Pursuant to CEQR, a preliminary assessment of urban design is appropriate when there is the potential for a pedestrian to observe from the street level a physical alteration beyond that allowed by existing zoning. CEQR further stipulates a detailed analysis is warranted for projects that would result in substantial alterations to the streetscape of the neighborhood by noticeably changing the scale of buildings. According to the 2014 *CEQR Technical Manual*, detailed analyses are generally appropriate for

area-wide rezonings that include an increase in permitted floor area or changes in height and setback requirements. The increased scale, both in terms of bulk and height on the development site would be a notable change from the pedestrian's perspective to the appearance and character of the development site compared to the No-Action conditions. The visual appearance would be enhanced and thus the pedestrian experience of the development site would change somewhat; however, this change would not meet the *CEQR Technical Manual* threshold for a significant adverse urban design impact in that it would not alter the arrangement, appearance, or functionality of the development site such that the alteration would negatively affect a pedestrian's experience of the area. As such, it would not result in a substantial alteration to the streetscape of the neighborhood, and therefore, a preliminary analysis of urban design has been conducted and is provided below.

Existing Conditions

Primary Study Area (Rezoning Area)

The proposed development site comprises approximately 113,133-square feet (sf) on one lot (Block 12277, Lot 1), which is owned by the applicant and bounded by Guy R. Brewer Boulevard to the east, 132nd Avenue to the south, and 161st Street to the west. The proposed R6 district would be mapped on a portion of Lot 1 (approximately 98,400 sf). An approximate 35 foot buffer area would be created along the northern portion of Lot 1 which would remain R3X (14,733 sf).

As shown in Figure F-3 and described in Table F-1, area Lot 1 includes a 12-story residential building and at grade parking for 45 accessory spaces.

Table F-1: Existing Uses within the Primary Study Area (Development Site)

Block/Lot	Lot Area (sf)	Building Area (zsf)	FAR	Land Use
12277/ Lot 1	113,133	90,881	0.8	Residential

The 12-story building located on the development site was developed under the R3-2 zoning district in 1979 and contains 12-stories at a height of 110 feet and 90,881 square feet of floor area (0.80 FAR). The development site contains 110 AIRS units and one superintendent unit and was constructed under HUD's Section 202 Supportive Housing for the elderly loan program, which serves persons over the age of 62 and the mobility impaired. The existing tower covers only 7% of the zoning lot, with the remaining area devoted to an accessory parking lot containing 45 spaces and open space, made accessible from a single driveway along 132nd Avenue with a single 30-foot-wide curb cut. The remainder of the property contains landscaped areas.

The development site is situated along Guy R. Brewer Boulevard, which is an arterial thoroughfare that runs north-south and connects South Jamaica with the Belt Parkway. Guy R. Brewer Boulevard is classified as a 'wide' street with 100 feet in width. The development site also contains frontage along 132nd Avenue and 161st Street, which are both classified as 'narrow' streets with 60 and 50 feet in width, respectively.



1. View of Guy R Brewer Boulevard facing southeast (Site at right).



2. View the Site facing southwest from Guy R Brewer Boulevard.



3. View the Site facing northwest from Guy R Brewer Boulevard.



Urban Design

Street Pattern and Streetscape

Under existing conditions, pedestrian and vehicular flow around the rezoning area is light. There is a typical street grid pattern in the immediate vicinity of the rezoning area. There is iron fencing that surrounds the development site along Guy R. Brewer Boulevard, 132nd Avenue, and 161st Street. Streetscape elements are minimal and are limited standard street signs, cobra head lampposts, utility wires, fire hydrants, and telephone poles (see Figures F-3 through F-5). There are several street trees along all three frontages of the development site. A concrete median along Guy R. Brewer Boulevard divides northbound and southbound travel lanes.

Buildings

The development site is occupied by a 12-story residential building (see Figures F-3 through F-5). The existing buildings comprise a total of approximately 90,881 zsf for a total built FAR of approximately 0.8.

Natural Features and Open Space

There are no natural features located within the proposed rezoning area. The existing building covers only 7% of the zoning lot, with the remaining area devoted to an accessory parking lot containing 45 spaces, made accessible from a single driveway along 132nd Avenue with a single 30-foot-wide curb cut. The remainder of the development site contains landscaped areas.

View Corridors and Visual Resources

There are no visual resources that can be seen from the primary study area.

Secondary Study Area

Urban Design

Street Pattern and Streetscape

The street pattern in the study area is composed of rectilinear blocks with a street grid system. Guy R. Brewer Boulevard is the major two-way arterial in the study area that connects to the Belt Parkway to the south of the secondary study area. All of the local streets within the secondary study area accommodate two-way traffic.

Buildings

Table C-2 in Attachment C, "Land Use, Zoning, and Public Policy," summarizes the existing generalized land uses within the land use study area by tax lots and land area. Overall, as reflected in the table and in Figures F-6 through F-10, the secondary study area contains primarily low-density one-and two-family residential development in the northern, southern, and western portion of the study area (see Figures F-6 and F-7) and larger multi-family elevator residential in the eastern portion of the study area, across Guy R. Brewer Boulevard. In the eastern portion of the study area is the western edge of Rochdale Village, a large development built in a towers-in-a-park plan as a 120-acre "city within a city" modernist



4. View the Site facing west from the intersection of Guy R Brewer Boulevard and 132nd Avenue..



5. View of the Site facing northwest from 132nd Avenue.



6. View of the Site facing north from the intersection of 132nd Avenue and 161st Street.





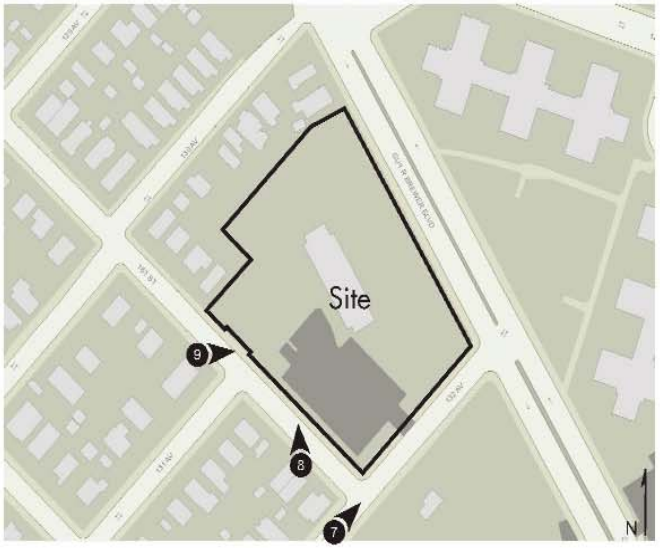
7. View of 161st Street facing northeast (Site at left).



8. View of the Site facing north from 161st Street.



9. View of the Site facing southeast from 161st Street.





10. View of 161st Street facing southeast (Site at left).



11. View of the sidewalk along the east side of 161st Street facing southeast (Site at left).



12. View of the intersection of 131st Avenue and 161st Street facing west from the Site.





13. View of 161st Street facing south from the Site.



14. View of the sidewalk along the east side of 161st Street facing northwest (Site at right).



15. View of 132nd Avenue facing south from the Site.





16. View of the sidewalk along the north side of 132nd Street facing northeast (Site at left).



17. View of 132nd Street facing southeast from the Site.



18. View of the sidewalk along the north side of 132nd Street facing southwest (Site at right).





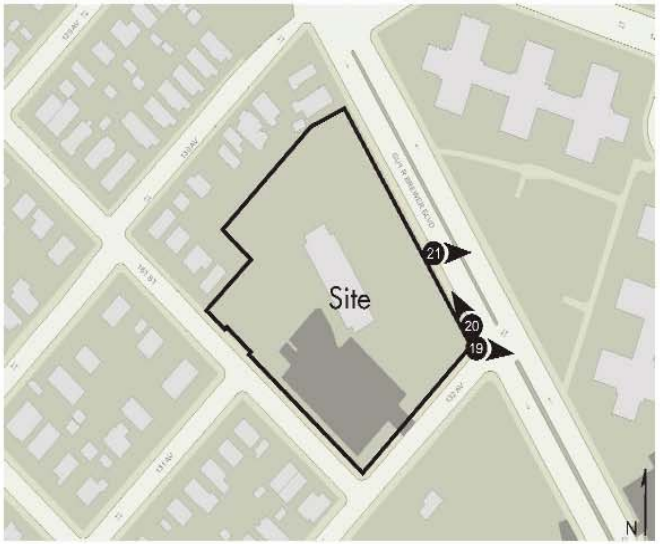
19. View of the intersection of Guy R Brewer Boulevard and 132nd Avenue facing east from the Site.



20. View of the sidewalk along the west side of Guy R Brewer Boulevard facing northwest (Site at left).



21. View of Guy R Brewer Boulevard facing east from the Site.





22. View of Guy R Brewer Boulevard facing northeast from the Site.



23. View of the sidewalk along the west side of Guy R Brewer Boulevard facing southeast (Site at right).



24. View of the Site facing southwest from Guy R Brewer Boulevard.



development in the early 1960s (see Figures F-8 through F-10). Rochdale Village is a limited-equity Mitchell-Lama cooperative complex consisting of twenty 14-story apartment buildings with a total of approximately 5,860 DUs. The Rochdale Village superblock also contains two shopping centers, three schools, parks and playgrounds, parking, and acres of private open spaces. The zoning lot containing the residential and commercial retail area of Rochdale Village consists of 6,940,450 square feet of floor area (1.49 FAR).

Natural Features and Open Space

There are no natural features located within the secondary study area. Located directly to the south of the rezoning area, across 132nd Avenue, is an approximately 300,000 square foot lot which is owned by the New York City Department of Environmental Protection (DEP) and contains a subsurface water supply tank, which was formerly owned by the Jamaica Bay Water Supply Company and has been decommissioned for over 11 years (see Figure F-8). The lot contains a landscaped open space area in addition to the subsurface water supply tank. The property is surrounded by a chain link fence topped with barbed wire.

As mentioned above, to the east of Guy R. Brewer Boulevard is the Rochdale Village superblock. Rochdale Village contains both publicly accessible parks and playgrounds in addition to acres of privately landscaped open spaces.

View Corridors and Visual Resources

There are no visual resources that can be seen from the secondary study area.

Future without the Proposed Actions (No-Action Conditions)

Primary Study Area (Rezoning Area)

It is anticipated that the proposed development site would remain in its current condition in the future without the proposed actions. In absence of the proposed actions, therefore, the proposed development site would continue to be occupied by a 12-story residential building with a total of 111 DUs and 45 surface parking spaces. As the FAR of the development site is 0.8, it would continue to remain noncompliant with the existing maximum permitted FAR of 0.6 in the R3X zoning district.

Secondary Study Area

Secondary Study Area

There are no known developments to be completed within the 400-foot study area by the analysis year of 2020.

Future with the Proposed Actions (With-Action Conditions)

This section describes the effects of the proposed action on the urban design and visual resource conditions in the area by 2020 and evaluates the potential for the proposed actions to result in significant adverse impacts. As discussed above, because Scenario 2 would result in a larger

development than Scenario 1, Scenario 2 is analyzed for its potential to result in significant adverse urban design and visual resources impacts.

Primary Study Area (Rezoning Area)

The underlying zoning of the primary study area is residential and the area contains an existing 12-story residential building that would remain in the future with the proposed actions. Under Scenario 2, in the future with the proposed actions, a mixed-use building ranging in height between 73 to 137 feet could be developed on the development site.

Urban Design

Street Pattern and Streetscape

The proposed actions would not result in changes to the streetscape or the arrangement or orientation of streets within this analysis area.

Buildings

It is assumed that in the absence of the proposed development of the affordable senior DUs, the site could be redeveloped with an approximately 222,493 gsf mixed-use development that would include 159,493 gsf (155,854 zsf) of residential uses and 63,000 gsf (60,000 zsf) of community facility uses (assumed to be medical office). The proposed development would result in 159 typical family DUs of which 40 to 48 DUs would be affordable. Approximately 230 parking spaces would be provided. Parking would be accommodated in a parking garage with two levels: one at grade and one below grade with entrances along Guy R. Brewer Boulevard and 161st Street. The proposed residential portion of the building would be 14-stories (137') with frontage along 132nd Avenue and Guy R. Brewer Boulevard and the proposed community facility portion of the building would be 7-stories (73') with frontage along 132nd Avenue and 161st Street (refer to Figure F-11). In the future With-Action condition, it is assumed that the existing 12-story residential building within the rezoning area would remain. The overall FAR of the development site would be 2.73.

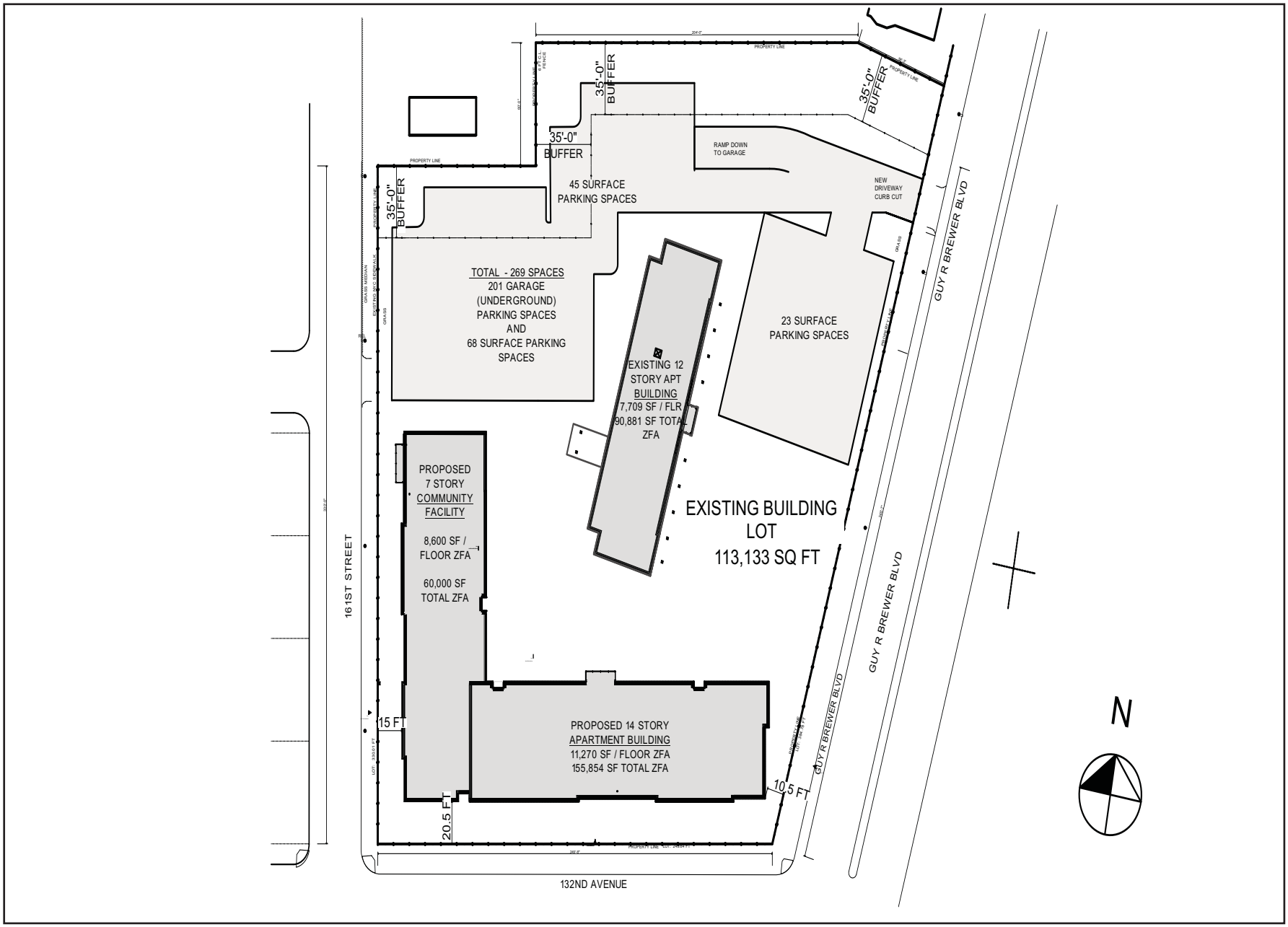
The proposed building would be designed to complement the character of the surrounding area, which is predominantly residential. Within the study area, there is a range of existing building types and heights. The areas north, west, and south of the rezoning area east is generally developed with low density, one- and two-family residential buildings, but there are taller buildings in the vicinity, including Rochdale Village, located to the east of the rezoning area.

Natural Features and Open Space

As discussed above, there are no natural features located within the proposed rezoning area. The proposed actions would reduce the overall amount of landscaped area within the rezoning area, however, approximately 23,533 sf would remain in the future with the proposed actions.

Visual Resources and View Corridors

There are no visual resources that can be seen from the primary study area. As such, the proposed action would not result in a significant adverse impact to visual resources and view corridors within the primary study area.



For Illustriative Purposes Only
Source: SMA Architecture Planning Interiors PC

Northeastern Towers Annex EAS

Figure F-11
Scenario 2 - Proposed Site Plan

Assessment

As shown in Figures F-12 to F-13, which depict the RWCDS under Scenario 2, the proposed actions would change the urban design character of the primary study area. With the maximum height of the mixed-use building being between 73 and 137 feet tall and 222,493 gsf in size, the height and bulk of the building under Scenario 2 would be of similar scale to the existing 12-story building on the development site. However, the increased scale, both in terms of bulk and height would be a notable change from the pedestrian's perspective to the appearance and character of that portion of the development site compared to the No-Action conditions.

Compared to the future without the proposed actions, in the future with the proposed actions, the visual appearance would be enhanced and thus the pedestrian experience of the development site would change somewhat; however, this change would not meet the *CEQR Technical Manual* threshold for a significant adverse urban design impact in that it would not alter the arrangement, appearance, or functionality of the development site such that the alteration would negatively affect a pedestrian's experience of the area.

Secondary Study Area

Urban Design

Street Pattern and Streetscape

The development under Scenario 2 is expected to be consistent with the street pattern and streetscape found throughout the secondary study area.

Buildings

The proposed actions would not have significant adverse impacts on this urban design characteristic of the study area. The residential and community facility uses that could be developed under Scenario 2 would be in keeping with the character of the study area. The proposed building would be similar in bulk to, or smaller than, many of the large residential found in the eastern portion of the study area. In addition, there would be no change to building arrangement, bulk, use or type in the secondary study area as a result of the proposed actions.

Natural Features and Open Space

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

Visual Resources and View Corridors

There are no visual resources that can be seen from the secondary study area. As such, the proposed actions would not have any significant adverse impacts on visual resources in the secondary study area.

Assessment

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



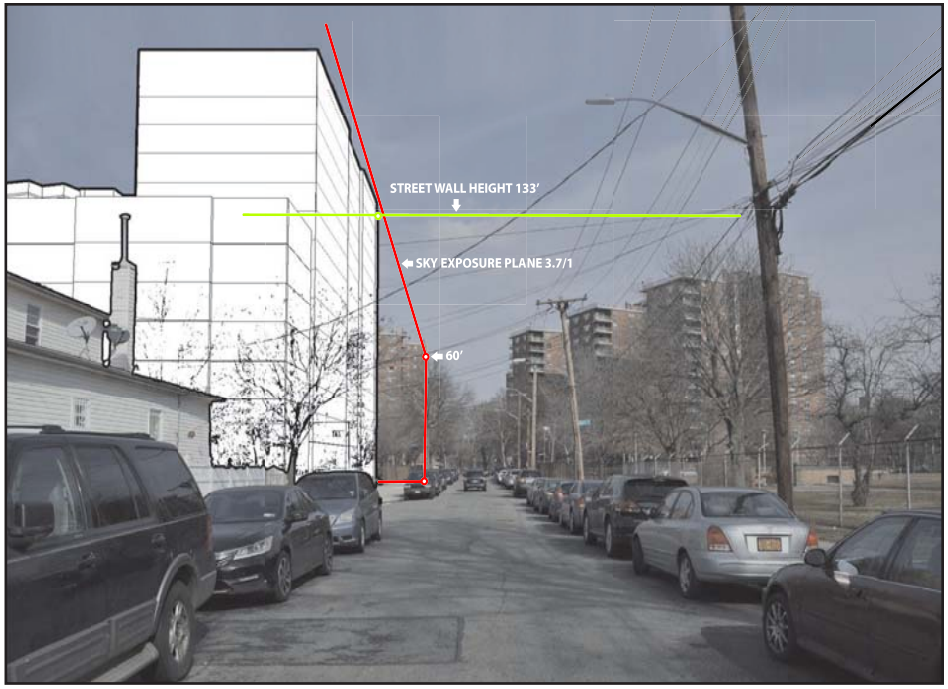
No-Action view looking south along 161st Street



With-Action view looking south along 161st Street (Scenario 2)



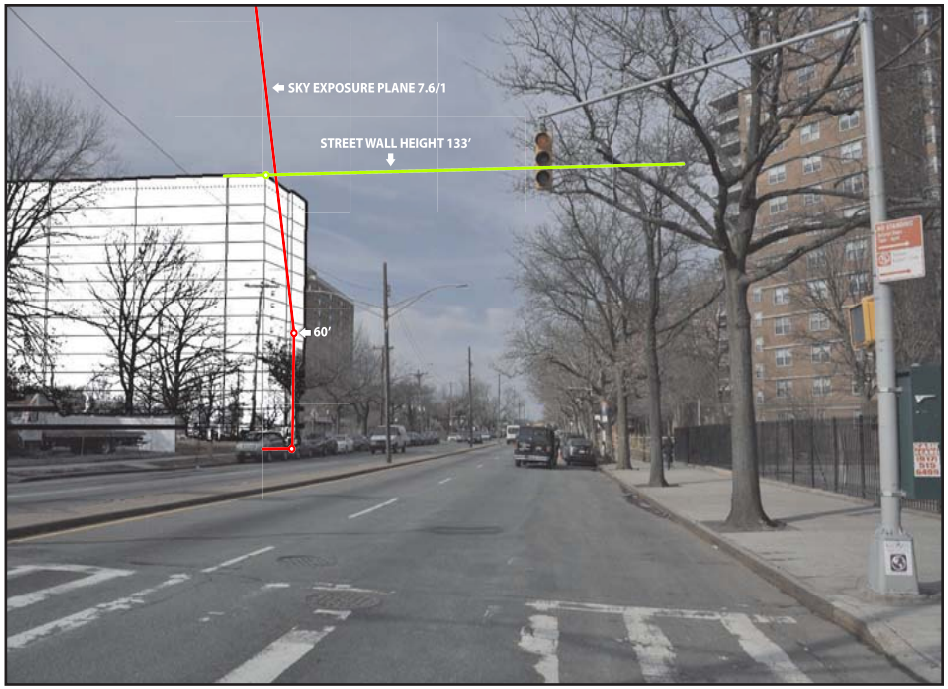
No-Action view looking east along 132nd Avenue



With-Action view looking east along 132nd Avenue (Scenario 2)



No-Action view looking north along Guy R. Brewer Blvd.



With-Action view looking north along Guy R. Brewer Blvd. (Scenario 2)



No-Action view looking south along Guy R. Brewer Blvd.



With-Action view looking south along Guy R. Brewer Blvd. (Scenario 2)

I. INTRODUCTION

This attachment assesses the potential effect of the proposed actions on the City's water supply, wastewater treatment, and stormwater management infrastructure. New York City's water and sewer network is fundamental to the operation, health, safety, and quality of life of the City and its surrounding environment. Ensuring these systems have adequate capacity to accommodate land use or density changes and new development is critical to avoid environmental and health problems such as sewer back-ups, street flooding or pressure reductions.

The applicant, Northeastern Towers Annex L.P., is seeking a zoning map amendment from the New York City Planning Commission (CPC) to facilitate the development of a 139,487 gsf senior affordable housing development at 131-10 Guy R. Brewer Boulevard (Block 12277, Lot 1) in the Jamaica neighborhood of Queens Community District (CD) 12. In addition, the applicant is also seeking a zoning text amendment to Appendix F to establish a Mandatory Inclusionary Housing area (MIHA) consistent with the rezoning area in accordance with the City's mandatory inclusionary housing policy (collectively, the "proposed actions").

The development site is currently occupied by a 12-story residential building with a total of 110 affordable DUs (with 1 additional apartment for a resident superintendent), all of which are reserved for low-income senior citizens. Upon approval of the proposed actions, the existing 12-story building would remain while a new 10-story annex would be constructed on a new tax lot to be created at the southern portion of the development site. The proposed new building would contain approximately 139,487 gross square feet (gsf), including 129 dwelling units (with 1 additional apartment for a resident superintendent) and 3,925 gsf of community facility uses (senior center). The proposed development would rise to a height of 10-stories (106.5 feet). The proposed development would include 100% affordable housing floor area, resulting in the creation of approximately 129 Affordable Independent Residences for Seniors (AIRS).

Development of the proposed project would also be facilitated by New York City Housing Preservation and Development (HPD) financing through the Senior Affordable Rental Apartments (SARA) program, 4% Low Income Housing Tax Credits (LIHTC), and tax exempt bonds from the New York City Housing Development Corporation (HDC).

However, while the applicant intends on developing the proposed project described above ("Scenario 1"), because the proposed actions would result in an R6 zoning district, an alternate reasonable worst-case development scenario (RWCDS) will be considered for conservative analysis purposes ("Scenario 2"). It is assumed that in the absence of the proposed development of the affordable senior DUs, the site could be redeveloped with an approximately 222,493 gsf mixed-use development that would include 159,493 gsf (155,854 zsf) of residential uses and 63,000 gsf (60,000 zsf) of community facility uses (assumed to be medical office). The proposed development would result in 159 typical family DUs. Approximately 230 accessory parking spaces would be accommodated in a parking garage with two levels: one at grade and one below grade with entrances along Guy R. Brewer Boulevard and 161st Street. The proposed residential portion of the building would be 14-stories with frontage along 132nd Avenue and Guy R. Brewer Boulevard and the proposed community facility portion of the building would be 7-stories with frontage

along 132nd Avenue and 161st Street. In the future With-Action condition, it is assumed that the existing 12-story residential building within the rezoning area would remain.

As Scenario 2 would result in a larger development than Scenario 1, Scenario 2 is analyzed for its potential impacts to water and sewer infrastructure.

II. PRINCIPAL CONCLUSIONS

Based on the methodology set forth in the *CEQR Technical Manual*, the analysis finds that the proposed actions would not result in a significant adverse impact on the City's water supply, wastewater and stormwater conveyance and treatment infrastructure.

Water Supply

The anticipated water usage as a result of the proposed actions is expected to total 83,586 gallons per day (gpd), an increment of 66,936 gpd over water demand under existing conditions. This incremental demand would represent less than 0.01 percent of the over one billion gallons of water supplied daily to New York City by the New York City Department of Environmental Protection (DEP). As changes of this magnitude would not be large enough to have a significant adverse impact on the City's water system, the incremental demand with the proposed actions would not adversely affect the City's water supply or system water pressure.

Sanitary (Dry Weather) Flows

The Jamaica water pollution control plant (WPCP), which is designed to treat a dry weather flow of 100 million gallons per day (mgd), handled an average of 76.6 mgd of sewage flow between January and December 2016. Based on rates in the *CEQR Technical Manual*, the proposed development under Scenario 2 has the potential to result in an increase of approximately 0.017 mgd of sanitary sewage flow. This incremental increase in sanitary flow would represent approximately 0.08 percent of the Jamaica WPCP's designated State Pollution Discharge Elimination System (SPDES) capacity. Pursuant to CEQR methodology, as the projected increase in sanitary sewage would not cause the Jamaica WPCP to exceed its operational capacity or its SPDES-permitted capacity, the proposed actions would not result in significant adverse impacts to sanitary sewage conveyance and treatment.

Stormwater (Wet Weather) Flows

Based on the analysis conducted pursuant to *CEQR Technical Manual* methodologies, the proposed actions would not result in significant adverse impacts to stormwater conveyance and treatment infrastructure. Under Scenario 2, it is anticipated that the proposed actions would increase wet weather flows by 0.02 to 0.09 million gallons, depending on rainfall duration and intensity. Any future development facilitated by the proposed actions would be required to ensure a maximum stormwater release rate of 0.25 cubic feet per second (cfs) or ten percent of allowable flow from the development site pursuant to the amended Title 15, Chapter 31 of the Rules of the City of New York (RCNY) and offset increased flows to the sewer system through the implementation of stormwater Best Management Practices (BMPs), as warranted.

III. METHODOLOGY

According to the *CEQR Technical Manual,* a preliminary water supply infrastructure analysis is needed if the project would result in an exceptionally large demand for water (e.g., more than one million gallons per day [mgd]), or is located in an area that experiences low water pressure (i.e., areas at the end of the water supply distribution system such as the Rockaway Peninsula or Coney Island). As the project area is not located in an area that experiences low water pressure and the proposed actions would not result in an incremental water demand exceeding one mgd, a detailed analysis is not warranted. However, the total water demand for the proposed development under Scenario 2 is calculated for purposes of determining the sewage generated by the proposed actions.

The development site is located in a separately sewered area. A preliminary sewer assessment is warranted if a project located in a separately sewered area in an existing R3 zoning district exceeds 25 residential units or 50,000 sf of commercial, public facility, and community facility space or more. As the proposed development meets this *CEQR Technical Manual* threshold, a preliminary sewer assessment is warranted and is provided in this chapter.

To assess the proposed action's potential impacts on water and sewer infrastructure, this attachment:

- Describes the existing water and sewer infrastructure on the development site and estimates water demand and sewage and stormwater generation under existing conditions and in the No-Action condition (for the 2020 analysis year). Existing and future water demands and sewage generation are calculated based on use generation rates provided in the *CEQR Technical Manual*. Stormwater runoff and sanitary flows are calculated using the New York City DEP Flow Calculation Matrix.
- Forecasts water demand and sewage and stormwater generated by the proposed action under the proposed project scenario based on *CEQR Technical Manual* guidelines.
- Assesses the effects of the proposed action's water demand and sewage and stormwater generation under the proposed project scenario on the City's water and sewer infrastructure, pursuant to *CEQR Technical Manual* guidelines.

IV. EXISTING CONDITIONS

Water Supply

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

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

The water mains that would serve the development site include a twelve-inch water main under 132nd Avenue (to the south), twelve- and twenty-inch water mains under Guy R. Brewer Boulevard (to the east), and sixteen- and eight-inch water mains under 161st Street (to the west).

As indicated in Attachment A, "Project Description," the development site (Lot 1) is currently occupied by a 12-story residential building for seniors. The existing building on the development site comprises a total of approximately 92,608 gsf (90,881 zsf) and includes 111 DUs. As shown in Table G-1, existing uses on the development site consume approximately 16,650 gpd of domestic water.

Table G-1: Existing Water Consumption

Site	Land Use	Floor Area (sf)	Domestic Water (gpd)[1]	Air Conditioning (gpd)[2]
Development Site	Residential	92,608 (111 DUs)	16,650	N/A
		Total Water Consumption	16,650	
		Total Wastewater Generation	16,650	

Notes:
[1]2014 *CEQR Technical Manual*, Table 13-2 "Water Usage and Sewage Generation Rates for Use in Impact Assessment."

Sewer System

According to the *CEQR Technical Manual*, wastewater is considered to include sanitary sewage, wastewater generated by industries, and stormwater. Water used for air conditioning generates a negligible amount of wastewater as it recirculates or evaporates in the cooling and heating process.

New York City's sewer system consists of a grid of sewers beneath the streets that send wastewater flows to fourteen different water pollution control plants (WPCPs). The City's WPCPs are regulated by the New York State Department of Environmental Conservation (NYSDEC), which issues a permit regulating its discharge of treated effluent. Combined, all fourteen WPCPs in New York City have a SPDES permitted total capacity of 1.8 billion gpd. The area served by each plant is called a "drainage area" or "catchment area." While the majority of New York City's sewers are combined sewers, since they receive both sanitary wastewater and stormwater runoff, some areas of the City operate with separate systems for sanitary sewage and stormwater. In these areas, sanitary sewage is sent to the WPCP, and stormwater is sent through separate sewers and outfalls into the nearest waterway.

During dry weather, the WPCP primarily treats sanitary sewage. The average daily flow during dry weather is known as the average "dry-weather flow." WPCPs have treatment capacities set at twice their dry weather design flow for a limited amount of time. However, because the majority of New York City's sewers are combined sewers, they also receive stormwater and rainwater runoff from impermeable surfaces that generally contain pollutants such as oil and floatable debris. During wet weather,

stormwater enters the combined sewer system along with sanitary sewage, and both are treated at a WPCP. During wet weather, rainfall runoff can reach ten to 50 times the dry weather flow, which is well above the WPCP design capacity. To avoid flooding the WPCPs, built-in regulators act as relief valves to direct the excess water to an outfall. During storm events, sanitary sewage entering or already in the combined sewer system, as well as stormwater and debris, can be discharged, untreated, into the nearest body of water. This untreated overflow is known as "combined sewer overflow" (CSO).

The rezoning area is served by the Jamaica WPCP located at 150-20 134th Street. The Jamaica WPCP serves approximately 25,313 acres of southern Queens.

The Jamaica WPCP began operating in 1903 with a step-aeration design capacity of 100 mgd. The Jamaica WPCP has been providing full secondary treatment since 1978 including primary screening, raw sewage pumping, grit removal and primary settling, air activated sludge capable of operating in the step aeration mode, final settling, and chlorine disinfection. The Jamaica WPCP has a design dry weather flow capacity of 100 mgd, and is designed to receive a maximum flow of 200 mgd with 150 mgd receiving secondary treatment. Flows over 150 mgd receive primary treatment and disinfection.

As indicated in Table G-2, the average monthly flow to the Jamaica WPCP over the past twelve months is approximately 76.6 mgd, well below the maximum permitted level of 100 mgd.

Table G-2: 2016 Average Flows at the Jamaica WPCP

Month	Average Flows (mgd)
January	74
February	81
March	75
April	74
May	77
June	76
July	80
August	77
September	78
October	77
November	73
December	77
Annual Average	*76.6*

Source: DEP "Monthly Operating Efficiency" tables.

As noted above, the rezoning area is located in an area served by separate storm and sanitary sewers. In these areas, sanitary sewage is sent to the wastewater treatment plants and stormwater is sent untreated through separate sewers and outfalls into the nearest waterway. Areas served by separate sewers include certain areas in Queens and Staten Island.

The development site is served by separate sanitary and storm sewers; 12-inch and 24-inch storm sewer flows west to east along 132nd Avenue and a 12-inch sanitary sewer flows east to west along 132nd Avenue.

Sanitary Flows (Dry Weather)

As presented in Table G-1, the existing residential building on the development site generates an estimated 16,650 gpd of wastewater, which is conveyed to the Jamaica WPCP.

Stormwater Flows (Wet Weather)

As outlined in Attachment A, "Project Description," the proposed actions would result in development on the approximately 113,133 sf development site (Block 12277, Lot 1). The development site is occupied by one residential building that occupies 7,709 sf, and the remainder of the development site is paved (26,000 sf) and landscaped (79,424 sf). Table G-3 describes the surfaces and surface areas, as well as the weighted runoff coefficient (the fraction of precipitation that becomes surface runoff) for each surface type. As presented in the table, the development site has an existing combined stormwater runoff coefficient of 0.48.

Table G-3: Existing Stormwater Runoff

Surface Type	Roof	Pavement and Walks	Other	Grass and Softscape	Total
Area (%)	7%	23%	0%	70%	100%
Surface Area (sf)	7,709	26,000	0	79,424	113,133
Runoff Coefficient[1]	1.0	0.85	0.85	0.20	0.48

Notes: [1] Runoff coefficients for each surface type as per the DEP.

For this analysis, the runoff coefficients were used to calculate the amount of stormwater runoff using the three-month, six-month, and twelve-month storm events, with rainfall averaging from 0.00 to 2.50 inches over durations of 3.80 to 19.50 hours. Table G-4 shows the existing stormwater runoff for the rezoning area. As indicated in the table, the development site currently generates between 0.00 and 0.07 million gallons (mg) of wet weather flows for different rainfall intensities. Stormwater flows generated on the development site are sent untreated through separate sewers and outfalls into the nearest waterway (Jamaica Bay).

Table G-4: Existing Stormwater Runoff to Direct Drainage and Wastewater Generation to the Jamaica WPCP

Storm Event Type	Rainfall (inches)	Duration (hours)	Total Area (acres)	Weighted Runoff Coefficient	Stormwater Runoff to Direct Drainage (MG)	Sanitary to CSS (MG)[1]	Total Volume to CSS (MG)
	0.00	3.80	2.6	0.40	0.00	0.00	0.00
3-Month	0.40	3.80	2.6	0.40	0.01	0.00	0.00
6-Month	1.20	11.30	2.6	0.40	0.03	0.01	0.01
12-Month	2.50	19.50	2.6	0.40	0.07	0.01	0.01

Notes:
[1] Derived from Table G-3.
CSS = combined sewer system; MG = million gallons

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

In the future without the proposed actions (No-Action condition), it is anticipated that the development site would continue to be occupied by the existing uses. As under existing conditions, the development site would generate a total water demand of 16,650 gpd. During storm events, stormwater generated on the development site in the No-Action condition would total approximately 0.00 to 0.07 mg, depending on rainfall intensity.

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

As noted above, the proposed actions consist of a zoning map amendment and a zoning text amendment to establish a MIHA. With the proposed zoning map change from R3X to R6, residential and community facility uses would continue to be permitted in the project area. As described above, under Scenario 2, the proposed actions would result in a net increment of 159,493 gsf of residential uses (159 DUs) and 63,000 gsf of community facility uses (assumed to be medical office). The existing residential building on the development site would remain in the future With-Action condition.

Water Supply

The proposed actions would generate increased demand on the DEP water supply system, as compared to the No-Action condition. As indicated in Table G-5, Scenario 2 would generate a net incremental future water demand of approximately 66,936 gpd, including water demand for domestic use, as well as air conditioning systems. This incremental water demand would represent less than 0.01 percent of the over one billion gallons of water supplied daily to New York City by DEP.

Sewer System

Sanitary Flows (Dry Weather)

As indicated in Table G-5, below, the estimated increment of sanitary sewage generated by the proposed actions under Scenario 2 would be 56,226 gpd. This amount would represent approximately 0.08 percent of the average daily flow of 76.6 mgd at the Jamaica WPCP and would not result in an exceedance of the plant's permitted capacity of 100 mgd. Therefore, the proposed actions would not create a significant adverse impact on the City's sanitary sewage treatment system. In addition, per the New York City Plumbing Code (Local Law 33 of 2007), low-flow fixtures would be required to be implemented and would help to reduce future sanitary flows from future development facilitated by the proposed actions.

Table G-5: Expected Water Demand on Development Site – 2020 No-Action vs. 2020 With-Action Conditions

	Use	Area (gsf)	Domestic Use (gpd)[1]	Air Conditioning (gpd)[1]
No-Action Condition	Residential	90,881 (111 DUs)	16,650	-
			Total No-Action Water Supply Demand	16,650
			Total No-Action Sewage Generation	16,650
With-Action Condition	Residential	159,493 (159 DUs)	49,926	-
	Community Facility (Medical Office)		6,300	10,710
			Total With-Action Water Supply Demand	83,586
			Total With-Action Sewage Generation	72,876
Increment			***Incremental Water Supply Demand***	66,936
			Incremental Sewage Generation	56,226

Notes:
[1] Based on average daily water use rates provided in Table 13-2 of the *CEQR Technical Manual* (unless otherwise indicated)
- Medical office assumes office rate: 0.10 gpd per sf for domestic use, plus 0.17 gpd per sf for air conditioning.

Connecting to the City's sewer system requires certification from DEP as part of the building permit process, which is not a discretionary approval. Any proposed buildings would be required to file a site

connection proposal for approval from DEP to tie into the sewer system. In this process, before a building permit can be issued, site connection proposals must be certified for sewer availability by DEP. The applicant will be required to demonstrate that the existing sanitary system could handle the sanitary flows from the proposed project. New development sewer certification review ensures that sufficient capacity exists in both sewers fronting the project site as well as downstream sewers to accommodate additional discharges from new development. If adequate capacity is not available, infrastructure improvements, sewer extensions, or on-site detention/retention systems that offset increased sanitary or stormwater flows may be required before sewer connections are approved. The construction of new sewers and/or other infrastructure improvements will require an amendment to the City's drainage plan. An amended drainage plan (ADP) is a plan that establishes sizes, alignments, and capacities of proposed sewers.

All analysis and sewer improvements would be undertaken prior to construction of the proposed project and in consultation with DEP for its review and approval. As the proposed project involves a zoning map change which would result in an increase in sanitary flows, the applicable existing City Drainage Plan will require an amendment (see Appendix 5 for DEP review letter). The amended drainage plan would be developed for DEP's review and approval.

Stormwater Flows (Wet Weather)

In the future with the proposed actions, the amount of roof and grass/softscape areas on the development site would decrease, while the amount of paved area would increase. As a result of these changes, the combined weighted runoff coefficient for the development site would increase to 0.75 (refer to Table G-6).

Table G-6: With-Action Stormwater Runoff

Surface Type	Roof	Pavement and Walks	Other	Grass and Softscape	Total
Area (%)	26%	53%	0%	21%	100%
Surface Area (sf)	29,600	60,000	0	23,533	113,133
Runoff Coefficient[1]	1.0	0.85	0.85	0.20	0.75

Notes: [1] Runoff coefficients for each surface type as per the DEP.

Due to increased stormwater and wastewater flows generated on the development site in the future with the proposed actions, the total volume to the sewer system would increase as well as the stormwater runoff to direct drainage. As presented in Table G-7, the development site is expected to generate between 0.01 and 0.05 mg of wet weather flows for different rainfall intensities. Stormwater flows generated on the development site would be directly discharged to the nearest waterway. Compared to existing volumes to the sewer system, this would represent an increase of 0.01 to 0.04 mg, depending on rainfall duration intensity.

Table G-7: Stormwater Runoff to Direct Drainage and Wastewater Generation to the Jamaica WPCP —Future With-Action Condition

Storm Event Type	Rainfall (inches)	Duration (hours)	Total Area (acres)	Weighted Runoff Coefficient	Stormwater Runoff to Direct Drainage (MG)	Sanitary to CSS (MG)[1]	Total Volume to CSS (MG)	Incremental Volume to CSS over Existing Conditions (MG)
	0.00	3.80	2.6	0.75	0.00	0.01	0.01	0.01
3-Month	0.40	3.80			0.03	0.01	0.01	0.01
6-Month	1.20	11.30			0.08	0.03	0.03	0.02
12-Month	2.50	19.50			0.16	0.05	0.05	0.04

Notes:
[1] Derived from Table G-5.
CSS = combined sewer system; MG = million gallons

Self-certification of house or site connection proposals in not permitted by the New York City Department of Building (DOB) or DEP in connection with any proposed new developments of expansions of existing development, as per the Rules of the RCNY, Title 15, Chapter 31, "Rules Governing House/Site Connections to the Sewer System." To be issued a permit to connect to a City sewer, an applicant proposing a new development or expansion of an existing development is required to submit a site-specific hydraulic analysis to DEP for review and approval. The site-specific hydraulic analysis would establish the adequacy of the existing combined sewer system that would serve the development lots. In 2012, DEP amended Chapter 31 of Title 15 of the RCNY to modify the flow rate of stormwater to the City's combined sewer system for new and existing development, as part of sewer availability and connection approvals. The amended rule was promulgated on January 4, 2012 and went into effect on July 4, 2012. Per the amended Chapter 31, for a new development, the stormwater release rate is the greater of 0.25 cfs or ten percent of the allowable flow, unless the allowable flow is less than 0.25 cfs, in which case the stormwater release rate is the allowable flow. This release rate is consistent with policies set forth in *PlaNYC* and the 2010 *NYC Green Infrastructure Plan.* Any future development on the development site would be required to achieve this new flow rate.

As noted above, to be issued a permit to connect to the City's sewer, development on the development site would be required to submit a site-specific hydraulic analysis to DEP for review and approval. Based on this site-specific hydraulic analysis, incorporation of a variety of BMPs may be required of the applicant at the time of the house or site connection proposal to ensure adherence to the maximum permitted stormwater release rate. While the specific BMPs to be used are not known at this time, BMPs that may be utilized could include green roofs, blue roofs, subsurface detention, infiltration, or a combination of these green technologies, as outlined in the *NYC Green Infrastructure Plan.* These green technologies would retain or release stormwater with slowed discharge rates to control peak runoff rates. Trees planted per New York City's street tree requirement could also be utilized to capture and store water below enhanced tree pits. The design of water detention systems would be submitted to DEP for review and approval. Through the site connection process, DEP would ensure that the necessary stormwater BMPs were implemented (as warranted) and reduce the increase in untreated stormwater flows.

I. INTRODUCTION

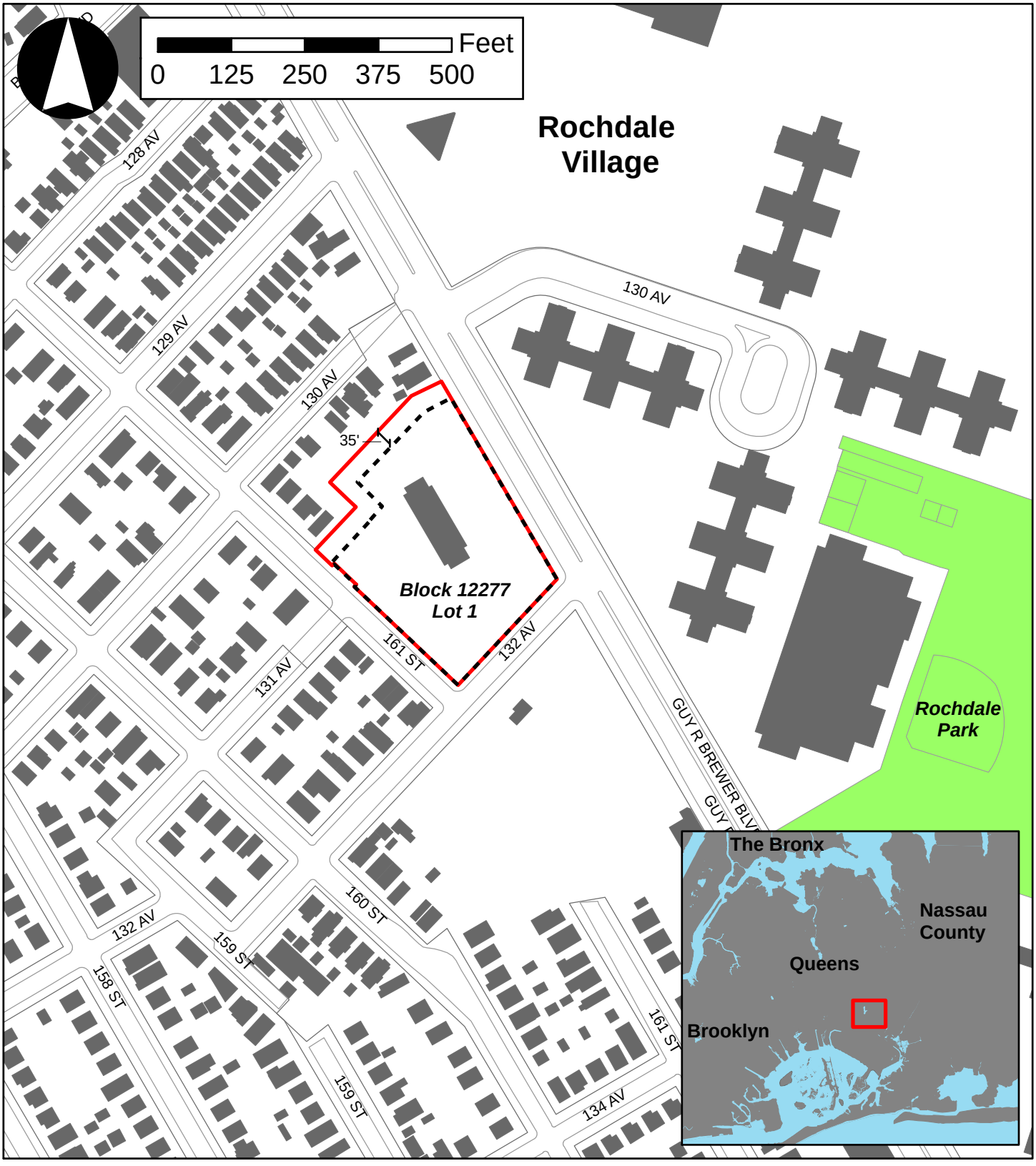
This attachment presents the findings of the analyses of traffic, parking, transit, and pedestrian conditions for the proposed Northeastern Towers Annex at 131-10 Guy R. Brewer Boulevard (Block 12277, Lot 1) in the Rochdale/Springfield Gardens neighborhood of Queens Community District 12. The project site is located on the block bounded by 130th Avenue to the north, Guy R. Brewer Boulevard to the east, 132nd Avenue to the south, and 161st Street to the west (refer to Figure H-1). As discussed in Attachment A, the applicant is seeking a zoning map and a zoning text amendment from the New York City Planning Commission (CPC) in order to facilitate the construction of a 10-story residential annex to the Northeastern Towers (the proposed project). The proposed project would rezone Block 12277, portion of Lot 1 from a R3X district to a R6 district, and would also include a zoning text amendment to map the rezoning area as a Mandatory Inclusionary Housing Area (MIHA).

The approximately 113,133 sf project site is currently occupied by a 12-story residential building with a total of 110 affordable senior dwelling units (DUs) (with 1 additional apartment for a resident superintendent) and 45 accessory parking spaces. Upon approval of the proposed actions, the existing 12-story building would remain while an approximately 10-story (106.5 feet), approximately 139,487 gross square foot (gsf), building would be constructed on a new tax lot at the southern portion of the development site. The proposed new building would include 129 dwelling units (with 1 additional apartment for a resident superintendent) and 3,925 gsf of community facility space that would serve as a senior center (Scenario 1).

However, while the applicant intendeds to develop the residential annex described above (Scenario 1), an alternate reasonable worst case development scenario (RWCDS) will also be considered for the purposes of conservative analysis. The RWCDS assumes a 14-story, approximately 222,493 gsf, mixed-use development that would include 159 typical family DUs, and 63,000 gsf (60,000 zsf) of community facility space that is assumed to have medical office uses (Scenario 2). Under this scenario, a total of 269 accessory parking spaces would be provided on-site, with 39 spaces dedicated to the existing residential building and 230 spaces dedicated to the proposed mixed-use building. In the future With-Action condition, it is assumed that the existing 12-story residential building within the rezoning area would remain.

As discussed in detail in the *Transportation Planning Factors Memorandum* (see Appendix 3), Scenario 1 would not exceed the 2014 *CEQR Technical Manual* thresholds for a detailed traffic, parking, transit, or pedestrian analysis, and therefore, is not anticipated to result in significant adverse transportation impacts.

As discussed below, Scenario 2 would exceed the 2014 *CEQR Technical Manual* thresholds for a detailed traffic analysis. As discussed in detail, Scenario 2 would not result in any significant traffic impacts.



Legend

Development Site | Rezoning Area | Building Footprints | Open Space

Source: NYCDCP, DoITT

II. PRINCIPAL CONCLUSIONS

Based on the following detailed analysis, the anticipated level of new transportation demand generated by Scenario 2 is not expected to result in any significant adverse impacts to traffic, parking, transit or pedestrian conditions in the vicinity of the project site. Detailed transit (subway and bus) and pedestrian analyses were screened out, and eight intersections were analyzed as part of the detailed traffic analysis, with no impacts anticipated as a result of project-generated traffic. Peak parking demand generated by Scenario 2 could be fully accommodated on-site. Additionally, there were no intersections located within the traffic and pedestrian study areas that were identified as high accident locations.

III. PRELIMINARY ANALYSIS METHODOLOGY

The 2014 *City Environmental Quality Review* (CEQR) *Technical Manual* describes a two-level screening procedure for the preparation of a "preliminary analysis" to determine if quantified operational analyses of transportation conditions are warranted. As discussed below, the preliminary analysis begins with a trip generation (Level 1) analysis to estimate the number of person and vehicle trips attributable to the proposed project. According to the *CEQR Technical Manual*, if the proposed project is expected to result in fewer than 50 peak hour vehicle trips and fewer than 200 peak hour transit or pedestrian trips, further quantified analyses are not warranted. When these thresholds are exceeded, detailed trip assignments (Level 2) are to be performed to estimate the incremental trips that could be incurred at specific transportation elements and to identify potential locations for further analyses. If the trip assignments show that the proposed project would generate 50 or more peak hour vehicle trips at an intersection, 200 or more peak hour subway trips at a station, 50 or more peak hour bus trips in one direction along a bus route, or 200 or more peak hour pedestrian trips traversing a sidewalk, corner area, or crosswalk, then further quantified operational analyses may be warranted to assess the potential for significant adverse impacts on traffic, transit, pedestrians, parking, and vehicular and pedestrian safety.

IV. LEVEL 1 SCREENING ASSESSMENT

A Level 1 trip generation screening assessment was conducted in order to estimate the number of person and vehicle trips by mode expected to be generated by Scenario 2 during the weekday AM, midday, PM, and Saturday midday peak hours. These estimates were then compared to the *CEQR Technical Manual* analysis thresholds of 50 peak hour vehicle trips, 200 peak hour subway/rail riders, 50 peak hour bus riders, and 200 peak hour pedestrian trips to determine if a Level 2 screening and/or quantified operational analyses may be warranted. The travel demand assumptions used for this assessment are discussed below and a detailed travel demand forecast is provided.

Transportation Planning Factors

Table H-1 shows the transportation planning factors that were used to forecast the travel demand generated by the proposed uses under Scenario 2 in the weekday AM, midday, PM and Saturday midday peak hours. These include trip generation rates, temporal and directional distributions, mode choice factors, vehicle occupancies, and truck trip factors for the proposed residential (159 DUs) and community facility (63,000 gsf of medical office) uses. The factors in Table H-1 were based on data cited in the *CEQR Technical Manual*, the 2010-2014 American Community Survey (ACS) Means of Transportation to Work data, the Technical Memorandum for the Domino Sugar Rezoning FEIS, the *Jamaica Plan Rezoning FEIS,* the *Saint Vincent's Campus Redevelopment FEIS,* and the *East New York Rezoning Proposal FEIS*. Additional details on the transportation planning factors used for the travel demand forecast are presented in the *Transportation Planning Factors Memorandum* provided in Appendix 3.

Travel Demand Forecast

Table H-2 summarizes the results of that travel demand forecast for Scenario 2 based on the factors shown in Table H-1 and discussed above. Table H-2 shows the weekday peak hour person trips, transit trips, walking trips, and vehicle trips that would be generated by each of the proposed uses in 2020 with the construction of the proposed project. As show in Table H-2, the development under Scenario 2 would generate an incremental increase of 406, 362, 398, and 250 person trips during the weekday AM, midday, PM, and Saturday midday peak hours, respectively. The development under Scenario 2 would generate an incremental increase of 124, 84, 123, and 78 subway trips in the weekday AM, midday, PM, and Saturday midday peak hours respectively. The development under Scenario 2 would also generate an incremental increase of 67, 42, 67, and 44 bus trips during the weekday AM, midday, PM and Saturday midday peak hours, respectively. Additionally, the development under Scenario 2 would generate a total of 212, 236, 213, and 136 pedestrian trips (including walk-only, subway, and bus trips) in the weekday AM, midday, PM, and Saturday midday peak hours, respectively. Of these incremental pedestrian trips, 21, 110, 23, and 14 are walk-only trips during the weekday AM, midday, PM, and Saturday midday peak hours, respectively. During the weekday AM, midday, PM, and Saturday midday peak hours, the development under Scenario 2 would generate an increase of 199, 126, 188, and 106 vehicle trips (auto, taxi, and truck combined).

As the number of peak hour trips resulting from Scenario 2 would exceed *CEQR Technical Manual* analysis thresholds for pedestrian (including walk-only, subway, and bus trips) and vehicular trips during one or more peak hours, a Level 2 assessment was undertaken to identify specific transportation elements where additional detailed analyses may be warranted. As the number of incremental peak hour transit trips would not exceed the *CEQR Technical Manual* analysis threshold, additional detailed analysis is not required.

Table H-1
Transportation Planning Factors (Scenario 2)

Land Use:	Residential	Medical Office (Staff)		Medical Office (Visitors)	
Size/Units:	159 DU	63,000 sf		63,000 sf	
Trip Generation:	(1)	(4,5)		(3,4)	
Weekday	8.075	10.00		33.60	
Saturday	9.60	4.30		14.50	
	per DU	per 1,000 sf		per 1,000 sf	
Temporal Distribution:	(1)	(4,5)		(3,4)	
AM	10.0%	24.0%		6.0%	
MD	5.0%	17.0%		9.0%	
PM	11.0%	24.0%		5.0%	
SatMD	8.0%	17.0%		9.0%	
	(2)	(6,7)		(4)	
Modal Splits:	AM/MD/PM	AM/PM/SAT	MD	AM/MD/PM	
Auto	43.0%	49.0%	2.0%	25.0%	
Taxi	0.0%	1.0%	3.0%	25.0%	
Subway	33.0%	30.0%	6.0%	29.0%	
Bus	21.0%	17.0%	6.0%	11.0%	
Walk/Ferry/Other	3.0%	3.0%	83.0%	10.0%	
	100.0%	100.0%	100%	100.0%	
	(3)	(4,5)		(3,4)	
In/Out Splits:	In Out	In	Out	In	Out
AM	15.0% 85.0%	100.0%	0.0%	90.0%	10.0%
MD	50.0% 50.0%	50.0%	50.0%	50.0%	50.0%
PM	70.0% 30.0%	0.0%	100.0%	30.0%	70.0%
Sat MD	50.0% 50.0%	50.0%	50.0%	50.0%	50.0%
Vehicle Occupancy:	(6,4)	(6,4)		(4)	
Auto	1.05	1.05		1.65	
Taxi	1.40	1.4		1.2	
Truck Trip Generation:	(1)	(3,4)			
	0.06	0.4		N/A	
	per DU	per 1,000 sf		N/A	
	(1)	(3,4)			
AM	12.0%	9.7%		N/A	
MD	9.0%	7.8%		N/A	
PM	2.0%	5.1%		N/A	
Sat MD	9.0%	0.0%		N/A	
	In Out	In	Out	In	Out
AM/MD/PM	50% 50%	50.0%	50.0%	N/A	N/A

Notes:

(1) Based on data from *City Environmental Quality Review* (CEQR) *Technical Manual, 2014.*

(2) Based on American Community Survey 2010-2014 Means of Transportation to Work data for Census Tracts 294 and 334.02 for renters.

(3) Based on the Technical Memorandum for the Domino Sugar Rezoning FEIS 2013.

(4) Based on data from the *Jamaica Plan Rezoning FEIS, 2007.*

(5) Based on data from the *Saint Vincent's Campus Redevelopment FEIS, 2012.*

(6) Based on American Community Survey 2010-2014 Means of Transportation to Work data for Census Tracts 294 and 334.02.

(7) Based on data from the *East New York Rezoning Proposal FEIS, 2016*

Table H-2
Travel Demand Forecast (Scenario 2)

Land Use:		Residential		Medical Office (Staff)		Medical Office (Visitors)			
Size/Units:		159	DU	63000 sf		63000 sf		Total	
Peak Hour Trips:									
	AM	128		151		127		406	
	MD	64		107		191		362	
	PM	141		151		106		398	
	Sat MD	122		46		82		250	
Person Trips:									
		In	Out	In	Out	In	Out	In	Out
AM	Auto	9	47	75	0	29	4	113	51
	Taxi	0	0	2	0	29	3	31	3
	Subway	6	36	45	0	33	4	84	40
	Bus	4	23	26	0	13	1	43	24
	Walk/Ferry/Other	1	3	5	0	11	1	17	4
	Total	20	109	153	0	115	13	288	122
		In	Out	In	Out	In	Out	In	Out
MD	Auto	14	14	2	2	24	24	40	40
	Taxi	0	0	2	2	24	24	26	26
	Subway	11	11	3	3	28	28	42	42
	Bus	7	7	3	3	11	11	21	21
	Walk/Ferry/Other	1	1	44	44	10	10	55	55
	Total	33	33	54	54	97	97	184	184
		In	Out	In	Out	In	Out	In	Out
PM	Auto	43	18	0	75	8	19	51	112
	Taxi	0	0	0	2	8	19	8	21
	Subway	33	14	0	45	9	22	42	81
	Bus	21	9	0	26	3	8	24	43
	Walk/Ferry/Other	3	1	1	6	4	8	8	15
	Total	100	42	1	154	32	76	133	272
		In	Out	In	Out	In	Out	In	Out
Sat MD	Auto	26	26	11	11	10	10	47	47
	Taxi	0	0	0	0	10	10	10	10
	Subway	20	20	7	7	12	12	39	39
	Bus	13	13	4	4	5	5	22	22
	Walk/Ferry/Other	2	2	1	1	4	4	7	7
	Total	61	61	23	23	41	41	125	125
Vehicle Trips :									
		In	Out	In	Out	In	Out	In	Out
AM	Auto (Total)	9	45	71	0	18	2	98	47
	Taxi	0	0	1	0	24	3	25	3
	Taxi Balanced	0	0	1	1	24	24	25	25
	Truck	1	1	1	1	0	0	2	2
	Total	10	46	73	2	42	26	125	74
		In	Out	In	Out	In	Out	In	Out
MD	Auto (Total)	13	13	2	2	15	15	30	30
	Taxi	0	0	1	1	20	20	21	21
	Taxi Balanced	0	0	2	2	30	30	32	32
	Truck	0	0	1	1	0	0	1	1
	Total	13	13	5	5	45	45	63	63
		In	Out	In	Out	In	Out	In	Out
PM	Auto (Total)	41	17	0	70	5	11	46	98
	Taxi	0	0	0	1	7	16	7	17
	Taxi Balanced	0	0	1	1	20	20	21	21
	Truck	0	0	1	1	0	0	1	1
	Total	41	17	2	72	25	31	68	120
		In	Out	In	Out	In	Out	In	Out
Sat MD	Auto (Total)	25	25	10	10	6	6	41	41
	Taxi	0	0	0	0	8	8	8	8
	Taxi Balanced	0	0	0	0	12	12	12	12
	Truck	0	0	0	0	0	0	0	0
	Total	25	25	10	10	18	18	53	53
	Total Vehicle	In	Out	Total					
	AM	125	74	199					
	MD	63	63	126					
	PM	68	120	188					
	Sat MD	53	53	106					

V. LEVEL 2 SCREENING ASSESSMENT

A Level 2 screening assessment involves the assignment of project-generated trips to the study area's pedestrian elements, and street network, and the identification of specific locations where the incremental increase in demand may potentially exceed *CEQR Technical Manual* analysis thresholds and, therefore, require a quantitative analysis. These assignments are discussed below for each mode.

Pedestrians

Many project-generated trips would include a walk component using local sidewalks, street corners, and crosswalks, to access the project site. As shown above in Table H-2, the development under Scenario 2 would generate a net total of 212, 236, 213, and 136 pedestrian trips (including walk-only trips and pedestrians en route to and from subway and bus stops) during the weekday AM, midday, PM, and Saturday midday peak hours, respectively. As the number of project generated pedestrian trips would exceed the 200-trip *CEQR Technical Manual* threshold during the weekday AM, midday and PM peak hours, a Level 2 screening assignment is required.

Figure H-2 shows the assignment of project-generated pedestrian trips (walk-only, subway, and bus trips) to pedestrian elements (sidewalks, corner areas, and crosswalks) in the vicinity of the project site during all four peak hour periods. The origins and destinations for pedestrian trip assignments were based on the project location, the most direct paths between the site and local transit routes, and ACS Means of Transportation to Work data.

Under Scenario 2, it is projected that the proposed building would have entrances on 161st Street and 132nd Avenue. The entrance on 161st Street would be dedicated to medical office use, while the entrance on 132nd Avenue would be dedicated to the residential use. As shown in Figure H-2, no pedestrian element is expected to experience an increase of greater than 200 person trips in any of the peak hour periods. Therefore, no significant adverse impacts are expected and a further detailed pedestrian analysis is not warranted.

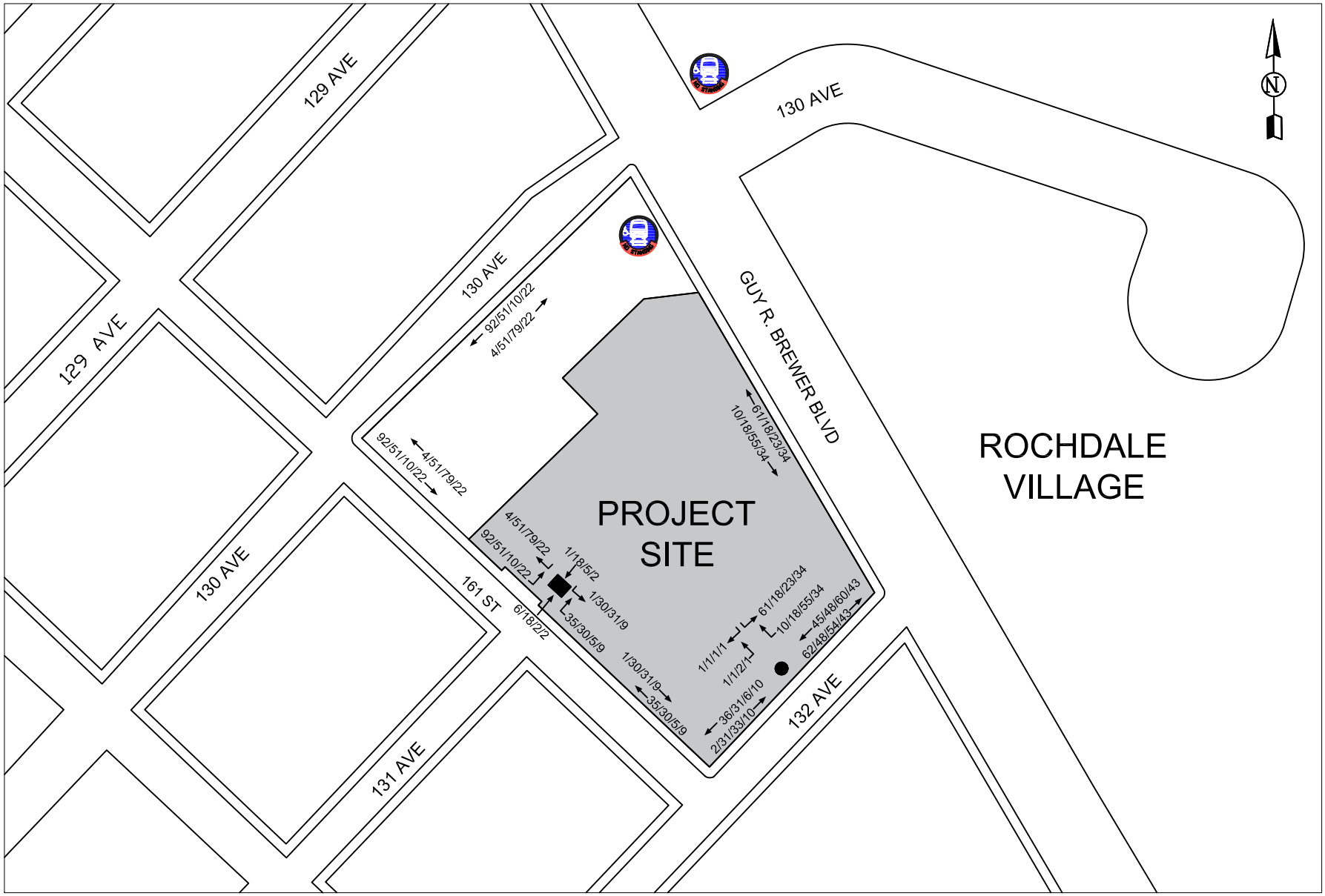
Traffic

All vehicular trips were assigned to and from the project site. The origins and destinations of the project increment vehicle trips were based on the project location, area arterials, and 2010-2014 ACS Means of Transportation to Work data for Queens Census Tracts 294 and 334.02. Under Scenario 2, the surface parking lot and the below-grade parking garage would be accessible from both the western portion of the lot on 161st Street and the eastern portion of the lot on Guy R. Brewer Boulevard (refer to Figure H-3). Auto trips were assigned to both of the parking garage entrances, while taxi and drop-off trips were assigned to the main pedestrian entrance along 132nd Avenue. Figure H-3 shows the incremental assignment of vehicle trips (including auto, taxi, and truck trips) generated under Scenario 2 during the weekday AM, midday, PM and Saturday midday peak hours, along with the intersections requiring further analysis. As shown in Figure H-3, a total of eight intersections, of which three are signalized and five are unsignalized, would exceed the 50-trip *CEQR Technical Manual* analysis threshold and have been selected for detailed analysis.

All eight of the intersections to be analyzed exceed the threshold during the weekday AM peak hour period, two intersections exceed the threshold during the weekday midday peak hour, and seven intersections exceed the threshold during the weekday PM peak hour period.

Figure H-2

Incremental Pedestrian Volumes



LEGEND:

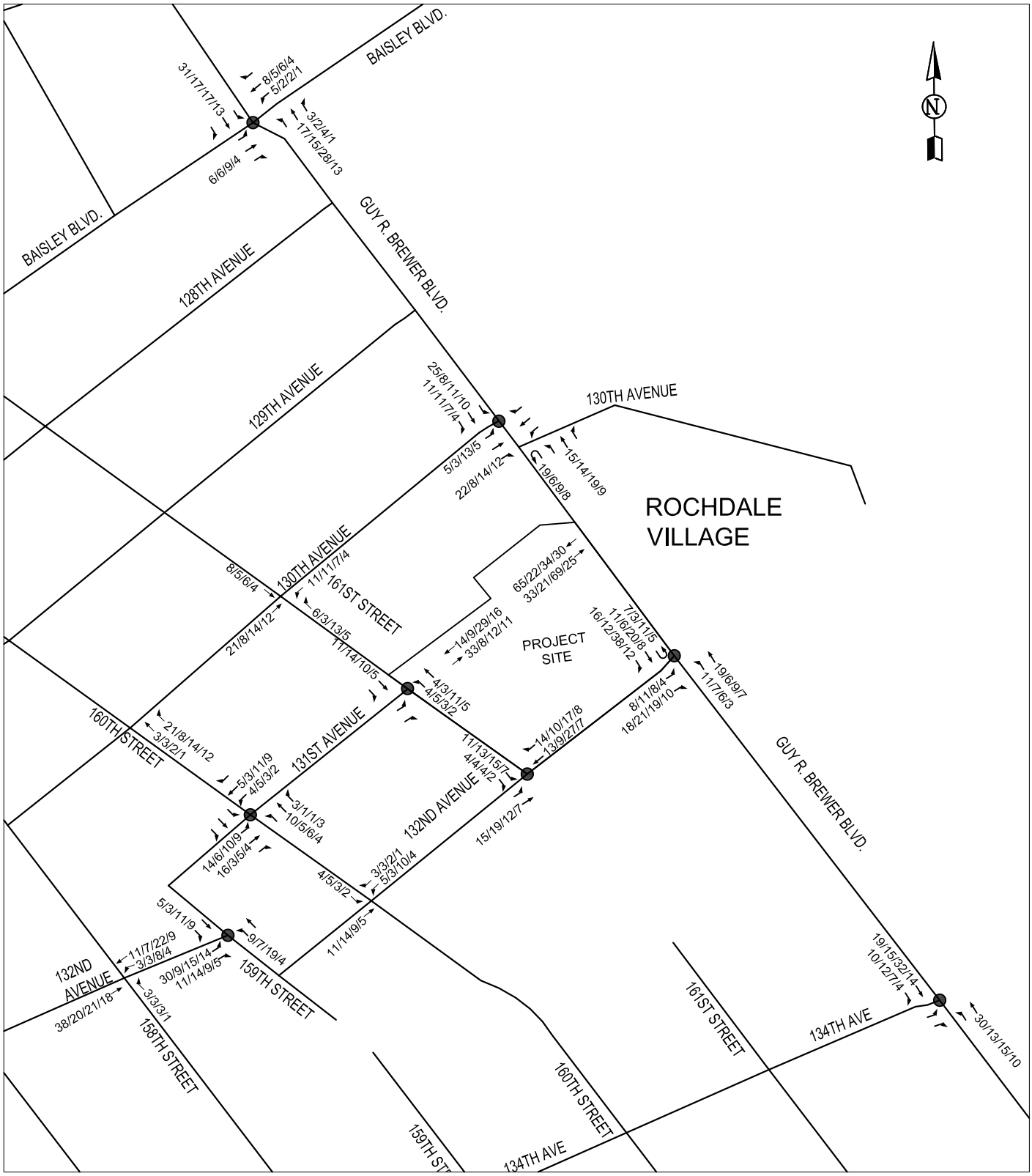
MTA Bus Stop

Proposed Medical Office Entrance

Proposed Residential Entrance

xx/xx/xx/xx - AM/MD/PM/SAT MD Pedestrian Volumes

Incremental Traffic Volumes



LEGEND: ● Analysis Location xx/xx/xx/xx - AM/MD/PM/SAT MD Traffic Volumes

Traffic Analysis Locations

1. 131st Avenue at 160th Street (Unsignalized - AM)
2. 131st Avenue at 161st Street (Unsignalized – AM/PM)
3. 132nd Avenue at 159th Street (Unsignalized - AM/PM)
4. 132nd Avenue at 161st Street (Unsignalized - AM/MD/PM)
5. Guy R Brewer Boulevard at Baisley Boulevard (Signalized - AM/ PM)
6. Guy R. Brewer Boulevard at 130th Avenue (Signalized - AM/MD/PM)
7. Guy R. Brewer Boulevard at 132nd Avenue (Unsignalized - AM/MD/PM)
8. Guy R. Brewer Boulevard at 134th Avenue (Signalized - AM/ PM)

Parking

Under Scenario 2, the proposed development would include a total of 230 accessory parking spaces (of the 269 parking spaces provided on-site) would be dedicated to the mixed-use building. The majority of the projected development's vehicle trips are linked to the residential use and the medical office staff. As shown in Table H-3, the residential parking accumulation peaks during the overnight period with 132 occupied spaces, and the medical office staff and visitor parking accumulation peaks with 111 spaces and 65 spaces occupied, respectively, at 12:00 PM on a weekday. As shown in Table H-3, the overall parking accumulation peaks at 12:00 PM on a weekday with 228 occupied spaces. As 230 parking spaces would be provided as part of the proposed development under Scenario 2, there would be sufficient parking to accommodate the peak demand on-site. As 100 percent of the peak parking demand would be accommodated on-site, no significant adverse parking impacts are anticipated, and further detailed parking analysis is not warranted.

VI. TRANSPORTATION ANALYSES METHODOLOGIES

Traffic

Analysis Methodology

To establish the existing conditions traffic network for the study area, manual turning movement, vehicle classification, and automatic traffic recorder (ATR) counts were conducted during the weekday AM, midday, PM, and Saturday midday peak periods in March 2017. Field surveys of parking regulations, lane configurations, and other physical and operational characteristics of the street network were also undertaken in March 2017. Current signal timing plans for signalized intersections within the study area were obtained from the New York City Department of Transportation (NYCDOT).

The capacity analyses at study area intersections are based on the methodology presented in the *Highway Capacity Manual (HCM) Software HCS+ Version 5.5*. Traffic data required for these analyses include the hourly volumes on each approach and various other physical and operational characteristics. Field inventories were conducted to document the physical layout, lane markings, curbside parking regulations, and other relevant characteristics needed for the analysis.

The HCM methodology provides a volume-to-capacity (v/c) ratio for each signalized intersection approach. The v/c ratio represents the ratio of traffic volumes on an approach to the approach's carrying capacity. A ratio less than 0.90 is generally considered indicative of non-congested conditions in

Table H-3: Weekday Parking Accumulation (RWCDS) - Scenario 2

	Residential 159 DUs			Medical Office (Staff) 63000 sf			Medical Office (Visitors) 63000 sf			Total
	In	Out		In	Out		In	Out		Accumulation
12-1 AM	3	0	129	0	0	0	0	0	0	129
1-2	3	0	132	0	0	0	0	0	0	132
2-3	0	0	132	0	0	0	0	0	0	132
3-4	0	0	132	0	0	0	0	0	0	132
4-5	0	0	132	2	0	2	0	0	0	134
5-6	3	6	129	4	0	6	0	0	0	135
6-7	3	16	116	6	0	12	0	0	0	128
7-8	3	26	93	10	0	22	8	0	8	123
8-9	8	45	56	71	0	93	17	2	23	172
9-10	8	12	52	10	3	100	22	1	44	196
10-11	14	14	52	7	0	107	20	3	61	220
11-12	12	12	52	7	3	111	18	14	65	228
12-1 PM	13	13	52	25	25	111	14	14	65	228
1-2	13	13	52	2	4	109	14	15	64	225
2-3	13	9	56	2	3	108	16	19	61	225
3-4	20	6	70	0	4	104	13	20	54	228
4-5	30	11	89	2	19	87	11	23	42	218
5-6	41	17	113	0	71	16	5	11	36	165
6-7	25	12	126	0	16	0	2	15	23	149
7-8	15	12	129	0	0	0	0	15	8	137
8-9	14	12	131	0	0	0	0	5	3	134
9-10	9	9	131	0	0	0	0	3	0	131
10-11	9	12	128	0	0	0	0	0	0	128
11-12	6	8	126	0	0	0	0	0	0	126
Total	265	265		148	148		160	160		

dense urban areas; when higher than this value, the ratio reflects congestion. At a v/c ratio of between 0.95 and 1.0, near capacity conditions are reached and delays can become substantial. Ratios of greater than 1.0 indicate saturated conditions with queuing. The HCM methodology also expresses quality of flow in terms of level of service (LOS), which is based on the amount of delay that a driver typically experiences at an intersection. Levels of service range from A, with minimal delay (ten seconds or less per vehicle), to F, which represents long delays (greater than 80 seconds).

For unsignalized intersections, the HCM methodology generally assumes that major street traffic is not affected by minor street flows. Left turns from the major street are assumed to be affected by the opposing, or oncoming, major street flow; minor street traffic is affected by all conflicting movements. Similar to signalized intersections, the HCM methodology expresses the quality of flow at unsignalized intersections in terms of LOS based on the amount of delay that a driver experiences. This relationship differs somewhat from the criteria used for signalized intersections, primarily because drivers expect different levels of performance from the two different kinds of transportation facilities. For unsignalized intersections, levels of service range from A, with minimal delay (ten seconds or less per vehicle), to F, which represents long delays (over 50 seconds per vehicle).

Table H-4 shows the LOS/delay relationship for signalized and unsignalized intersections using the HCM methodology. Levels of service A, B, and C generally represent highly favorable to fair levels of traffic flow. At LOS D, the influence of congestion becomes noticeable. LOS E is considered to be the limit of acceptable delay, and LOS F is considered to be unacceptable to most drivers. In this analysis, a signalized lane group operating at LOS E or F or a v/c ratio of 0.90 or above is identified as congested. For unsignalized intersections, a lane group with LOS E or F is also identified as congested.

Table H-4
Intersection Level of Service Criteria

	Average Delay per Vehicle (seconds)	
Level of Service (LOS)	**Signalized Intersections**	**Unsignalized Intersections**
A	≤10	0–10
B	>10–20	>10–15
C	>20–35	>15–25
D	>35–55	>25–35
E	>55–80	>35–50
F	>80	>50.0

Significant Impact Criteria

The identification of significant adverse traffic impacts at analyzed intersections is based on criteria presented in the *CEQR Technical Manual*. According to the 2014 *CEQR Technical Manual* criteria, if a lane group under the With-Action condition is within LOS A, B, C, or marginally acceptable LOS D (average control delay less than or equal to 45.0 seconds/vehicle for signalized intersections and 30.0 seconds/vehicle for unsignalized intersections), the impact is not considered significant. If the lane group LOS deteriorated from LOS A, B, or C in the No-Action condition to worse than mid-LOS D (i.e. delay greater than 45 seconds/vehicle at signalized intersections or 30 seconds/vehicle at unsignalized intersections) or to LOS E or F under the With-Action condition, then a significant traffic impact has occurred. For a lane group operating at LOS D under the No-Action condition, an increase of five or more seconds is considered significant if the With-Action delay exceeds mid –LOS D (45 second delay). For a lane group operating at LOS E under the No-Action condition, an increase in projected delay of four or

more seconds is considered significant, and for a lane group operating at LOS F under the No-Action condition, an increase in projected delay of three or more seconds is considered significant.

Pedestrian and Vehicular Safety Evaluation

Under *CEQR Technical Manual* guidelines, an evaluation of vehicular and pedestrian safety is needed for locations within the traffic and pedestrian study areas that have been identified as high accident locations. These are identified as locations where 48 or more total reportable and non-reportable crashes of five or more pedestrian/bicyclist injury crashes have occurred in any consecutive 12 months of the most recent three-year period for which data are available. For these locations, accident trends would be identified to determine whether the projected vehicular and pedestrian traffic would further impact safety, or whether existing unsafe conditions could adversely impact the flow of the projected new trips. The determination of potential significant safety impacts depends on the type of area where the project site is located, traffic volumes, accident types and severity, and other contributing factors. Where appropriate, measures to improve traffic and pedestrian safety should be identified and coordinated with DOT.

VII. TRAFFIC

Existing Conditions

Study Area Network

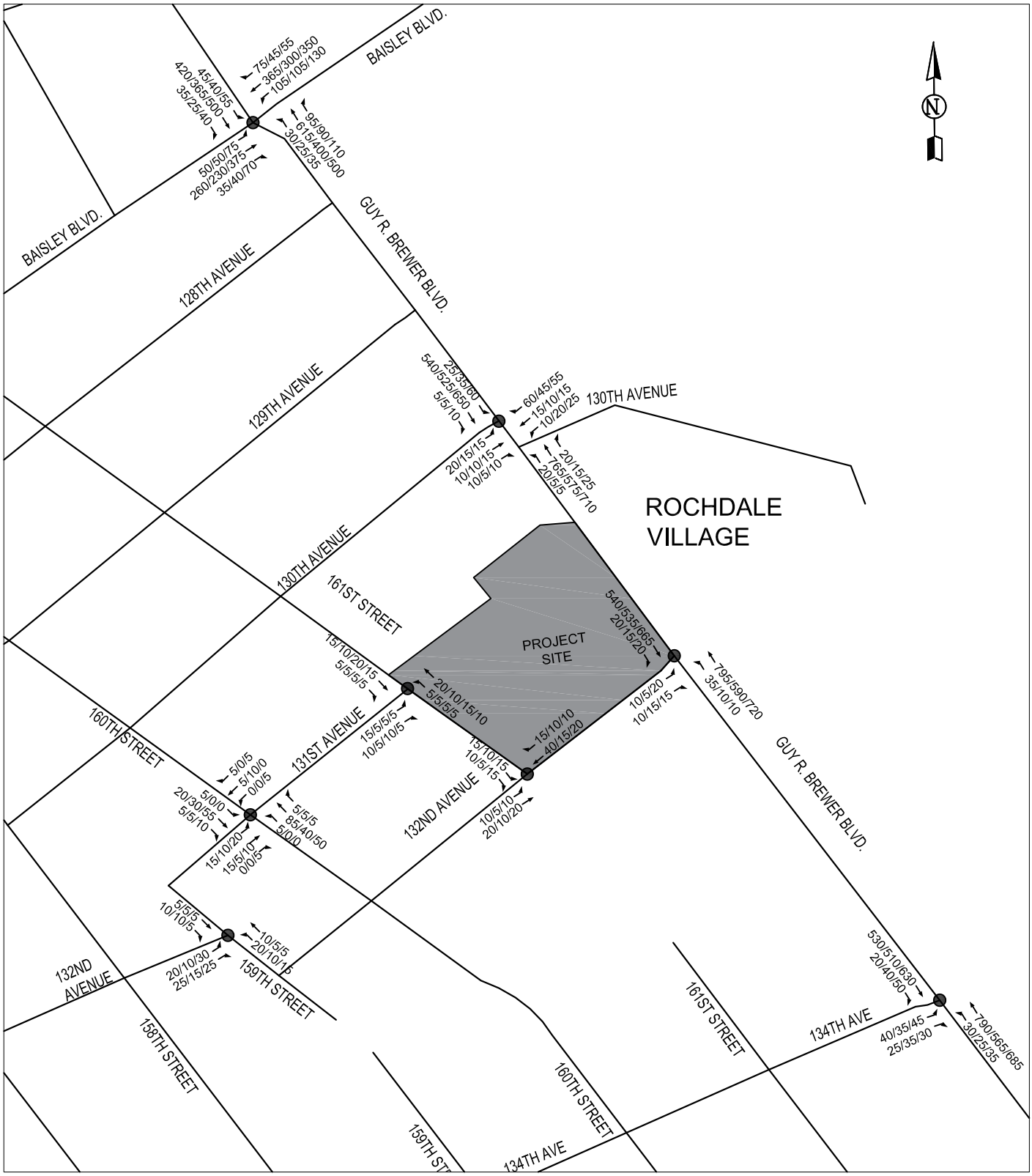
The project site is located in the Rochdale/Springfield Gardens neighborhood of Queens on the eastern portion of the block bounded by 130th Avenue to the north, Guy R. Brewer Boulevard to the east, 132nd Avenue to the south, and 161st Street to the west (refer to Figure H-1). The existing 2017 traffic volumes for the AM, midday, PM and Saturday peak hours are shown below in Figure H-4.

To the north of the project site, 130th Avenue, at 50 feet wide, accommodates two-way traffic (one 25-foot lane in each direction) and runs east-west in the vicinity of the project site. On-street parking is permitted on both sides of the street. Guy R. Brewer Boulevard, bordering the east of the project site, is a north-south arterial that provides two travel lanes and a parking lane in each direction.

Within the study area, Guy R. Brewer Boulevard provides one 11-foot and one 21-foot travel lane in each direction between Baisley Boulevard and 130th Avenue, and south of 132nd Avenue. Between 130th Avenue and 132nd Avenue, Guy R. Brewer provides one 12-foot and one 21-foot travel lane in the southbound direction, and one 11-foot and one 21-foot travel lane in the northbound direction. Additionally, north of Baisley Boulevard, Guy R. Brewer Boulevard provides one 14-foot and one 12-foot travel lane in the southbound direction, and one 24-foot travel lane in the northbound direction. Three MTA bus routes run northbound and southbound along Guy R. Brewer Boulevard in the vicinity of the project site, including the Q111 local service between Jamaica and Rosedale, and the Q113 and Q114 limited-stop service between Jamaica and Far Rockaway.

Bordering the south of the project site, 132nd Avenue, at 30 feet wide, accommodates two-way traffic and runs east-west in the vicinity of the project site. On-street parking is permitted on both sides of the

Traffic Volumes - Existing Conditions



LEGEND: ● Analysis Location xx/xx/xx/xx - AM/MD/PM/SAT MD Traffic Volumes

street. Bordering the west of the project site, 161st Street, at 30 feet wide, accommodates two-way traffic and runs north-south in the vicinity of the project site. On-street parking is permitted on both sides of the street. To the west of the project site, 131st avenue, at 30 feet wide, accommodates two-way traffic and runs east-west in the vicinity of the project site. On-street parking is permitted on both sides of the street.

Intersection Capacity Analysis

Table H-5 shows the detailed existing volume-to-capacity ratios, delays, and levels of service by movement at each of the eight analyzed intersections in each peak hour and identifies those movements that are considered congested in one or more peak hours (i.e. movements operating at LOS E or F and/or with a high v/c ratio – 0.90 and above).

As shown in Table H-5, one movement at the intersection of Baisley Boulevard and Guy R. Brewer Boulevard and one movement at the intersection of 130th Avenue and Guy R. Brewer Boulevard are each congested during one peak hour period. The westbound through movement at the intersection of Baisley Boulevard and Guy R. Brewer Boulevard operates at LOS D with a v/c ratio of 0.94 during the weekday AM peak hour. The southbound lane group at the intersection of 130th Avenue and Guy R. Brewer Boulevard operates at LOS C with a v/c ratio of 0.92 during the weekday PM peak hour.

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

The 2020 No-Action condition incorporates changes to the study area's traffic network as a result of general background growth. As per *CEQR Technical Manual* guidelines, an annual compound background growth rate of 0.50 percent per year was assumed for the 2017 to 2020 period. This background growth rate is applied to account for general increase in travel demand not attributable to specific development projects in proximity to the study area. There are no known developments planned for completion within an approximate ½-mile radius of the project site before 2020.

Intersection Capacity Analysis

Table H-6 shows the detailed volume-to-capacity ratios, delays, and levels of service by movement at each analyzed intersection in each peak hour in the No-Action condition, and identifies those movements that are considered congested in one or more peak hours.

As shown in Table H-6, the westbound through movement at intersection of Baisley Boulevard and Guy R. Brewer Boulevard would continue to operate under LOS D in the weekday AM peak hour, with a slight increase in the v/c ratio to 0.95. The southbound through movement during the weekday AM peak hour at the intersection of Baisley Boulevard and Guy R. Brewer Boulevard that operated under LOS D with a v/c ratio of 0.88 under existing conditions, would operate at LOS D with a v/c ratio of 0.90 under the No-Action condition in the weekday PM peak hour. The southbound lane group at the intersection of 130th Avenue and Guy R. Brewer Boulevard that operated under LOS C with a v/c ratio of 0.92 under existing conditions would operate at LOS D with a v/c ratio of 0.94 under the No-Action condition in the weekday PM peak hour.

Table H-5

Traffic Levels of Service Analysis - Existing Conditions

Intersection	Lane Group	2017 Existing Condition											
		Weekday AM Peak Hour			Weekday MD Peak Hour			Weekday PM Peak Hour			Weekday Sat Peak Hour		
		V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS
1. Baisley Boulevard (E-W) @	EB-L	0.36	24.7	C	0.27	20.9	C	0.43	25.7	C			
Guy R Brewer Boulevard (N-S)	EB-TR	0.49	22.6	C	0.46	21.9	C	0.64	25.7	C			
	WB-L	0.45	24.7	C	0.37	22.5	C	0.72	42.8	D			
	WB-TR	0.94	51.2	D *	0.69	29.1	C	0.78	33.0	C			
	NB-LTR	0.88	35.2	D	0.52	21.6	C	0.83	33.3	C			
	SB-L	0.39	26.5	C	0.20	18.7	B	0.32	21.8	C			
	SB-TR	0.82	35.3	D	0.65	25.9	C	0.88	39.3	D			
2. 130th Avenue (E-W) @	EB-LTR	0.09	13.5	B	0.07	13.3	B	0.09	13.4	B			
Guy R Brewer Boulevard (N-S)	WB-LTR	0.19	14.3	B	0.17	14.2	B	0.22	14.6	B			
	NB-LTR	0.82	24.2	C	0.61	18.0	B	0.80	23.3	C			
	SB-LTR	0.64	18.8	B	0.70	20.2	C	0.92	34.9	C *			
3. 134th Avenue (E-W) @	EB-LR	0.16	11.5	B	0.16	11.6	B	0.17	11.6	B			
Guy R Brewer Boulevard (N-S)	NB-LT	0.83	22.5	C	0.60	16.0	B	0.68	17.5	B			
	SB-TR	0.49	14.3	B	0.55	14.9	B	0.61	15.8	B			
4. 132th Avenue (E-W) @	EB-LR	0.08	17.4	C	0.06	15.4	C	0.20	26.3	D			
Guy R Brewer Boulevard (N-S)	NB-LT	0.05	9.0	A	0.01	9.4	A	0.02	9.7	A			
(Unsignalized Two-Way Stop)													
5. 131st Avenue (E-W) @	EB-LR	0.04	9.8	A	0.02	9.5	A	0.02	9.6	A	0.01	9.6	A
161st Street (N-S)	NB-LT	0.00	7.5	A	0.00	7.5	A	0.00	7.5	A	0.00	7.5	A
(Unsignalized Two-Way Stop)													
6. 131st Avenue (E-W) @	EB-LTR	0.01	7.5	A	0.01	7.5	A	0.02	7.5	A			
160th Street (N-S)	WB-LTR	0.00	7.5	A	0.00	7.5	A	0.00	7.5	A			
(Unsignalized Two-Way Stop)	NB-LTR	0.17	11.7	B	0.08	10.8	B	0.09	11.2	B			
	SB-LTR	0.06	10.9	B	0.06	10.6	B	0.11	11.2	B			
7. 132nd Avenue (E-W) @	EB-LT	0.01	7.6	A	0.00	7.5	A	0.01	7.5	A			
161st Street (N-S)	SB-LR	0.04	10.1	B	0.02	9.8	A	0.05	10.0	A			
(Unsignalized Two-Way Stop)													
8. 132dn Avenue (E-W) @	EB-LR	0.07	10.0	A	0.04	9.7	A	0.09	10.1	B			
159th Street (N-S)	NB-LT	0.02	7.6	A	0.01	7.5	A	0.01	7.5	A			
(Unsignalized Two-Way Stop)													

Notes:

EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound

L-Left, T-Through, R-Right, DfL-Analysis considers a defacto left-turn lane on this approach

V/C ratio - volume to capacity ratio

LOS - level of service

***** - Denotes a congested movement (LOS E or F, or V/C ratio greater than or equal to 0.9)

Table H-6

Traffic Levels of Service Analysis - No-Action Conditions

		Weekday AM Peak Hour						Weekday MD Peak Hour						Weekday PM Peak Hour						Weekday Sat Peak Hour					
		2017 Existing Condition			2020 NoBuild Condition			2017 Existing Condition			2020 NoBuild Condition			2017 Existing Condition			2020 NoBuild Condition			2017 Existing Condition			2020 NoBuild Condition		
Intersection	Lane Group	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS
1. Baisley Boulevard (E-W) @	EB-L	0.36	24.7	C	0.39	25.8	C	0.27	20.9	C	0.28	21.3	C	0.43	25.7	C	0.45	26.3	C						
Guy R Brewer Boulevard (N-S)	EB-TR	0.49	22.6	C	0.49	22.7	C	0.46	21.9	C	0.46	22.0	C	0.64	25.7	C	0.65	26.1	C						
	WB-L	0.45	24.7	C	0.47	25.3	C	0.37	22.5	C	0.38	22.8	C	0.72	42.8	D	0.75	46.1	D						
	WB-TR	0.94	51.2	D *	0.95	53.9	D *	0.69	29.1	C	0.70	29.6	C	0.78	33.0	C	0.79	33.7	C						
	NB-LTR	0.88	35.2	D	0.89	36.8	D	0.52	21.6	C	0.53	21.8	C	0.83	33.3	C	0.86	35.6	D						
	SB-L	0.39	26.5	C	0.41	27.5	C	0.20	18.7	B	0.20	18.8	B	0.32	21.8	C	0.33	22.2	C						
	SB-TR	0.82	35.3	D	0.83	36.2	D	0.65	25.9	C	0.66	26.2	C	0.88	39.3	D	0.90	41.1	D *						
2. 130th Avenue (E-W) @	EB-LTR	0.09	13.5	B	0.09	13.5	B	0.07	13.3	B	0.07	13.3	B	0.09	13.4	B	0.09	13.4	B						
Guy R Brewer Boulevard (N-S)	WB-LTR	0.19	14.3	B	0.19	14.3	B	0.17	14.2	B	0.17	14.2	B	0.22	14.6	B	0.22	14.7	B						
	NB-LTR	0.82	24.2	C	0.83	24.9	C	0.61	18.0	B	0.62	18.2	B	0.80	23.3	C	0.81	23.8	C						
	SB-LTR	0.64	18.8	B	0.65	19.0	B	0.70	20.2	C	0.71	20.5	C	0.92	34.9	C *	0.94	38.6	D *						
3. 134th Avenue (E-W) @	EB-LR	0.16	11.5	B	0.16	11.6	B	0.16	11.6	B	0.17	11.7	B	0.17	11.6	B	0.17	11.7	B						
Guy R Brewer Boulevard (N-S)	NB-LT	0.83	22.5	C	0.84	23.1	C	0.60	16.0	B	0.61	16.1	B	0.68	17.5	B	0.69	17.9	B						
	SB-TR	0.49	14.3	B	0.50	14.3	B	0.55	14.9	B	0.55	15.0	B	0.61	15.8	B	0.62	16.0	B						
4. 132th Avenue (E-W) @	EB-LR	0.08	17.4	C	0.08	17.8	C	0.06	15.4	C	0.07	15.6	C	0.20	26.3	D	0.20	26.9	D						
Guy R Brewer Boulevard (N-S)	NB-LT	0.05	9.0	A	0.05	9.1	A	0.01	9.4	A	0.01	9.4	A	0.02	9.7	A	0.02	9.7	A						
(Unsignalized Two-Way Stop)																									
5. 131st Avenue (E-W) @	EB-LR	0.04	9.8	A	0.04	9.8	A	0.02	9.5	A	0.02	9.5	A	0.02	9.6	A	0.02	9.6	A	0.01	9.6	A	0.01	9.6	A
161st Street (N-S)	NB-LT	0.00	7.5	A	0.00	7.5	A	0.00	7.5	A	0.00	7.5	A	0.00	7.5	A	0.00	7.5	A	0.00	7.5	A	0.00	7.5	A
(Unsignalized Two-Way Stop)																									
6. 131st Avenue (E-W) @	EB-LTR	0.01	7.5	A	0.01	7.5	A	0.01	7.5	A	0.01	7.5	A	0.02	7.5	A	0.02	7.5	A						
160th Street (N-S)	WB-LTR	0.00	7.5	A	0.00	7.5	A	0.00	7.5	A	0.00	7.5	A	0.00	7.5	A	0.00	7.5	A						
(Unsignalized Two-Way Stop)	NB-LTR	0.17	11.7	B	0.17	11.7	B	0.08	10.8	B	0.08	10.8	B	0.09	11.2	B	0.10	11.2	B						
	SB-LTR	0.06	10.9	B	0.06	10.9	B	0.06	10.6	B	0.06	10.6	B	0.11	11.2	B	0.12	11.3	B						
7. 132nd Avenue (E-W) @	EB-LT	0.01	7.6	A	0.01	7.6	A	0.00	7.5	A	0.00	7.5	A	0.01	7.5	A	0.01	7.5	A						
161st Street (N-S)	SB-LR	0.04	10.1	B	0.04	10.1	B	0.02	9.8	A	0.02	9.8	A	0.05	10.0	A	0.05	10.0	A						
(Unsignalized Two-Way Stop)																									
8. 132dn Avenue (E-W) @	EB-LR	0.07	10.0	A	0.07	10.0	A	0.04	9.7	A	0.04	9.7	A	0.09	10.1	B	0.09	10.1	B						
159th Street (N-S)	NB-LT	0.02	7.6	A	0.02	7.5	A	0.01	7.5	A	0.01	7.5	A	0.01	7.5	A	0.01	7.5	A						
(Unsignalized Two-Way Stop)																									

Notes:

EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound

L-Left, T-Through, R-Right, DfL-Analysis considers a defacto left-turn lane on this approach

V/C ratio - volume to capacity ratio

LOS - level of service

* - Denotes a congested movement (LOS E or F, or V/C ratio greater than or equal to 0.9)

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

As previously discussed, the proposed action under Scenario 2 would facilitate the construction of an approximately 222,493 gsf mixed-use development that would include 159 typical family DUs, and 63,000 gsf of community facility space with assumed medical office uses. Under this scenario, a total of 269 accessory parking spaces would be provided on-site, with 39 spaces dedicated to the existing residential building and 230 spaces dedicated to the proposed mixed-use building. The development under Scenario 2 is anticipated to be completed and occupied by 2020. Figure H-5 shows the weekday AM, midday, and PM peak hour traffic network volumes in the 2020 future With-Action conditions. Additionally, the 2020 With-Action Saturday midday peak hour traffic volumes are shown at the intersection of 131st Avenue at 161st Street. The volumes shown in Figure H-5 are the combination of the net incremental traffic generated by the proposed project (refer to Figure H-3) and the No-Action traffic network (refer to Table H-6). No physical changes to the study area street network are planned in conjunction with the proposed project.

Intersection Capacity Analysis

Table H-7 shows the volume-to-capacity ratios, delays, and levels of service by movement at each analyzed intersection in each peak hour in the With Action condition and compares them with the No-Action conditions. As shown in Table H-7, all movements that are congested under the No-Action conditions would continue to operate at the same level of service with slight increases in v/c ratios and delays under the 2020 With-Action condition. However, as previously stated in the LOS Impact Criteria, a delay increase of less than five seconds for a lane group operating at mid-LOS D (45 second delay) and a delay increase of less than three seconds for a lane group operating at LOS F from the No-Action condition to the With-Action condition is not considered to be significant. As a result, these individual movements are not considered to be significantly congested and almost all peak hour traffic movements at each intersection would continue to operate at a marginally acceptable LOS D (45 second delay) or better.

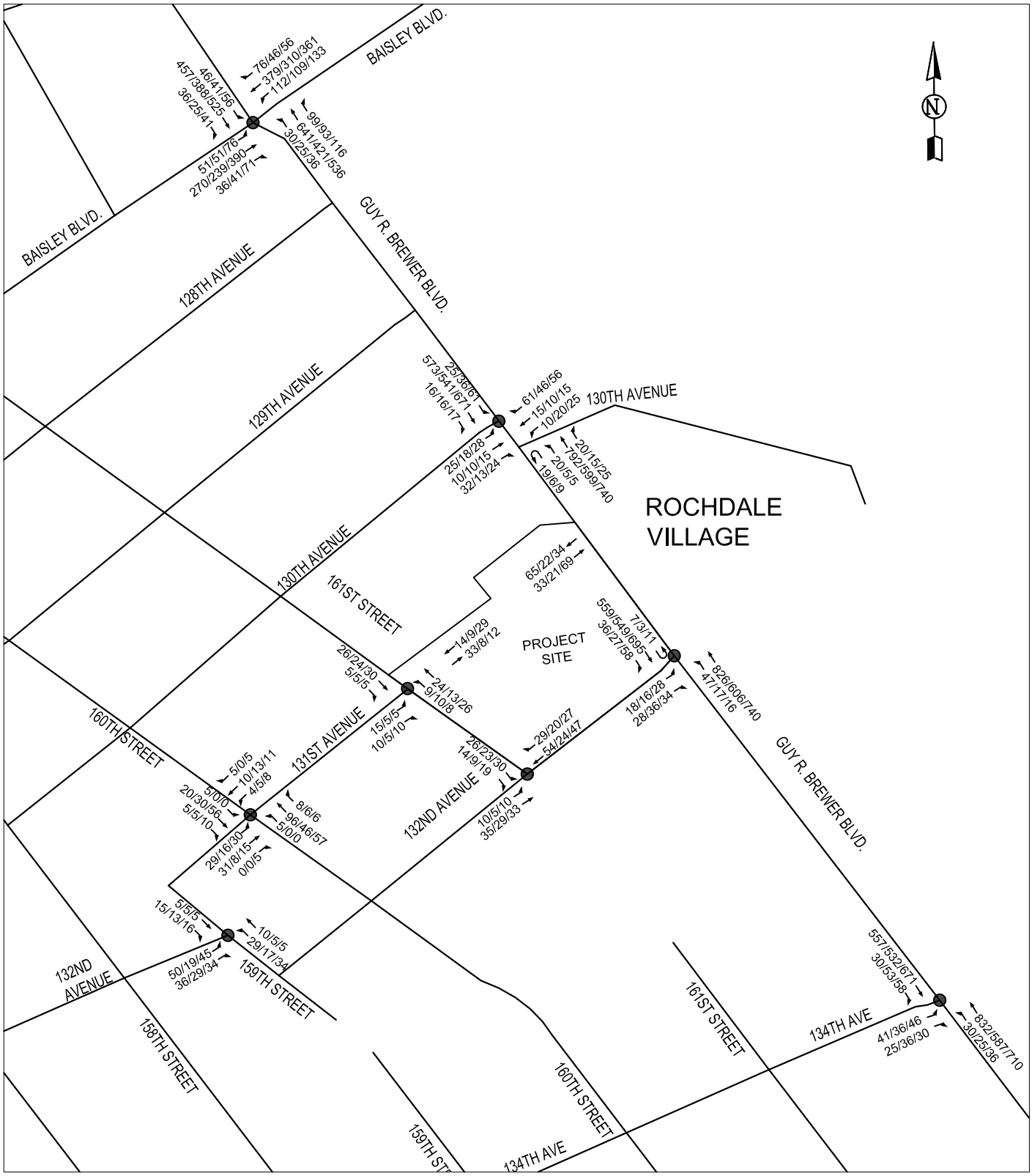
As shown in Table H-7, the westbound through movement that operated at LOS D with a v/c ratio of 0.94 under the No-Action condition, would operate at LOS E with a v/c ratio of 0.97 under the With-Action condition. However, as there is less than five seconds of increase in the delay (an increase of 3.3 seconds from 53.9 seconds under the No-Action condition to 57.2 seconds under the With-Action condition), this is not considered a significant impact. Therefore, there would be no significant traffic impacts in the study area in the weekday AM, midday, PM, and Saturday midday peak hours.

VII. VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

Study Area High Crash Locations

Under *CEQR Technical Manual* guidelines, an evaluation of pedestrian and vehicular safety is needed for locations within the traffic and pedestrian study areas that have been identified as high crash locations. These locations are defined as locations where 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicyclist injury crashes have occurred in any consecutive twelve months of the most recent three-year period for which data are available. Reportable crashes are defined as those involving injuries, fatalities, and/or $1,000 or more in property damage.

Traffic Volumes - With-Action Condition



LEGEND: ● Analysis Location xx/xx/xx/xx - AM/MD/PM Traffic Volumes

Table H-7

Traffic LOS Summary at Analyzed Locations - No-Action vs. With-Action Conditions

		Weekday AM Peak Hour						Weekday MD Peak Hour						Weekday PM Peak Hour					
		2020 NoBuild Condition			2020 Build Condition			2020 NoBuild Condition			2020 Build Condition			2020 NoBuild Condition			2020 Build Condition		
Intersection	Lane Group	V/C Ratio	Delay (sec.)	LOS		V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS		V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS		V/C Ratio	Delay (sec.)	LOS
1. Baisley Boulevard (E-W) @	EB-L	0.36	25.8	C		0.4	26.6	C	0.28	21.3	C		0.29	21.5	C	0.45	26.3	C		0.46	26.9	C
Guy R Brewer Boulevard (N-S)	EB-TR	0.49	22.7	C		0.51	22.9	C	0.47	22.1	C		0.48	22.2	C	0.65	26.3	C		0.67	26.7	C
	WB-L	0.45	25.3	C		0.50	26.3	C	0.38	22.8	C		0.40	23.3	C	0.75	46.1	D		0.78	50.6	D
	WB-TR	0.94	53.9	D		0.97	57.2	E	0.70	29.6	C		0.71	30.0	C	0.79	33.7	C		0.80	34.5	C
	NB-LTR	0.88	36.8	D		0.95	44.0	D	0.53	21.8	C		0.55	22.2	C	0.86	35.6	D		0.92	42.9	D
	SB-L	0.39	27.5	C		0.43	28.9	C	0.20	18.8	B		0.21	19.0	B	0.33	22.2	C		0.35	23.1	C
	SB-TR	0.82	36.2	D		0.89	41.6	D	0.66	26.2	C		0.68	27.1	C	0.90	41.1	D		0.92	44.7	D
2. 130th Avenue (E-W) @	EB-LTR	0.09	13.5	B		0.16	14.1	B	0.07	13.3	B		0.10	13.5	B	0.09	13.4	B		0.16	14.1	B
Guy R Brewer Boulevard (N-S)	WB-LTR	0.19	14.3	B		0.19	14.3	B	0.17	14.2	B		0.17	14.2	B	0.22	14.7	B		0.22	14.7	B
	NB-LTR	0.82	24.9	C		0.91	31.8	C	0.62	18.2	B		0.65	18.9	B	0.81	23.8	C		0.86	26.4	C
	SB-LTR	0.64	19.0	B		0.70	20.4	C	0.71	20.5	C		0.74	21.3	C	0.92	35.2	D		0.96	41.6	D
3. 134th Avenue (E-W) @	EB-LR	0.16	11.6	B		0.16	11.6	B	0.17	11.7	B		0.17	11.7	B	0.17	11.7	B		0.17	11.7	B
Guy R Brewer Boulevard (N-S)	NB-LT	0.83	23.1	C		0.87	25.1	C	0.61	16.1	B		0.63	16.4	B	0.69	17.9	B		0.71	18.3	B
	SB-TR	0.49	14.3	B		0.53	14.7	B	0.55	15.0	B		0.58	15.5	B	0.62	16.0	B		0.65	16.6	B
4. 132th Avenue (E-W) @	EB-LR	0.08	17.8	C		0.17	18.6	C	0.07	15.6	C		0.19	18.7	C	0.20	26.9	D		0.35	31.4	D
Guy R Brewer Boulevard (N-S)	NB-LT	0.05	9.1	A		0.06	9.1	A	0.01	9.4	A		0.03	9.6	A	0.02	9.7	A		0.03	10.1	B
(Unsignalized Two-Way Stop)	SB-L					0.01	9.2	A					0.00	8.9	A					0.02	9.6	A
5. 131st Avenue (E-W) @	EB-LR	0.04	9.8	A	EB-LTR	0.08	11.1	B	0.02	9.5	A	EB-LTR	0.03	10.2	B	0.02	9.6	A	EB-LTR	0.03	10.4	B
161st Street (N-S)	NB-LT	0.00	7.5	A	WB-LTR	0.02	10.6	B	0.00	7.5	A	WB-LTR	0.01	10.4	B	0.00	7.5	A	WB-LTR	0.05	10.8	B
(Unsignalized Two-Way Stop)					NB-LTR	0.01	7.5	A				NB-LTR	0.01	7.5	A				NB-LTR	0.01	7.5	A
					SB-LTR	0.01	7.5	A				SB-LTR	0.00	7.5	A				SB-LTR	0.00	7.5	A
6. 131st Avenue (E-W) @	EB-LTR	0.01	7.5	A		0.02	7.5	A	0.01	7.5	A		0.01	7.5	A	0.02	7.5	A		0.03	7.5	A
160th Street (N-S)	WB-LTR	0.00	7.5	A		0.00	7.5	A	0.00	7.5	A		0.00	7.5	A	0.00	7.5	A		0.01	7.5	A
(Unsignalized Two-Way Stop)	NB-LTR	0.17	11.7	B		0.21	12.7	B	0.08	10.8	B		0.09	11.1	B	0.10	11.2	B		0.12	11.9	B
	SB-LTR	0.06	10.9	B		0.06	11.5	B	0.06	10.6	B		0.07	10.9	B	0.12	11.3	B		0.12	11.8	B
7. 132nd Avenue (E-W) @	EB-LT	0.01	7.6	A		0.01	7.7	A	0.00	7.5	A		0.00	7.6	A	0.01	7.5	A		0.01	7.7	A
161st Street (N-S)	SB-LR	0.04	10.1	B		0.07	10.7	B	0.02	9.8	A		0.05	10.2	B	0.05	10.0	A		0.08	10.6	B
(Unsignalized Two-Way Stop)																						
8. 132dn Avenue (E-W) @	EB-LTR	0.07	10.0	A		0.14	10.7	B	0.04	9.7	A		0.08	10.0	A	0.09	10.1	B		0.13	10.7	B
159th Street (N-S)	NB-LT	0.02	7.6	A		0.03	7.6	A	0.01	7.5	A		0.01	7.5	A	0.01	7.5	A		0.03	7.6	A
(Unsignalized Two-Way Stop)																						

Notes:

EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound

L-Left, T-Through, R-Right, DfL-Analysis considers a defacto left-turn lane on this approach

V/C ratio - volume to capacity ratio

LOS - level of service

* - Denotes an impacted movement

Table H-8 below shows summary crash data for the three-year reporting period between January 1, 2012 and December 31, 2014 that were obtained from DOT. This is the most recent three-year period for which data are available. The table shows the total number of crashes each year and the number of crashes each year involving pedestrians and cyclists at intersections in proximity to the project site where the majority of new vehicular and pedestrian trips would be concentrated.
As shown in Table H-8, no intersections were found to have experienced a total of 48 or more crashes in any one year nor were any intersections found to have experienced five or more pedestrian/bicyclist injury crashes in one year. Therefore, none of the analyzed intersections are considered high accident locations.

Table H-8
Accident Data Summary 2012-2014

Intersection		Pedestrian Injury Accidents			Bicycle Injury Accidents			Total Pedestrian/ Bicyclist Injury Accidents			Total Accidents (Reportable + Non-Reportable)		
North-South Roadway	**East-West Roadway**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**
159th Street	**132nd Avenue**	0	0	0	0	0	0	0	0	0	**0**	**0**	**0**
160th Street	**131st Avenue**	0	0	0	0	0	0	0	0	0	**0**	**0**	**0**
161st Street	**131st Avenue**	0	0	0	0	0	0	0	0	0	**0**	**0**	**0**
	132nd Avenue	0	0	0	0	1	0	0	0	0	**0**	**1**	**0**
Guy R. Brewer Boulevard	**Baisley Boulevard**	0	2	3	0	0	0	0	2	3	**7**	**9**	**9**
	130th Avenue	0	1	0	0	0	0	0	0	0	**2**	**3**	**0**
	132nd Avenue	1	0	0	0	0	0	1	0	0	**2**	**0**	**2**
	134th Avenue	0	0	1	0	0	0	0	0	1	**0**	**2**	**4**

Source: NYSDMV/DOT

I. INTRODUCTION

The applicant, Northeastern Towers Annex L.P., is seeking a zoning map amendment and a zoning text amendment from the New York City Planning Commission (CPC) (the "proposed actions") to facilitate the development of a residential building at 131-10 Guy R. Brewer Boulevard in the Rochdale/Springfield Gardens neighborhood of Queens Community District (CD) 12. The proposed project would rezone Block 12277, portion of Lot 1 from an R3X district to an R6 district and will include a zoning text amendment to Appendix F of the Zoning Resolution in order to map the rezoning area as a Mandatory Inclusionary Housing Area (MIH).

The proposed development site comprises approximately 113,133-square-feet (sf) on one lot (Block 12277, Lot 1), which is owned by the applicant and bounded by Guy R. Brewer Boulevard to the east, 132nd Avenue to the south, and 161st Street to the west. The proposed R6 district would be mapped on a portion of Lot 1 (approximately 98,400 sf). An approximate 35 foot buffer area would be created along the northern portion of Lot 1 which would remain R3X (14,733 sf). The development site is currently occupied by a 12-story residential building with a total of 110 affordable DUs (with 1 additional apartment for a resident superintendent), all of which are reserved for low-income senior citizens. Upon approval of the proposed actions, the existing 12-story building would remain while a new 10-story annex would be constructed on a new tax lot to be created at the southern portion of the development site. The proposed new building would contain approximately 139,487 gross square feet (gsf), including 129 dwelling units (with 1 additional apartment for a resident superintendent) and 3,925 gsf of community facility uses (senior center). The proposed development would rise to a height of 10-stories (106.5 feet). The proposed development would include 100% affordable housing floor area, resulting in the creation of approximately 129 Affordable Independent Residences for Seniors (AIRS).

However, while the applicant intends on developing the proposed project described above ("Scenario 1"), because the proposed actions would result in an R6 zoning district, an alternate reasonable worst-case development scenario (RWCDS) will be considered for conservative analysis purposes ("Scenario 2"). It is assumed that in the absence of the proposed development of the affordable senior DUs, the site could be redeveloped with an approximately 222,493 gsf mixed-use development that would include 159,493 gsf (155,854 zsf) of residential uses and 63,000 gsf (60,000 zsf) of community facility uses (assumed to be medical office). The proposed development would result in 159 typical family DUs. Approximately 230 accessory parking spaces would be accommodated in a parking garage with two levels: one at grade and one below grade with entrances along Guy R. Brewer Boulevard and 161st Street. The proposed residential portion of the building would be 14-stories with frontage along 132nd Avenue and Guy R. Brewer Boulevard and the proposed community facility portion of the building would be 7-stories with frontage along 132nd Avenue and 161st Street. In the future With-Action condition, it is assumed that the existing 12-story residential building within the rezoning area would remain.

Air quality analyses were conducted because the emissions released from the heating, ventilation, and air conditioning (HVAC) systems of each of proposed buildings could potentially impact the other nearby taller buildings. Under Scenario 1, the HVAC emissions from the shorter 10-story proposed building will

affect the existing 12-story residential building (see Figure I-1); under Scenario 2, the HVAC emissions from the proposed shorter 7-story community facility building will affect both the proposed 14-story residential building and the existing 12-story residential building (see Figure I-2), and the HVAC emissions from the existing 12-story residential building would affect the proposed 14-story residential building.

Therefore, a project-on-project analysis was conducted to determine whether the potential impacts of these emissions would be significant. In addition, as Scenario 2 would include a below grade parking garage with 201 spaces, a garage air quality analysis was conducted.

A review of existing land uses using NYC Oasis interactive mapping application and Google imaging software show that there is an existing residential complex consisting of twenty-eight (28) 14-story buildings located east of the project site across Guy R. Brewer Boulevard at Rochdale Village, which is within 400 feet of the study area. These buildings are scattered throughout the area and are taller than or as tall as the proposed buildings under Scenarios 1 and 2. The minimum distance from the proposed buildings to the closest 14-story existing building within the complex of 28 buildings is approximately 225 feet. As such, a project-on-existing buildings analysis was conducted.

As there is no major combustion emission sources (e.g., Title V or State Facilities) within 400 feet of the study area, no major source analysis is warranted.

The site, as currently zoned, allows for sensitive land uses (residences). As such, no air toxics analysis is required. In addition, there are no major or large source emission sources within 1,000 feet of the project site, as per 2014 *City Environmental Quality Review Technical Manual (CEQR Technical Manual)* guidance; therefore, no analysis of emission sources is warranted. In addition, a review of existing land uses using NYC Oasis interactive mapping application and Google imaging software showed that no industrial facilities were found to be located within 400 feet of the development site. As such, analyses of potential impacts of toxic air pollutants is not warranted.

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

II. PRINCIPAL CONCLUSIONS

As mentioned above, in accordance with *CEQR Technical Manual* guidance, an analysis of the potential impacts of the HVAC system emissions is warranted. In addition, because of the potential for air toxic emissions from the proposed garage under Scenario 2, a parking garage air quality analysis was also conducted. As discussed in detail below, the air quality analysis concluded that the proposed actions would not result in significant adverse air quality impacts from HVAC or parking garage emissions on the existing land uses.

III. ANALYSIS

Relevant Air Pollutants

The United States Environmental Protection Agency (EPA) has identified several pollutants, which are known as criteria pollutants, as being of concern nationwide. As the proposed buildings under both scenarios would be heated by natural gas, the two criteria pollutants associated with natural gas

combustion – nitrogen dioxide (NO_2) and particulate matter smaller than 2.5 microns ($PM_{2.5}$) – were considered for analysis.

Applicable Air Quality Standards and Significant Impact Criteria

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

In addition to the NAAQS, the *CEQR Technical Manual* requires that projects subject to CEQR apply a $PM_{2.5}$ significant impact criteria (based on concentration increments) developed by the New York City Department of Environmental Protection (NYCDEP) to determine whether potential adverse $PM_{2.5}$ impacts would be significant. If the estimated impacts of a proposed project are less than these increments, the impacts are not considered to be significant. This analysis addressed compliance of the potential impacts with the 24-hour and annual $PM_{2.5}$ CEQR significant incremental impact criteria.

The current standards and CEQR significant impact criteria that were applied to this analysis, together with their health-related averaging periods, are provided in Table I-1.

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

Pollutant	Averaging Period	NAAQS	CEQR Thresholds
NO_2	1 Hour	0.10 ppm (188 µg/m^3)	--
	Annual	.053 ppm (100 µg/m^3)	--
$PM_{2.5}$	24 Hour	35 µg/m^3	6.25
	Annual	12 µg/m^3	0.3

NO_2 NAAQS

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

The 1-hour NO_2 NAAQS standard of 0.100 ppm (188 ug/m^3) is the 3-year average of the 98th percentile of daily maximum 1-hour average concentrations in a year. For determining compliance with this standard, the EPA has developed a modeling approach for estimating 1-hour NO_2 concentrations that is comprised of 3 tiers: Tier 1, the most conservative approach, assumes a full (100%) conversion of NOx to NO_2; Tier 2 applies a conservative ambient NOx/NO_2 ratio of 80% to the NOx estimated concentrations; and Tier 3, which is the most precise approach, employs AERMOD's Plume Volume Molar Ratio Method (PVMRM) module. The PVMRM accounts for the chemical transformation of NO emitted from the stack to NO_2 within the source plume using hourly ozone background concentrations. When Tier 3 is utilized, AERMOD generates 8th highest daily maximum 1-hour NO_2 concentrations or total 1-hour NO_2 concentrations if hourly NO_2 background concentrations are added within the model, and averages these values over the numbers of the years modeled. Total estimated concentrations are generated in the statistical form of the 1-hour NO_2 NAAQS format and can be directly compared with the 1-hour NO_2 NAAQS standard.

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

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

$PM_{2.5}$ CEQR Significant Impact Criteria

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

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

A 24-hour $PM_{2.5}$ background concentration of 22.5 ug/m^3 was obtained from the Queens College 2 monitoring station as the average of the 98th percentile for the latest 3 years of available monitoring data collected by the NYSDEC for 2013-2015. As the applicable background value is 22.5 ug/m^3, half of the difference between the 24-hour $PM_{2.5}$ NAAQS and this background value is 6.25 ug/m^3. As such, a significant impact criterion of 6.25 ug/m^3 was used for determining whether the potential 24-hour $PM_{2.5}$ impacts of the proposed development are considered to be significant.

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

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

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

Mobile Source Air Quality Screening

Traffic

The mobile source analysis outlined in the *CEQR Technical Manual* considers actions that add new vehicles to roadways or change traffic patterns, either of which may have significant adverse air quality impacts. Screening analyses were carried out for CO and $PM_{2.5}$ to determine whether the project-generated increases in traffic had the potential to cause a significant impact. For the preliminary CO screening assessment, the *CEQR Technical Manual* indicates that a more detailed mobile source analysis may be warranted for a project located in Queens if it would generate 170 or more incremental vehicle trips at any intersection. For the preliminary PM assessment, the screening is based on the number of heavy duty diesel vehicles (HDDVs) or their equivalent in vehicular emissions generated by the projected traffic increment. The determination of HDDV equivalents is based on the vehicle increment, vehicle mix, and roadway classification of the intersection.

CO Screening

As noted above, for this area of the City, the threshold volume for modeling CO concentrations using MOVES2014a and CAL3QHC or CAL3QHCR is an increment of 170 vehicles through an intersection during

a peak traffic hour. The highest incremental traffic volumes generated by Scenario 2 at an existing intersection is 111 vehicles at the intersection of Guy R. Brewer Boulevard and 132nd Avenue (refer to Attachment H, "Transportation"). As such, Scenario 2 does not trigger the 170-vehicle threshold, and no CO modeling is required.

PM Screening

A $PM_{2.5}$ screening analysis was conducted using the spreadsheet referenced on page 17-12 of the *CEQR Technical Manual*. The algorithm uses traffic volume according to vehicular class and determines the number of HDDVs that would generate equivalent emissions. The equivalent number of HDDVs varies by type of road. Based on guidance from the New York City Department of Environmental Protection (DEP), the minor leg of an intersection determines its classification as a local road, collector, arterial, or expressway. A more detailed analysis is required if a proposed action would meet or exceed the thresholds shown below:

- 12 HDDV for paved roads with average daily traffic fewer than 5,000 vehicles;
- 19 HDDV for collector-type roads;
- 23 HDDV for principal and minor arterial roads; and
- 23 HDDV for expressways and limited-access roads.

As mentioned above, the intersection with the highest increment under Scenario 2 would be Guy R. Brewer Boulevard and 132nd Avenue. The equivalent truck calculations showed that the increment is equivalent to 5 diesel trucks on a principal and minor arterial road (Guy R. Brewer Boulevard), which passes the screen. Therefore, a detailed $PM_{2.5}$ mobile analysis is not warranted and no significant adverse mobile source air quality impacts are anticipated.

Stationary Source Air Quality Analysis

Project-on Project Scenarios Considered

Analyses under the proposed project scenarios are as follows:

Scenario 1:

1. Impact of the proposed 10-story residential building on existing 12-story residential building

Scenario 2:

2. Impact of the proposed 7-story community facility building on adjacent proposed 14-story residential building;
3. Impact of the proposed 7-story community facility building on existing 12-story residential building; and
4. Impact of the existing 12-story residential building on proposed 14-story residential building.

Project-on-Existing Land Uses

Scenario 1

1. Impact of the proposed 10-story residential building (under Scenario 1) on the closest existing 14-story residential building;

Scenario 2

2. Impact of the 7-story community facility building (under Scenario 2) on the closest existing 14-story residential building; and
3. Impact of the 14-story proposed residential building (under Scenario 2) on one of the closest existing 14-story residential building.

CEQR Screening Analysis

Based on CEQR guidance, a preliminary screening analysis needs to be conducted as a first step to predict whether the potential impacts of the HVAC emissions would be significant and therefore require a detailed analysis. The CEQR screening procedure is only applicable to single buildings that are more than 30 feet apart from the nearest building of similar or greater height. Therefore, the screening procedure could be applied to 7-story community facility building (Scenario 2) on the taller existing 12-story residential building, the proposed 10-story residential building (under Scenario 1) on the existing 12-story residential building, and the existing 12-story residential building on proposed 14-story residential building (Scenario 2) as well as proposed buildings under both scenarios on existing land uses. However, the screening procedure is not applicable for the proposed 7-story community facility building with its potential impact on the proposed 14-story residential building (Scenario 2) because these buildings would be adjacent to each other and detailed analyses is required.

The total square footage of the 10-story proposed building (Scenario 1) and the 7-storyand 14-story proposed buildings (Scenario 2) were used in the analysis and the Figure 17-7 of the *CEQR Technical Manual* Technical Appendix "NO_2 Boiler Screen – Residential Development" for a corresponding stack height, was applied.

This nomograph depicts the size of the development versus the distance below which a potential impact could occur, and provides a threshold distance. As required by *CEQR Technical Manual* screening procedures, the 30-foot curve was applied to the proposed 7-story community facility building under Scenario 2 as the 30 foot curve height is closest to but not higher than the stack height of the proposed community facility building height of 76 feet (which is based on building height and an assumed stack height of 3 feet); the 100-foot curve was applied to the 10-story residential building under Scenario 1 as the 100 foot curve height is closest to but not higher than the stack height of the building of 109 feet (106.5 feet plus 3 feet).

If the actual distance between a stack and an affected building is greater than the threshold distance for a building size, then that building passes the screening analysis (and no significant impact is predicted). However, if the actual distance is less than the threshold distance for a building, then there is a potential for a significant impact and a detailed analysis would be required.

The results of the screening analysis for the project-on-project and project-on-existing analyses for Scenario 1 and Scenario 2 are presented in Tables I-2 and I-3, respectively.

As shown in Table I-2, the 10-story proposed residential building (Scenario 1) failed the screening analysis on the existing 12-story residential building because the actual distances between these buildings are less than the threshold distances determined from Figure 17-7.. As shown in Table I-3, the proposed 7-story community facility building (Scenario 2) failed the screening analysis on the existing 12-story residential. As such, detailed analyses are required for the proposed 7-story community facility building (Scenario 2) and the proposed 10-story residential building (Scenario 1) for their potential impact on the existing 12-story residential building.

As it relates to the potential impact on existing land uses, the proposed buildings under both Scenario 1 and Scenario 2, passed the screening analysis on the existing closest 14-story closest building in Rochdale Village, and no further analysis is required.

Detailed Analysis

Dispersion modeling analyses were conducted to estimate impacts from the HVAC emissions of the proposed buildings that failed the screening analysis using the latest version of EPA's AERMOD dispersion model 12.1 (EPA version 16216r). In accordance with CEQR guidance, this analysis was conducted assuming stack tip downwash, urban dispersion surface roughness length, and elimination of calms. AERMOD's Plume Volume Molar Ratio Method (PVMRM) module was utilized for 1-hour NO_2 analysis -- to account for NOx to NO_2 conversion if warranted. Analyses were conducted with and without the effects of wind flow around the proposed Buildings (i.e., with and without downwash) utilizing AERMOD Building Profile Input Program (BPIP) algorithm and both results are reported.

Table I-2: Results of the Screening Analysis for Project-on-Project, Project-on-Existing Land Uses: Scenario 1

Building ID	Floor Area	Stack Height	Nearest Building	Distance to Building	Threshold Distance Figure 17-7	CEQR Figure 17-7 Results	
	sq. ft.	feet	feet	feet	feet	Pass	Fail
Project-on-Existing Building on Lot 1							
10-story Residential	139,487	109	12-story EB on Lot 1	52	85		**Fail**
Project-on-Existing Land Uses							
10-story Residential Building	139,487	109	14-story Residential Complex Building on Block 2495 Lot 2	225	85	**Pass**	

EB = Existing building

Emission Rates

Emission rates for HVAC analysis were estimated as follows:

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

Table I-3: Results of the Screening Analysis for Project-on-Project, Project-on-Existing Land Uses, and Existing on Project Buildings: Scenario 2

Building ID	Floor Area	Stack Height	Nearest Building	Distance to Building	Threshold Distance Figure 17-7	CEQR Figure 17-7 Results	
	sq. ft.	feet	feet	feet	feet	Pass	Fail
Project-on-Existing Building on Lot 1							
7-story Community	63,000	76	12-story EB on Lot 1	63	64		**Fail**
Project-on-Existing Land Uses							
7-story Community Building	63,000	76	14-story Residential Complex Building on Block 2495 Lot 2	225	64	**Pass**	
14-story Residential Building	159,493	140	14-story Residential Complex Building on Block 2495 Lot 2	225	85	**Pass**	
Existing-on-Proposed							
12-story EB on Lot 1	90,881	123	14-story Residential Building (Scenario 2)	118.55	70	Pass	

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

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

Building ID	Stack Height	Total Floor Area	$PM_{2.5}$ Emission Rate (1)		NO_2 Emission Rate (2)	
	feet	ft^2	g/sec	g/sec	g/sec	g/sec
			24-hr	Annual	1-hr	Annual
Scenario 1						
10-story Residential Building	109	139,487	3.29E-03	9.01E-04	4.33E-02	1.19E-02
Scenario 2						
7-story Community Facility Building	76	63,000	1.49E-03	4.07E-04	1.95E-02	5.36E-03

Notes:

(with filterable $PM_{2.5}$ =1.9 lb/10^6 ft^3 and condensable $PM_{2.5}$=5.7 lb/10^6 ft^3 (AP-42, Table 1.4-2).

2. NOx emission factor for natural gas of 100 lb/10^6 ft^3 for uncontrolled boilers with <100MMBtu/hr (AP-42, Table 1.4-1).

Meteorological Data

All analyses were conducted using the latest five consecutive years of meteorological data (2011-2015). Surface data was obtained from La Guardia Airport and upper air data was obtained from Brookhaven station, New York. The data were processed by Trinity Consultants, Inc. using the current EPA AERMET and EPA procedures. These meteorological data provide hour-by-hour wind speeds and directions, stability states, and temperature inversion elevations over the 5-year period.

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

Background Concentrations

In order to conduct the 1-hour NO_2 Tier 3 analysis, hourly NO_2 and hourly ozone background concentrations was developed from available monitoring data collected by the New York State Department of Environmental Conservation (NYSDEC) at the Queens College 2 monitoring station for the 5 consecutive years (2011-2015), and compiled into AERMOD's required hourly emission (NO_2) and concentration (ozone) data format.

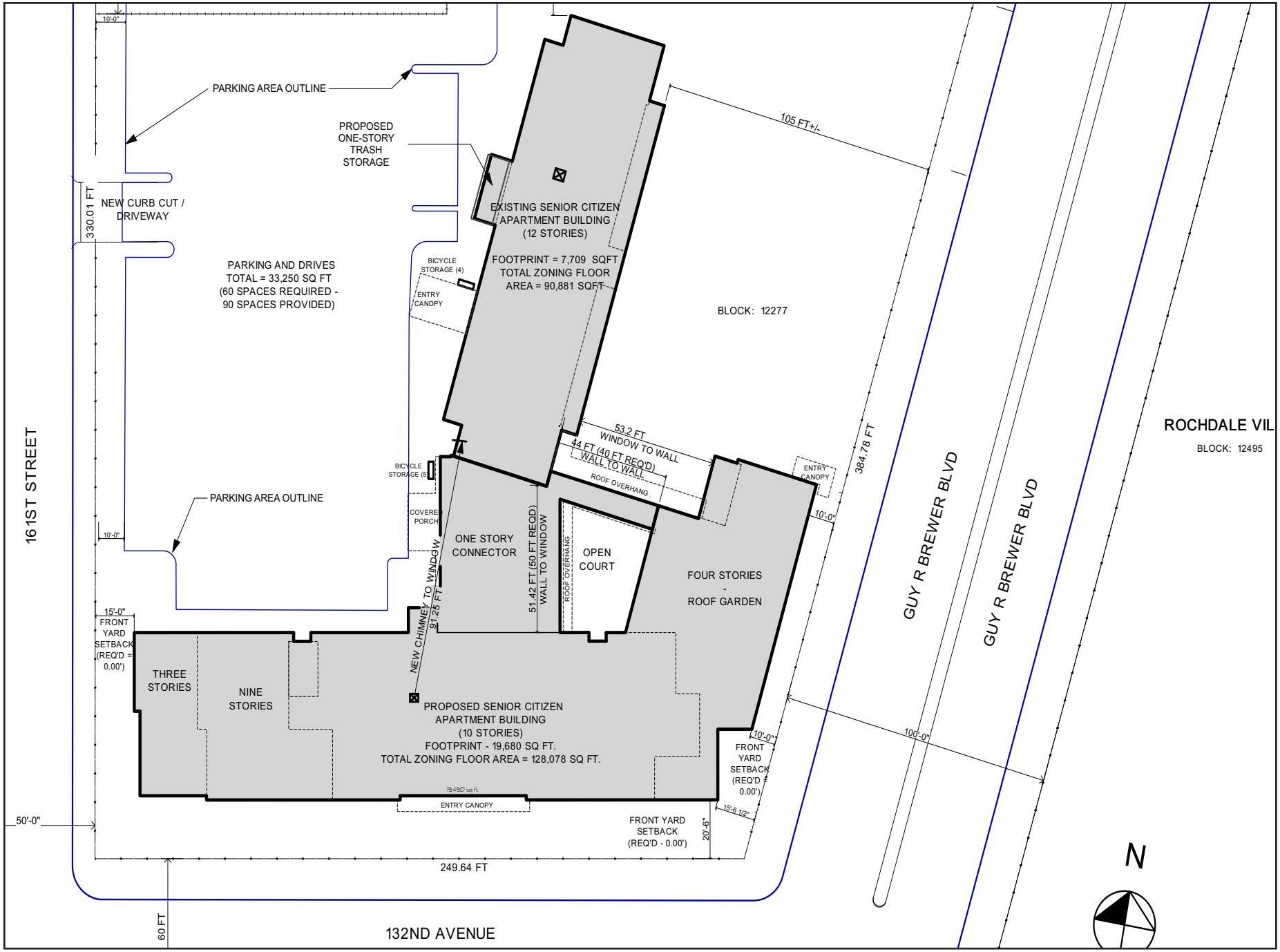
The maximum 1-hour NO_2 background concentration at the Queens College monitoring station of 60.2 ppb or 114 ug/m^3, which is 3-year average of the 98th percentile of daily maximum 1-hour concentrations for 2013-2015, and the annual NO_2 background concentration of 17.14 ppb or 32.3 ug/m^3, which is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

Building Exhaust Points and Receptor Locations for HVAC Analysis

According to the preliminary design, all proposed buildings, including the existing building located on the same lot (which will remain in the future under both scenarios), will have chimneys (stacks) at the designated locations provided in Figures I-1 and I-2. Therefore, it was assumed that emissions from each building, including the existing building, would be released through a single stack located at the locations shown.

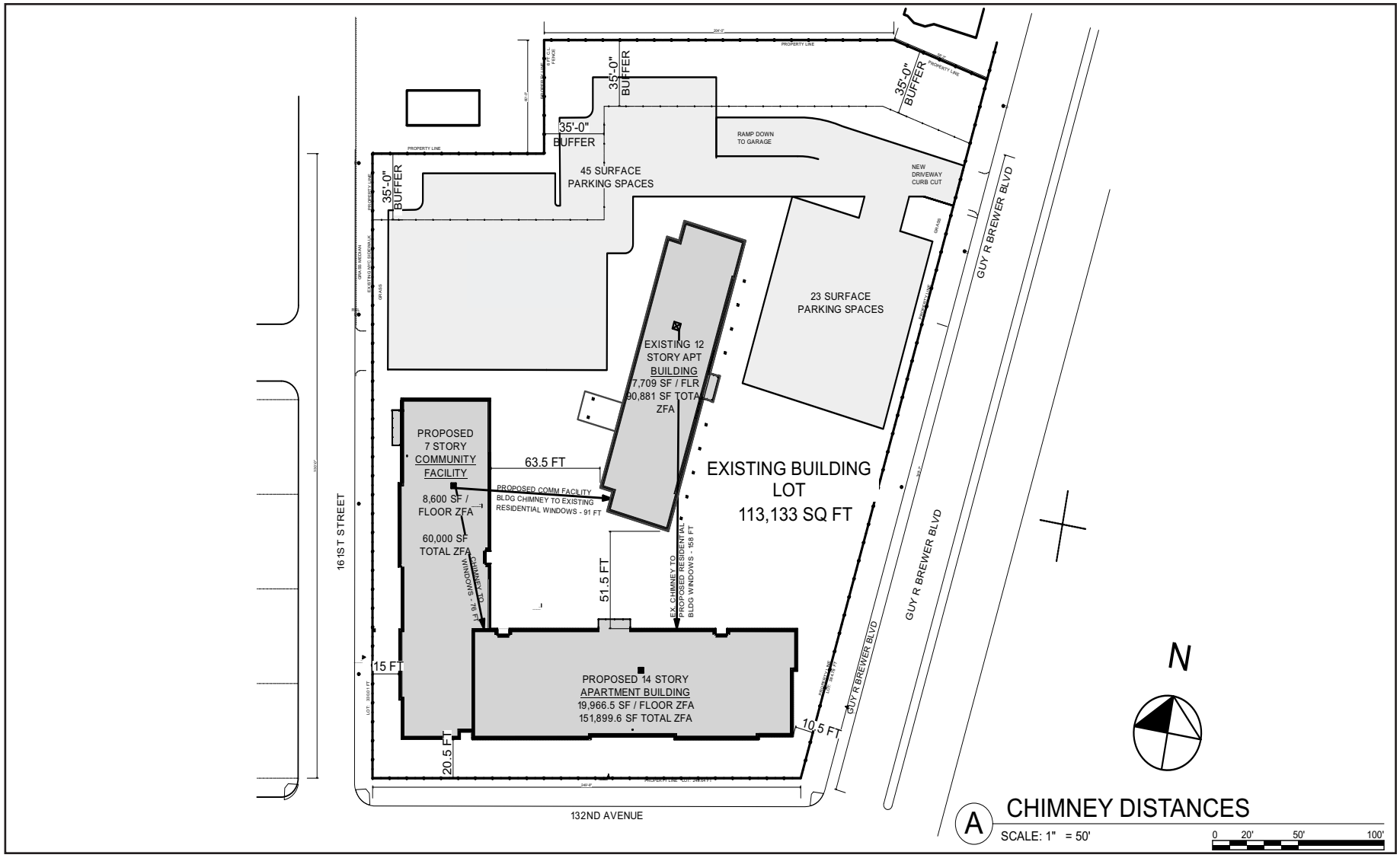
Receptors were placed around all faces of buildings being impacted in 10 foot increments on all floor levels, starting 10 feet above the ground and extending up to the level of the upper windows (which were assumed to be 5 feet below roof level). More than 700 receptors on each building were considered.

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



Northeastern Towers Annex EAS

Figure I-1
Scenario 1 - Chimney Locations



Northeastern Towers Annex EAS

Figure I-2
Scenario 2 - Chimney Locations

Table I-5: Modeling Parameters for HVAC Analysis

Model	AERMOD (EPA Version 16216r)
Source Type	Point Source
Number of emission points (stacks) considered	One on each bulkhead
Surface Characteristic	Urban Area Option
Urban Surface Roughness Length	1
Downwash effect	BPIP Program
Meteorological Data	Preprocessed by the AERMET meteorological preprocessor program by Trinity Consultants, Inc. Yearly meteorological data for 2011-2015 concatenated into single multiyear file for $PM_{2.5}$ modeling, as EPA recommended
Surface Meteorological Data	LaGuardia 2011-2015
Profile Meteorological Data	Brookhaven Station 2011-2015
Pollutant Background Concentrations	Queens College 2 monitoring stations data for 2011-2015
$PM_{2.5}$ Analysis	Special procedure incorporated into AERMOD where model calculates concentration at each receptor for each year modeled, averages those concentrations across the number of years of data, and then selects the highest across all receptors of the 5-year averaged highest values

IV. RESULTS

$PM_{2.5}$ Results

Analysis was conducted assuming stack heights of 3 feet above each roof and stack diameters of 2 feet. As shown on Tables I-6 and I-7, the maximum 24-hour and annual $PM_{2.5}$ impacts under both scenarios are less than the CEQR significant impact thresholds of 6.25 ug/m^3 and 0.3 ug/m^3, respectively.

Therefore, $PM_{2.5}$ emissions would not cause significant impacts with the proposed stack parameters.

Figure I-3: Top View of the 7-story Building with Attached 14-story Building

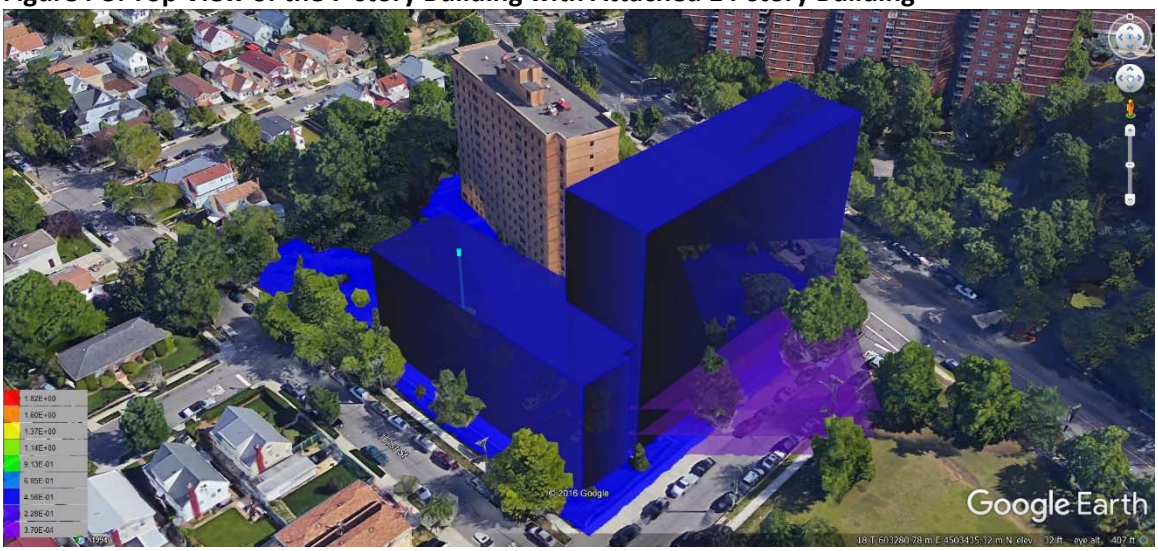


Table I-6: $PM_{2.5}$ Analysis Results: Scenario 1

Building/Scenario	Receptor Buildings	Maximum 24-hr $PM_{2.5}$ Impacts	Maximum Annual $PM_{2.5}$ Impacts	CEQR Significant Impact Criteria 24hr/Annual
		µg/m^3	µg/m^3	µg/m^3
10-story Proposed Building (Scenario 1)	12-story Existing Building on Lot 1	2.37	0.07	6.25/0.3

Table I-7: $PM_{2.5}$ Analysis Results: Scenario 2

Building/Scenario	Receptor Buildings	Maximum 24-hr $PM_{2.5}$ Impacts	Maximum Annual $PM_{2.5}$ Impacts	CEQR Significant Impact Criteria 24hr/Annual
		µg/m³	µg/m³	µg/m³
7-story Community Facility Building (Scenario 2)	14-story Proposed Building (Scenario 2)	5.58	0.1	6.25/0.3
7-story Community Facility Building (Scenario 2)	12-story Existing Building on Lot 1	3.87	0.1	6.25/0.3

NO_2 Results

The NO_2 analysis was conducted using the same stack locations and parameters as they were determined in the $PM_{2.5}$ analysis. However, a Tier 1 analysis was not sufficient to demonstrate compliance with 1-hour NO_2 NAAQS of 188 ug/m^3 for all proposed buildings under both scenarios and therefore, Tier 3 analysis was conducted. With the Tier 3 analysis, the background 1-hour NO_2 concentration is added internally to concentration estimated at each receptor, and the total 1-hour NO_2 concentration which is produced in the format of the standard could be compared directly to the 1-hour NO_2 NAAQS.

The result of the analysis is that the maximum estimated 1-hour NO_2 concentration is less than the 1-hour NO_2 NAAQS (Tables I-8 and I-9). In addition, the maximum estimated annual average NO_2 total concentration, which include project impacts and the NO_2 annual background concentration, was also less than the annual NO_2 NAAQS of 100 ug/m^3 for all proposed buildings under both scenarios.

Therefore, NO_2 emissions would not cause significant impacts.

Table I-8: NO_2 Analysis Results: Scenario 1

Building/Scenario	Receptor Buildings	1-hr NO_2 Total Conc. (1)	Annual NO_2 Total Conc. (2)	NAAQS 1-hr/Annual
		µg/m³	µg/m³	µg/m³
10-story Proposed Building (Scenario 1)	12-story Existing Building on Lot 1	111	33.0	188/100

Notes:

(1) With Tier 3 analysis background 1-hour NO_2 concentration is added internally by the model

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

Table I-9: NO_2 Analysis Results: Scenario 2

Building/Scenario	Receptor Buildings	1-hr NO_2 Total Conc. (1)	Annual NO_2 Total Conc. (2)	NAAQS 1-hr/Annual
		µg/m³	µg/m³	µg/m³
7-story Community Building (Scenario 2)	14-story Proposed Building (Scenario 2)	162.9	33.8	188/100
7-story Community Building (Scenario 2)	12-story Existing Building on Lot 1	149.5	33.3	188/100

Notes:

(1) With Tier 3 analysis background 1-hour NO_2 concentration is added internally by the model

(2) Total annual NO_2 concentrations include background value of 32.3 ug/m³.

A summary of the results for all averaging time periods, with and without downwash effect, are presented in Tables I-10 and I-11.

Table I-10: Summary of Results (ug/m³): Scenario 1

Pollutant	Modeled	Background Conc.	Total Conc.	Evaluation Criteria
$PM_{2.5}$				
10-story Proposed Building (Scenario 1) on 12-story Existing Building on Lot 1				
24-hr $PM_{2.5}$ (1)	0.29/2.37	N/A	2.37	6.25 (*CEQR Criteria)*
Annual $PM_{2.5}$ 1)	0.03/0.07	N/A	0.07	0.3 (*CEQR Criteria*)
NO_2				
10-story Proposed Building (Scenario 1) on 12-story Existing Building on Lot 1				
1-hr NO_2 (2)	98.8/111		111	188 (NAQQS)
Annual NO_2 (3)	0.20/0.66	32.3	33.0	100 (NAAQS

Notes:

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

(2) With Tier 3 approach, the background 1-hr NO_2 concentration is added internally by the model

(3) The total annual NO_2 concentrations included modeled impacts and background concentration of 32.3 ug/m3

Table I-11: Summary of Results (ug/m^3): Scenario 2

Pollutant	Modeled	Background Conc.	Total Conc.	Evaluation Criteria
$PM_{2.5}$				
7-story Community Building (Scenario 2) on 14-story Proposed Building (Scenario 2)				
24-hr $PM_{2.5}$ (1)	5.51/5.58	N/A	5.58	6.25 (*CEQR Criteria)*
Annual $PM_{2.5}$ 1)	0.06/0.1	N/A	0.1	0.3 (*CEQR Criteria*)
7-story Community Building (Scenario 2) on 12-story Existing Building on Lot 1				
24-hr $PM_{2.5}$ (1)	2.25/3.87	N/A	3.87	6.25 (*CEQR Criteria)*
Annual $PM_{2.5}$ 1)	0.06/0.1	N/A	0.1	0.3 (*CEQR Criteria*)
NO_2				
7-story Community Building (Scenario 2) on 14-story Proposed Building (Scenario 2)				
1-hr NO_2 (2)	162.9/162.9		162.9	188 (NAQQS)
Annual NO_2 (3)	1.30/1.49	32.3	33.8	100 (NAAQS)
7-story Community Building (Scenario 2) on 12-story Existing Building on Lot 1				
1-hr NO_2 (2)	139.1/149.5		149.5	188 (NAQQS)
Annual NO_2 (3)	0.61/0.98	32.3	33.3	100 (NAAQS)

Notes:

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

(2) With Tier 3 approach, the background 1-hr NO_2 concentration is added internally by the model

(3) The total annual NO_2 concentrations included modeled impacts and background concentration of 32.3 ug/m3

V. E-DESIGNATIONS

An (E) designation would be required for the proposed buildings that will restrict exhaust points (stack or chimney) locations to designated locations and limit fuel use to natural gas exclusively in the HVAC systems of all buildings. Depending on which Scenario would be constructed, different restrictions would be required to avoid significant adverse air quality impacts. With an (E) designation in place, the proposed actions would not result in significant adverse air quality impacts.

The text of the (E) designation (E-426) for the 10-story Proposed Residential Building under Scenario 1 would be as follows:

Any new residential development on Block 12277, Lot 1 must exclusively use natural gas as the type of fuel for heating, ventilating, air conditioning (HVAC) and hot water systems, and any new HVAC stack (chimney) should be located at least 50 feet from 132nd Avenue and 154 feet from 161st Street to avoid any potential significant adverse air quality impacts. The stack shall be a minimum of 109 feet above grade.

The text of the (E) designation (E-426) for the 7-story Community Facility Building under Scenario 2 would be as follows:

Any new community facility development on Block 12277, Lot 1 must exclusively use natural gas as the type of fuel for heating, ventilating, air conditioning (HVAC) and hot water systems, and any new HVAC stack (chimney) should be located at least 50 feet from 161st Street and 150 feet from 132nd Avenue to avoid any potential significant adverse air quality impacts. Stack shall be a minimum of 76 feet above grade.

The text of the (E) designation (E-426) for the 14-story Residential Building under Scenario 2 would be as follows:

Any new residential development on Block 12277, Lot 1 must exclusively use natural gas as the type of fuel for heating, ventilating, air conditioning (HVAC) and hot water systems, to avoid any potential significant adverse air quality impacts. Stack shall be located a minimum of 143 feet above grade.

VI. PARKING GARAGE AIR QUALITY ANALYSIS

Under Scenario 2, 269 accessory parking spaces would be provided as part of the proposed development. Parking would be accommodated in a 2-level facility: one at grade and one below grade, with entrances on Guy R. Brewer Boulevard and 161st Street. Access to the parking lot would be via 161st Street. There will be 68 surface parking spaces in the at-grade parking lot and 201 spaces in the below-grade garage for a total of 269 parking spaces. Because the garage has not yet been designed, neither the number nor locations of the exhaust vents for the garage have been determined.

While Figure I-2 shows the ramp to the garage, the plan for the below-grade garage is not available. To approximate garage parameters (lengths and widths), it was conservatively assumed that garage would occupy the whole lot.

Emissions from the vehicles using the parking lot and underground garage could potentially affect pollutant levels at nearby sensitive land uses. As such, an analysis was conducted to determine whether the potential air quality impacts of these emissions would be significant. The build year for this analysis is 2020.

For conservative analysis purposes, it was assumed that all the vehicles would operate within the one enclosed underground facility that would be equipped with mechanical ventilation, and the methodology for estimating the potential impacts of this type of garage follows CEQR guideline for evaluating air quality impacts from parking garages.

Traffic Data

Traffic data on weekday parking accumulation under With-Action conditions, which include vehicular trips in and out of the garage, were available and are provided in Table I-8. As shown, the number of vehicles entering and leaving the garage would be greatest during two time periods from 8:00 to 9:00 AM and 5:00 to 6:00 PM – 96 vehicles would be entering garage and 99 vehicles would be leaving garage, respectively. These maximum values were used in this analysis.

In addition to the vehicular trips generated by the garage, contributions from background traffic in the vicinity of the garage need to be accounted for. Hourly traffic volumes were obtained from the NYC DOT Office of School Safety Report for the Count Basie Middle School in Queens for the nearest street -- Guy R. Brewer Boulevard, which is the major north-south arterial in close proximity to the project site. The highest peak hour volumes between Guy R. Brewer Boulevard and 137th Avenue were assumed to represent background traffic and were modeled to estimate contributions from the on-street vehicular traffic. The northbound traffic volume used for Guy R. Brewer Boulevard is 871 vehicles/hour; the southbound volume is 667 vehicles/hour.

For conservative analysis purposes, one vent was assumed for the garage, and it would be located near south-east corner of the proposed 14-story building at Guy R. Brewer Boulevard, where the highest on-street mobile source contribution is expected.

Methodology

The pollutants of concern for parking facilities are carbon monoxide (CO) and particulate matter smaller than 2.5 microns ($PM_{2.5}$). This analysis was conducted following guidelines provided in the *CEQR Technical Manual Appendices* for parking facilities.

As the proposed garage is assumed to be an enclosed facility with mechanical ventilation, to estimate pollutant concentrations, the garage's exhaust vent was analyzed as a "virtual point source" using the computational procedure provided in EPA's Workbook of Atmospheric Dispersion Estimates (AP-26), as referenced in the *CEQR Technical Manual* on Page 17-30. This methodology estimates concentrations at various distances from the vent (using appropriate initial horizontal and vertical dispersion coefficients), assuming that the concentrations within the garage are equal to the concentrations in the vent exhaust.

In accordance with CEQR guidance, pollutant concentrations were estimated at locations on the near and far pedestrian sidewalks to ensure that the maximum cumulative effects from on-street traffic and garage emissions are estimated. Concentrations were also estimated at a window (receptors) located directly above the vent.

Contributions from on-street CO and $PM_{2.5}$ vehicular emissions at these receptor locations were calculated through dispersion modeling analyses using EPA's AERMOD dispersion model, which is currently recommended by EPA for mobile source (intersection or highway) modeling, and CO and $PM_{2.5}$ concentrations from the on-street mobile sources were added to garage-generated impacts and appropriate background levels to estimate the total cumulative pollutant concentrations.

Pollutant concentrations within the garage were calculated assuming a minimum ventilation rate, as per New York City Building Code requirements, of 1 cubic foot per minute of fresh air per gross square foot of garage area.

To determine compliance with the 8-hour CO National Ambient Air Quality Standard (NAAQS) and the 24-hour $PM_{2.5}$ *CEQR* significant incremental impact criteria, maximum CO concentrations were predicted for an 8-hour averaging period and maximum $PM_{2.5}$ concentrations were predicted for a 24-hour time period. The 24-hour $PM_{2.5}$ *CEQR* significant incremental impact criteria was estimated as half the difference between NAAQS of 35 ug/m^3 and the applicable $PM_{2.5}$ background concentration recorded at Queens College 2 monitoring station. As the 3-year 98% percentile of the 24-hour $PM_{2.5}$ background concentrations recorded at this monitoring station is 22.5 ug/m^3 (for 2013-2015), half the difference between NAAQS of 35 ug/m^3 and 22.5 ug/m^3 is 6.25 ug/m^3. This incremental value was used as the *de minimis* criteria to determine whether the $PM_{2.5}$ garage emissions together with on-site mobile source emissions could cause exceedances of CEQR significant impact threshold.

Table I-8: Weekday Parking Accumulation (RWCDS) – Scenario 2

Time Period	Residential		Medical Office (Staff)		Medical Office (Visitors		Total		Total Accumulation
	In	Out	In	Out	In	Out	In	Out	
12-1AM	3	0	0	0	0	0	3	0	129
1-2	3	0	0	0	0	0	3	0	132
2-3	0	0	0	0	0		0	0	132
3-4	0	0	0	0	0	0	0	0	132
4-5	0	0	2	0	0	0	2	0	134
5-6	3	6	4	0	0	0	7	6	135
6-7	3	16	6	0	0	0	7	6	128
7-8	3	26	10	0	8	0	21	26	123
8-9	8	45	71	0	17	2	**96**	47	172
9-10	8	12	10	3	22	1	40	17	196
10-11	14	14	7	0	20	3	41	15	220
11-12	12	12	7	3	18	14	37	29	228
12-1PM	13	13	25	25	14	14	52	51	228
1-2	13	13	2	4	14	15	29	32	225
2-3	13	9	2	3	16	19	31	31	225
3-4	20	6	0	4	13	20	33	30	228
4-5	30	11	2	19	11	23	43	53	218
5-6	41	17	0	71	5	11	46	**99**	165
6-7	25	12	0	16	2	15	27	43	149
7-8	15	12	0	0	0	15	15	27	137
8-9	14	12	0	0	0	5	14	17	134
9-10	9	9	0	0	0	3	9	12	131
10-11	9	12	0	0	0	0	9	12	128
11-12	6	8	0	0	0	0	6	8	126
	265	265	148	148	160	160			

Emission Factors

The EPA MOVES2014 emission factor algorithm was used to estimate CO and $PM_{2.5}$ emission factors for entering, exiting, and idling vehicles within the garage, and vehicles travelling on nearby streets. Vehicles exiting the garage were assumed to idle for one minute before departing, and the speed within the garage was assumed to be 5 miles per hour (mph). Speeds on the nearby streets were assumed to be 25 mph.

Emission factors generated using the MOVES model (in both grams/vehicle-mile for moving vehicles and grams per hour for idling vehicles) were used to estimate garage impacts and model CO and $PM_{2.5}$ emissions from on-street traffic with the AERMOD dispersion model.

Modeling inputs for inspection/maintenance, fuel supply and formulation, age distribution, meteorology, etc., were all provided by the NYCDCP for the borough of Queens. Primary total $PM_{2.5}$ running and crankcase exhaust, extended idle exhaust, with primary $PM_{2.5}$ brake and tire wear emissions, were all included in the emission factors estimates. Fugitive dust (i.e., from the re-entrainment of particles off the ground) emission factors for $PM_{2.5}$ were then added to the emission factors calculated by MOVES.

Fugitive dust was estimated using equations from Section 13.2.1-3 of EPA's AP-42 for roadways with more than 5,000 vehicles a day, which is applicable for roadways in the vicinity of the garage, which can be classified as principal or minor arterials. The formulas are based on an average fleet weight, which varies according to the vehicular mix for a given roadway, and a silt loading factor. A silt loading factor of 0.1 g/m^2, applicable for principal and minor urban arterials roads, was used, as recommended by the *CEQR Technical Manual*.

The 2020 build year and peak PM period were used to generate pollutant emission factors with MOVES model. Post-processing was conducted using the MOVES MySQL Workbench data management software application to extract CO and $PM_{2.5}$ emission factors from MOVES output for each link considered in the analysis. These emission factors, together with traffic hourly volumes on each link, were used to model nearby roadway links in the AERMOD dispersion analysis.

Dispersion Analysis

The AERMOD dispersion model was used to estimate CO and $PM_{2.5}$ contributions from the vehicular traffic on the nearby roadway links as components of the total predicted pollutant concentrations. AERMOD is currently recommended by EPA as preferred model to estimate concentration from vehicular traffic at intersections, highways, by simulating them as a line, volume or area sources. The advantage of using AERMOD over the previously used model (CAL3QHCR) for mobile source modeling is associated with the ability to use five (5) consecutive years on meteorological data in one modeling run and obtain maximum concentrations over the 5-year period.

Traffic links were modeled with the EPA line source algorithm which simulate area source. Inputs to the model included emission rates in grams per second per square meter, link coordinates, release height, and initial vertical dimension parameter. Emission rates were estimated based on MOVES emissions factors in grams per vehicle-mile, length of the roadway link, and total number of vehicles traveling on the link. Meteorological data from LaGuardia Airport for 2011-2015 years were used for this analysis.

The garage vent was conservatively assumed to be 12 feet above ground level and the window on 14-story building above the vent was assumed to be 5 feet higher than the vent (17 feet). Receptors were placed near the corner of the 14-story building at Guy R. Brewer Boulevard on the near sidewalk and far sidewalk across the boulevard. The pedestrian receptor on the near sidewalk were assumed to be 5 feet from the garage vent while a pedestrian standing on the far sidewalk was estimated to be approximately 50 feet from the vent.

The analysis for estimating pollutant concentrations was conducted based on the computational procedures provided in the *CEQR Technical Manual*, which uses spreadsheets that include garage dimensions (length, width) and total parking area, vent height(s), receptor distances from the vent, number of vehicles entering and exiting garage, emission factors for moving and idling vehicles, and pre-tabulated dispersion parameters to estimate concentration at the near and far sidewalks and windows above the vent. CO and $PM_{2.5}$ concentrations from the on-street sources were added to garage impacts on far sidewalk receptors and the total cumulative CO and $PM_{2.5}$ concentrations were estimated by adding together the contributions from the garage vent, on-street sources, and background levels. The maximum estimated total 8-hour CO concentration was compared to the 8-hour CO NAAQS of 9 ppm and *de minimis* criteria and the maximum estimated 24-hour $PM_{2.5}$ impact was compared to the CEQR $PM_{2.5}$ significant incremental impact threshold and with added background concentration to the $PM_{2.5}$ 24-hour NAAQS.

All modeling inputs and emission factors determined by the MOVES model, AERMOD inputs and estimated $PM_{2.5}$ concentration as well as spreadsheets with estimated CO and $PM_{2.5}$ concentrations within the garage; at windows above the vent; near and far sidewalks, and on-street traffic as well as the

cumulative pollutant concentrations at these locations and comparison to the NAAQS and *de minimis* criteria for CO and the CEQR threshold significant criteria for $PM_{2.5}$, are provided in the back-up documentation for garage analysis.

Results

The results of the garage analyses are summarized in Table I-9. As shown, the maximum estimated total 8-hour CO concentrations, including the background concentration, for the near sidewalk and the window and the total cumulative CO concentration from garage and on-street traffic are all less than the 8-hour CO NAAQS of 9 ppm. In addition, the maximum $PM_{2.5}$ impact is less than the CEQR significant impact criteria and the total $PM_{2.5}$ concentration is less than the 24-hour $PM_{2.5}$ NAAQS of 35 ug/m^3. As such, the emissions from the vehicles entering/exiting the garage, together with on-street mobile source emissions, would not result in a significant adverse air quality impact.

Table I-9: Estimated Cumulative Pollutant Concentrations from Garage and On-Street Traffic

CO Concentration			
	Near Sidewalk	Far Sidewalk	Window Above
Distance from Vent (feet)	5	50	17
Averaging Period	8-hour	8-hour	8-hour
Garage CO (ppm)	0.21	0.21	0.20
Line Source (ppm)	-	0.14	-
Cumulative Garage impact	0.21	0.35	0.20
NYC *de minimis* (ug/m^3)	3.6	3.6	3.6
Significant Garage Impact?	No	No	No
Background Value (ppm)	1.8	1.8	1.8
Total CO Concentration (ppm)	2.0	2.2	2.0
NAAQS, CO (ppm)	9	9	9
Significant Impact?	No	No	No

$PM_{2.5}$ Concentration			
	Near Sidewalk	Far Sidewalk	Window Above
Distance from Vent (feet)	5	50	17
Averaging Period	24-hour	24-hour	24-hour
Garage $PM_{2.5}$ (ug/m^3)	1.17	0.95	1.14
Line Source (ug/m^3)	-	1.57	-
Cumulative Garage impact	1.17	2.52	1.14
NYC *de minimis* (ug/m^3)	6.25	6.25	6.25
Significant Garage Impact?	No	No	No
Background Value (ug/m^3)	22.5	22.5	22.5
Total $PM_{2.5}$ Concentration (ug/m^3)	23.7	25.0	23.6
NAAQS, $PM_{2.5}$ (ug/m^3)	35.0	35.0	35.0
Exceeds NAAQS?	No	No	No

I. INTRODUCTION

The applicant, Northeastern Towers Annex L.P., is seeking a zoning map amendment and a zoning text amendment from the New York City Planning Commission (CPC) (the "proposed actions") to facilitate the development of a residential building at 131-10 Guy R. Brewer Boulevard in the Rochdale/Springfield Gardens neighborhood of Queens Community District (CD) 12. The proposed actions would rezone Block 12277, portion of Lot 1 from an R3X district to an R6 district and will include a zoning text amendment to Appendix F of the Zoning Resolution in order to map the rezoning area as a Mandatory Inclusionary Housing Area (MIH).

The development site is currently occupied by a 12-story residential building with a total of 110 affordable DUs (with 1 additional apartment for a resident superintendent), all of which are reserved for low-income senior citizens. Upon approval of the proposed actions, the existing 12-story building would remain while a new 10-story annex would be constructed on a new tax lot to be created at the southern portion of the development site. The proposed new building would contain approximately 139,487 gross square feet (gsf) (128,078 zoning square feet (zsf)), including 129 dwelling units (with 1 additional apartment for a resident superintendent) and 3,925 gsf of community facility uses (senior center). The proposed development would rise to a height of 10-stories (106.5 feet). The proposed development would include 100% affordable housing floor area, resulting in the creation of approximately 129 Affordable Independent Residences for Seniors (AIRS).

Development of the proposed project would also be facilitated by New York City Housing Preservation and Development (HPD) financing through the Senior Affordable Rental Apartments (SARA) program, 4% Low Income Housing Tax Credits (LIHTC), and tax exempt bonds from the New York City Housing Development Corporation (HDC).

However, while the applicant intends on developing the proposed project described above ("Scenario 1"), because the proposed actions would result in an R6 zoning district, an alternate reasonable worst-case development scenario (RWCDS) will be considered for conservative analysis purposes ("Scenario 2"). It is assumed that in the absence of the proposed development of the affordable senior DUs, the site could be redeveloped with an approximately 222,493 gsf mixed-use development that would include 159,493 gsf (155,854 zsf) of residential uses and 63,000 gsf (60,000 zsf) of community facility uses (assumed to be medical office). The proposed development would result in 159 typical family DUs of which 40 to 48 DUs would be affordable. Approximately 230 accessory parking spaces would be accommodated in a parking garage with two levels: one at grade and one below grade with entrances along Guy R. Brewer Boulevard and 161st Street. The proposed residential portion of the building would be 14-stories with frontage along 132nd Avenue and Guy R. Brewer Boulevard and the proposed community facility portion of the building would be 7-stories with frontage along 132nd Avenue and 161st Street. In the future With-Action condition, it is assumed that the existing 12-story residential building within the rezoning area would remain.

As the proposed actions would introduce sensitive receptors under both scenarios, a noise analysis was conducted, pursuant to the standards set forth in the 2014 *CEQR Technical Manual*, to determine ambient noise levels and the level of building attenuation necessary to ensure that interior noise levels of the proposed development satisfy applicable interior noise criteria for the respective uses.

II. PRINCIPAL CONCLUSIONS

Noise from the increased traffic volumes generated by the proposed actions would not cause significant adverse noise impacts, as noise level increases near existing/future sensitive receptors during qualifying periods (when With-Action L_{10} noise levels are equal to or greater than 65 dBA), would fall below the applicable CEQR significant adverse impact threshold (3.0 dBA).

Based on the noise analysis presented herein, the maximum predicted Wth-Action L_{10} noise levels adjacent to the development site are expected to be 65.7 dBA along the development site's 161st Street frontage, 67.4 dBA along the site's 132nd Avenue frontage, and 68.5 dBA along the site's Guy R. Brewer Boulevard frontage. Given that maximum predicted With-Action L_{10} noise levels at all three locations fall below 70 dBA, based on CEQR guidelines, no additional window/wall attenuation measures would be required outside of standard modern construction practices on any of the proposed development's facades in order to maintain the acceptable interior noise levels of 45 dBA or lower for the proposed project's residential and community facility uses. Therefore, the proposed actions would not result in any significant adverse noise impacts related to building attenuation requirements.

Because the proposed AIRS development under Scenario 1 would receive assistance from the U.S. Department of Housing and Urban Development (HUD), the building attenuation analysis concludes that in order to meet HUD interior noise level guidelines, 25 dBA of building attenuation would be required along the Guy R. Brewer Boulevard frontage. The requirement for this level of façade attenuation as well as the requirement for an alternate means of ventilation will be included in an (E) designation for the development site.

III. NOISE FUNDAMENTALS

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

"A"-Weighted Sound Levels (dBA)

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

Community Response to Changes in Noise Levels

Table J-2 shows the average ability of an individual to perceive changes in noise. Generally, changes in noise levels less than three dBA are barely perceptible to most listeners. However, as illustrated in Table J-2, five dBA changes are readily noticeable. Ten dBA changes are normally perceived as doublings (or halvings) of noise levels. These guidelines permit direct estimations of an individual's probable perception of changes in noise levels.

Noise Descriptors Used in Impact Assessment

Because the sound pressure level unit (dBA) describes a noise level at just one moment and very few noises are constant, other ways of describing noise over extended periods of time have been developed. One way of describing fluctuating sound is to describe the fluctuating noise heard over a specific time period as if it had been a steady, unchanging sound. For this condition, a descriptor called the "equivalent sound level" (L_{eq}) can be computed. L_{eq} is the constant sound level that, in a given situation and time period (e.g., one hour [denoted by $L_{eq(1)}$] or 24 hours [denoted as $L_{eq(24)}$]), conveys the same sound energy as the actual time-varying sound. Statistical sound level descriptors such as L_1, L_{10}, L_{50}, L_{90}, and L_x are sometimes used to indicate noise levels that are exceeded one, ten, fifty, ninety, and x percent of the time, respectively. Discrete event peak levels are given as L_1 levels. L_{eq} is used in the prediction of future noise levels by adding the contributions from new sources of noise (i.e., increases in traffic volumes) to the existing levels and in relating annoyance to increases in noise levels.

Table J-1: Common Noise Levels

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

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

Table J-2: Average Ability to Perceive Changes in Noise Levels

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

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

The relationship between L_{eq} and levels of exceedance is worth noting. Because L_{eq} is defined in energy rather than straight numerical terms, it is not simply related to the levels of exceedance. If the noise

fluctuates very little, L_{eq} will approximate L_{50} or the median level. If the noise fluctuates broadly, the L_{eq} will be approximately equal to the L_{10} value. If extreme fluctuations are present, the L_{eq} will exceed L_{90} or the background level by ten or more decibels. Thus the relationship between L_{eq} and the levels of exceedance will depend on the character of the noise. In community noise measurements it has been observed that the L_{eq} is generally between L_{10} and L_{50}. The relationship between L_{eq} and exceedance levels has been used in this analysis to characterize the noise sources and to determine the nature and extent of their impact at all receptor locations.

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

Applicable Noise Codes and Impact Criteria

New York City Noise Code

The New York City Noise Control Code, as amended in December 2005, contains prohibitions regarding unreasonable noise and specific noise standards, including plainly audible criteria for specific noise sources. In addition, the amended code specifies that no sound source operating in connection with any commercial or business enterprise may exceed the decibel levels in the designated octave bands at specified receiving properties.

CEQR Technical Manual Noise Standards

The New York City Department of Environmental Protection (DEP) has set external noise exposure standards. These standards are shown in Table J-3.

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

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

6. Industrial, public areas only[4]	Note 4	Note 4		Note 4		Note 4		Note 4	

Source: DEP (adopted policy 1983).

Notes:

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

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

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

[3] One may use the Federal Aviation Administration- (FAA-) approved L_{dn} contours supplied by the Port Authority, or the noise contours may be computed from the federally approved Integrated Noise Model (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).

Noise Exposure is classified into four categories: acceptable, marginally acceptable, marginally unacceptable, and clearly unacceptable. The standards shown are based on maintaining an interior noise level for the worst-case hour L_{10} of less than or equal to 45 dBA. Attenuation requirements are shown in Table J-4.

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

	Marginally Unacceptable				Clearly Unacceptable
Noise level with proposed actions	$70<L_{10}\leq73$	$73<L_{10}\leq76$	$76<L_{10}\leq78$	$78<L_{10}\leq80$	$80<L_{10}$
Attenuation[A]	(I) 28 dBA	(II) 31 dBA	(III) 33 dBA	(IV) 35 dBA	$36 + (L_{10} - 80)$[B] dBA

Sources: DEP; *CEQR Technical Manual*

Notes:

[A] The above composite window-wall attenuation values are for residential dwellings. Commercial office spaces and meeting rooms 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 one dBA increments for L_{10} values greater than 80 dBA.

HUD Development Guidelines

Because the proposed AIRS development under Scenario 1 would receive assistance from the U.S. Department of Housing and Urban Development (HUD), HUD interior noise level guidelines would apply. The *HUD Noise Guidebook* sets exterior noise standards for housing construction projects based L_{dn} values (see Table J-5). The L_{dn} refers to a 24-hour average noise level with a ten dB penalty applied to the noise levels during the hours between 10 PM and 7 AM, due to increased sensitivity to noise levels during these hours. If the exterior noise level is 65 L_{dn} to 70 L_{dn}, 25 dBA of noise attenuation must be provided; if the exterior noise level is 70 L_{dn} to 75 L_{dn}, 30 dBA of noise attenuation is required; and if the exterior noise level exceeds 75 L_{dn}, sufficient attenuation must be provided to bring interior levels down to 45 L_{dn} or lower for residential uses.

Table J-5: HUD Exterior Noise Standards

	Acceptable	Normally Unacceptable	Unacceptable
Noise Level With Proposed Actions	Ldn ≤ 65	65 < Ldn ≤ 75	75 < Ldn
Source: U.S. Department of Housing and Urban Development (HUD)			

For this analysis, L_{dn} levels were estimated using the following equation:

$$L_{dn} = L_{10} - 3$$

The method used to determine L_{dn} values is to measure the loudest hourly L_{10} for a typical day and then to estimate the L_{dn} from this loudest hourly L_{10}, which is consistent with the *HUD Noise Guidebook*.

To comply with HUD requirements for recreation spaces, an exterior L_{dn} of 65 dBA or lower would be considered suitable for outdoor areas such as a rooftop garden.

IV. NOISE PREDICTION METHODOLOGY

Future noise levels resulting from traffic were calculated with a proportional modeling technique used as a screening tool to estimate changes in noise levels. The proportional modeling technique is an analysis methodology recommended for analysis purposes in the *CEQR Technical Manual*.

Proportional Modeling

Proportional modeling was used to determine No-Action and With-Action noise levels along the project site's Guy R. Brewer Boulevard, 132nd Avenue, and 161st Street frontages, as discussed in more detail below. Proportional modeling is one of the techniques recommended in the *CEQR Technical Manual* for mobile source analysis.

Using this technique, the prediction of future noise levels (where traffic is the dominant noise source) is based on a calculation using measured existing noise levels and predicted changes in traffic volumes to determine No-Action and With-Action noise levels. Vehicular traffic volumes (counted during the noise recording), are converted into PCE values, for which one medium-duty truck (having a gross weight between 9,900 and 26,400 pounds) is assumed to generate the noise equivalent of thirteen cars, one heavy-duty truck (having a gross weight of more than 26,400 pounds) is assumed to generate the noise equivalent of 47 cars, and one bus (vehicles designed to carry more than nine passengers) is assumed to generate the noise equivalent of eighteen cars. Future noise levels are calculated using the following equation:

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

where:

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

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

To calculate the No-Action and With-Action PCE values, an annual background growth rate of 0.25 percent for the 2020 analysis year was added to the PCE noise values based on existing counted vehicles.[1]

V. EXISTING NOISE LEVELS

Selection of Noise Receptor Locations

The rezoning area comprises Queens Block 12277, Lot 1 in the Rochdale/Springfield Gardens neighborhood of Queens CD 12. The rezoning area fronts 132nd Avenue to the south, Guy R. Brewer Boulevard to the east, and 161st Street to the west. A portion of the rezoning area is currently occupied by a 12-story residential building (a sensitive receptor), which will remain in the future with and without the proposed actions; the development site comprises the southern portion of the rezoning area (refer to Figure J-1). Sensitive residential uses are also present to the east of the rezoning area across Guy R. Brewer Boulevard, and to the west of the rezoning area along 161st Street.

As vehicles are the main source of noise in the surrounding area, noise monitoring was conducted at three locations along the rezoning area's three street frontages (refer to Figure J-1):

- **Monitoring Location 1** – midway between 131st Avenue and 132nd Avenue along the eastern side of 161st Street.

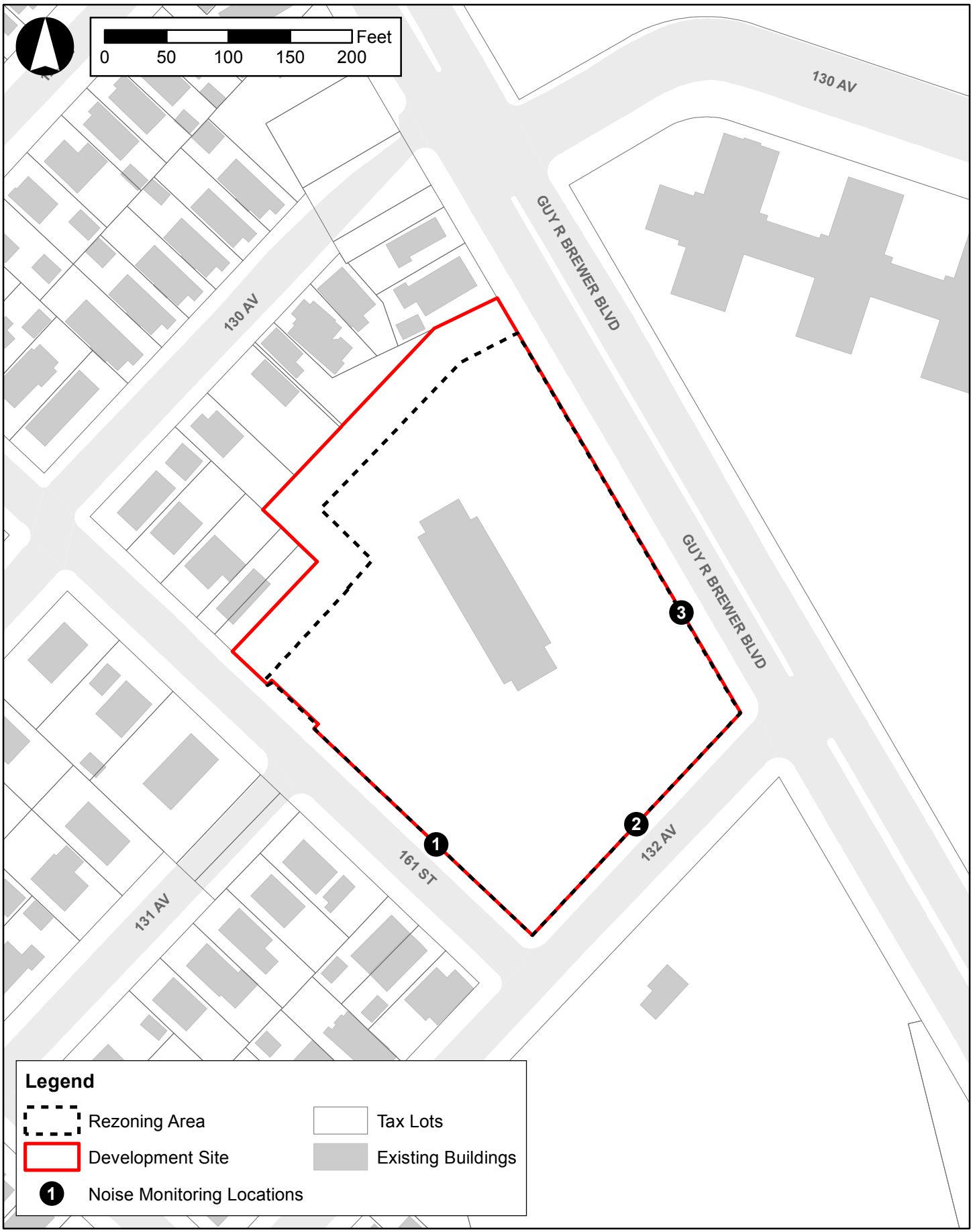
- **Monitoring Location 2** – midway between Guy R. Brewer Boulevard and 161st Street along the northern side of 132nd Avenue.

- **Monitoring Location 3** – midway along the rezoning area's Guy R. Brewer Boulevard frontage (approximately midway between 130th Avenue and 132nd Avenue along the western side of Guy R. Brewer Boulevard).

All three monitoring locations were used to determine the potential for significant adverse impacts at the existing residential building located within the rezoning area and to determine the need for attenuation on the proposed project's southern, eastern, and western facades. The 161st Street monitoring location (monitoring location 1) was used to determine the potential for significant adverse impacts at the one- and two-family homes to the west of the rezoning area. The Guy R. Brewer Boulevard monitoring location (monitoring location 3) was used to determine the potential for significant adverse impacts at the Rochdale Village residential buildings to the east of the rezoning area.

As playground noise is considered a stationary noise source, it should be noted that a portion of the Catherine and Count Basie Middle School is located within a 400 foot radius of the rezoning area at 133-25 Guy R. Brewer Boulevard. However, the playground for the school is not located within a 400 foot radius of the rezoning area. Further, the school building intervenes between the playground and the rezoning area. Therefore, noise from the playground is not expected to impact the proposed development site.

[1] Calculations according to Table 16-4 of the *CEQR Technical Manual.*


Feet
0
50
100
150
200
130 AV
GUY R BREWER BLVD
130 AV
GUY R BREWER BLVD
3
2
1
161 ST
132 AV
131 AV
Legend
Rezoning Area
Development Site
Noise Monitoring Locations
Tax Lots
Existing Buildings

Noise Monitoring

Noise monitoring at the receptor locations was carried out on Tuesday, November 1, 2016. The weather on Tuesday, November 1 was partly cloudy with temperatures in the 50s. Twenty-minute spot measurements of existing noise levels were performed at each receptor location for the AM (8-9AM), midday (12-1PM), and PM (5-6PM) noise analysis time periods to establish existing noise levels. For the purpose of this analysis, during the noise recordings, vehicles were counted and classified.

Equipment Used During Noise Monitoring

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

Existing Noise Levels at Noise Monitoring Locations

Noise monitoring results for the three monitoring locations are shown in Table J-6. As indicated in the table, existing L_{eq} noise levels at monitoring location 1 range from 53.9 dBA to 62.2 dBA in the weekday peak hours, with the highest monitored L_{eq} noise levels during the AM peak hour. Existing L_{eq} noise levels at monitoring location 2 range from 55.4 dBA to 62.2 dBA in the weekday peak hours, with the highest monitored L_{eq} noise levels during the AM peak hour. Existing L_{eq} noise levels at monitoring location 3 range from 63.4 to 65.3 in the weekday peak hours, with the highest monitored L_{eq} noise levels during the AM peak hour. In terms of CEQR noise exposure categories, the existing maximum L_{10} noise levels at monitoring locations 1 and 2 (63.2 dBA and 63.7 dBA, respectively) fall within the Acceptable category, while the maximum existing L_{10} noise levels at monitoring location 3 (68.1) fall within the Marginally Acceptable category.

Table J-6: Existing Noise Levels at Monitoring Locations (in dBA)

Monitoring Location[1]	Street Frontage	Time	L_{eq}	L_{max}	L_{min}	L_1	L_{10}	L_{50}	L_{90}	CEQR Noise Exposure Category
1	161st Street	AM	62.2	83.4	52.5	72.7	**63.2**	58.8	55.4	Acceptable
		MD	54.6	88.3	45.9	61.2	54.8	51.4	48.8	
		PM	53.9	72.0	47.9	61.8	55.7	52.4	50.1	
2	132nd Avenue	AM	62.2	80.0	53.3	72.1	**63.7**	59.8	56.3	Acceptable
		MD	55.4	73.7	49.6	63.4	57.6	53.8	51.3	
		PM	57.1	73.0	49.9	66.7	59.1	55.0	51.9	
3	Guy R. Brewer Boulevard	AM	65.3	79.9	53.3	72.4	**68.1**	64.0	59.0	Marginally Acceptable
		MD	63.6	77.2	55.8	70.1	66.3	62.4	57.9	
		PM	63.4	82.4	50.0	71.5	66.3	61.0	54.2	

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

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

As outlined in Attachment A, "Project Description," in the 2020 No-Action condition, it is expected that the existing project site uses would remain. Future No-Action condition noise levels at the three receptor locations were calculated using the noise prediction methodology described above in Section IV.

Table J-7 compares the future No-Action condition and existing noise levels at the monitoring locations. As indicated in Table J-7, noise levels at each monitoring location are expected to minimally increase (between 0.0 and 0.1 dBA) in the 2020 No-Action condition as a result of general background growth in the area. Therefore, L_{10} noise levels at monitoring locations 1 and 2 would remain within the Acceptable noise exposure category, and L_{10} noise levels at monitoring location 3 would remain within the Marginally Acceptable noise exposure category.

Table J-7: Future No-Action Condition Noise Levels at Receptor Locations (in dBA)

Monitoring Location	Street Frontage	Time	Existing L_{eq}	No-Action L_{eq}	Change in L_{eq} from Existing Conditions	No-Action L_{10}[1]	CEQR Noise Exposure Category
1	161st Street	AM	62.2	62.3	0.1	**63.3**	Acceptable
		MD	54.6	54.6	0.0	54.8	
		PM	53.9	53.9	0.0	55.8	
2	132nd Avenue	AM	62.2	62.2	0.0	**63.8**	Acceptable
		MD	55.4	55.4	0.0	57.6	
		PM	57.1	57.2	0.1	59.2	
3	Guy R. Brewer Boulevard	AM	65.3	65.4	0.1	**68.1**	Marginally Acceptable
		MD	63.6	63.6	0.0	66.3	
		PM	63.4	63.5	0.1	66.3	

Notes:

[1] No-Action L_{10} values calculated by adding the difference between the measured L_{10} and L_{eq} to the calculated L_{eq}. Highest L_{10} value at each receptor location indicated in **bold.**

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

As discussed in Attachment A, "Project Description," with the proposed zoning map change from R3X to R6, residential and community facility uses would remain permissible in the project area (UGs 1-4). The proposed R6 zoning district would allow residential uses up to a maximum FAR of 2.43 and community facilities up to 4.8 FAR.

As discussed above, it is expected that the applicant would complete the proposed 10-story approximately 139,487 gsf residential annex on the development site, which would include a total of 129 DUs (with 1 additional apartment for a resident superintendent) with 100% of the residential floor area dedicated to affordable housing (129 DUs). All 129 affordable apartments will be considered AIRS and restricted to low income seniors, defined as 62 years of age or older with incomes at or below 60 percent of AMI. One third of the apartments will be set aside for seniors currently residing in homeless shelters. The proposed AIRS development would also include a garden on the fifth floor roof along the Guy R. Brewer Boulevard frontage.

However, in the absence of the proposed development of the affordable senior DUs, the site could be redeveloped with an approximately 222,493 gsf mixed-use development that would include 159,493 gsf (151,899 zsf) of residential uses and 63,000 gsf (60,000 zsf) of community facility uses (assumed to be medical office). This scenario would result in 159 typical family. The proposed residential portion of the building would be 14-stories with frontage along 132nd Avenue and Guy R. Brewer Boulevard and the

proposed community facility portion of the building would be 7-stories with frontage along 132nd Avenue and 161st Street.

Future noise levels at the receptor were calculated using the trip generation and noise prediction methodology described above in Section IV. The With-Action traffic levels under Scenario 2 were utilized for conservative analysis purposes. [2]

As shown in Table J-8, in the future with the proposed actions the maximum projected L_{10} noise level at monitoring locations 1, 2, and 3, would be 65.7 dBA, 67.4 dBA, and 68.5 dBA, respectively. Monitoring locations 1 and 2 would now fall in the Marginally Acceptable category, and monitoring location 3 would remain in the Marginally Acceptable category.

Table J-8: Future With-Action Condition Noise Levels at Receptor Locations (in dBA)

Monitoring Location	Street Frontage	Time	No-Action L_{eq}	With-Action L_{eq}	Change in L_{eq} from No-Action Conditions	With-Action L_{10}[1]	CEQR Noise Exposure Category
1	161st Street	AM	62.3	64.7	2.4	**65.7**	Marginally Acceptable
		MD	54.6	59.3	4.7	59.5	
		PM	53.9	57.6	3.7	59.5	
2	132nd Avenue	AM	62.2	64.6	2.4	**67.4**	Marginally Acceptable
		MD	55.4	60.0	4.6	63.1	
		PM	57.2	61.2	4.0	64.0	
3	Guy R. Brewer Boulevard	AM	65.4	65.5	0.1	**68.5**	Marginally Acceptable
		MD	63.6	63.7	0.1	66.7	
		PM	63.5	63.5	0.0	66.6	

Notes:
[1] With-Action L_{10} values calculated by adding the difference between the measured L_{10} and L_{eq} to the calculated L_{eq}. Highest L_{10} value at each receptor location indicated in **bold.**

Comparing future With-Action and No-Action conditions, increases in noise levels at the monitoring locations would range widely, from 0.0 dBA to 4.7 dBA. Increases at monitoring location 3 would range from 0.0 to 0.1, which is less than 3.0 dBA and would therefore be imperceptible according to CEQR. Noise increases at monitoring locations 1 and 2 would range from 2.4 dBA to 4.7 dBA, with multiple peak periods exceeding the 3.0 CEQR impact threshold. However, With-Action L_{10} noise levels during the peak periods which are anticipated to experience increases greater than 3.0 dBA (the midday and PM peak periods at both monitoring locations), will range from 59.5 dBA to 61.2 dBA. These L_{10} noise levels are below the 65 dBA threshold identified by CEQR as an acceptable absolute noise level. Therefore, despite the large increases at these locations during the midday and PM peak hours, no significant adverse noise impacts to existing sensitive receptors would occur. Increases during the AM peak period at monitoring locations 1 and 2, where With-Action L_{10} noise levels will exceed 65 dBA (at 65.7 dBA and 67.4 dBA, respectively) will be 2.4 dBA, below the 3.0 CEQR impact threshold, and therefore no significant adverse noise impacts to existing sensitive receptors are expected to occur at these locations during the AM peak period as well.

[2] A trip generation analysis predicts the number of vehicle trips a development will generate based on the Means of Transportation breakdowns found in 5-Year American Community Surveys (ACS) provided by the U.S. Census Bureau. Although the project site is located in Queens census tract 294, which is dominated by detached single-family home residences, the existing high-rise residential building is more similar to the buildings within the Rochdale Village complex across Guy R Brewer Boulevard from the site in Queens census tract 334.02, making that tract's data more representative of the impact the proposed annex would have. Therefore, the trip generation analysis was conducted using data for census tract 334.02 instead of census tract 294.

With-Action L_{dn} Noise Levels

As described above in the "HUD Development Guidelines" section, the L_{dn} for the proposed AIRS development was estimated according to the methodology described above including the maximum predicted noise levels and was determined to be 65.5 dBA along the Guy R. Brewer Boulevard frontage. According to HUD criteria, the calculated With-Action Ldn noise level along this frontage would be in the "normally unacceptable" category.

VIII. BUILDING ATTENUATION REQUIREMENTS

CEQR

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

As described above and presented in Table J-8, the maximum predicted L_{10} noise levels adjacent to the development site under Scenario 2 are expected to be 65.7 dBA along the site's 161st Street frontage, 67.4 dBA along the site's 132nd Avenue frontage, and 68.5 dBA along the site's Guy R. Brewer Boulevard frontage. As presented in Table J-4, given that maximum predicted L_{10} noise levels at all three locations are below 70 dBA, no additional window/wall attenuation measures would be required outside of standard modern construction practices on any of the proposed development site's facades in order to maintain the required interior noise levels of 45 dBA or lower for the proposed project's residential and community facility uses.

With implementation of the measures outlined above, the proposed actions would provide sufficient attenuation to achieve the *CEQR Technical Manual* interior noise level guidelines of 45 dBA for residential and community facility uses. Therefore, the proposed actions would not result in any significant adverse noise impacts related to building attenuation requirements.

HUD

A total With-Action L_{10} noise level was determined to be 68.5 dBA along the Guy R. Brewer frontage. Based on the methodology for estimating the L_{dn} value described above in the "HUD Development Guidelines" section, the L_{dn} for the development site was determined to be 65.5 dBA, which would require a minimum 25 dBA of building attenuation to satisfy HUD development guidelines. Further, potential impacts from noise on the fifth floor rooftop garden are a source of concern in meeting criteria used by HUD. Recommended attenuation measures for outdoor recreational areas are designed to maintain ambient noise levels of less than 65 dBA. This can be accomplished with a barrier above the fifth-story segment of the building along Guy R. Brewer Boulevard on the eastern boundary of the site. To avoid any potential impacts associated with noise on the development site (Block 12277, Lot 1), as part of the proposed actions, an (E) designation (E-426) for noise would be mapped on the development site.

Scenario 1 - Guy R. Brewer Boulevard frontage:

In order to ensure an acceptable interior noise environment, future residential or community facility uses must provide a closed-window condition with minimum attenuation of 25 dBA window/wall attenuation on the Guy R. Brewer Boulevard façade. In order to maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, central air conditioning or air conditioning sleeves containing air conditioners. In order to ensure an acceptable exterior noise environment, future HUD-assisted open space/recreation uses along the Guy R. Brewer Boulevard frontage must maintain ambient noise levels of less than 65 dBA. Attenuation measures include, but are not limited to, barriers along the proposed open space/recreation area.

Per the (E) designation requirements, in order to receive a Certificate of Occupancy from the NYC Department of Buildings, the proposed AIRS development under Scenario 1 must comply with these required attenuation values. With this institutional control in place, the proposed actions would not result in any significant adverse noise impacts and no further analysis is necessary.

I. INTRODUCTION

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

A Phase I Environmental Site Assessment (ESA) was conducted for the applicant's development site. This assessment was undertaken to determine whether additional investigations are necessary and whether an (E) designation should be placed on the development site (Block 12277, Lot 1) under the proposed actions to avoid the potential for impacts pertaining to hazardous materials.

II. PRINCIPAL CONCLUSIONS

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

With the requirements of the (E) designation (E-426) on the proposed development site, it is expected that there would be no impact from the potential presence of contaminated materials. The implementation of the preventative and remedial measures outlined below would reduce or avoid the potential that significant adverse hazardous materials impacts would result from potential construction in the rezoning area resulting from the proposed actions. Following such construction, there would be no potential for significant adverse impacts.

III. METHODOLOGY

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

Chapter 24 of Title 15 of the Rules of the City of New York specifies the process for determining if an (E) designation should be placed on a specific site. Section 24-04 describes the preliminary screening process, which includes reviewing historical documentation for past or current uses that may have affected or be

affecting a projected or potential development site or an adjacent site. Appendix A of the Hazardous Materials Appendix 5 (Chapter 24 of Title 15 of the Rules of the City of New York) provides a list of types of facilities, activities or conditions which would lead to a site receiving an (E) designation.

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

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

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

IV. EXISTING CONDITIONS

A Phase I Environmental Site Assessment (ESA) was prepared in accordance with ASTM International Practice E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* to determine whether the proposed actions could lead to increased exposure of people or the environment to hazardous materials and whether the increased exposure would result in significant adverse impacts. The Phase I ESA was prepared by ALC Environmental in August 2016. The findings of this report are summarized below.

As outlined in the Phase I ESA, the development site consists of a 12-story senior citizen residential apartment building known as the Northeastern Towers. As per the historical sources reviewed, the subject building has been used for residential occupancy since its construction in 1984. Prior to current improvements, the development site consisted of vacant land, which appears to have been utilized as an outdoor parking lot in the early 1950s. No other prior uses were identified.

ALC reviewed a previous Phase I ESA report for the development site, prepared by Comprehensive Building Analysis, Inc., (CBA), dated April 29-30 and May 1, 2013. Below is a summary of the findings:

- The above referenced report did not identify any recognized environmental conditions (RECs) or areas of significant environmental concern in connection with the development site. In addition, the development site was not listed in any of the regulatory databases searched by EDR.
- CBA reported that a non-invasive Encroachment Screening was conducted and revealed that no Vapor Encroachment Conditions existed onsite or within the surrounding area.

ALC did not observe any environmental conditions associated with the development site which may include RECs, controlled recognized environmental conditions (CREC), or historical recognized environmental conditions (HRECs). Below is a summary of the findings:

- The development site was not listed in any of the databases searched by EDR.

- ALC did not observe any visible mold growth at the subject building, however, water staining was observed on the compactor room ceiling panels.
- Based on the estimated age of the subject building, it is unlikely that asbestos containing materials, PCBs, or lead-based paint are present at the development site.
- No Vapor Encroachment Conditions that could not be ruled out were identified for the development site or surroundings sites within the distances specified by ASTM Practice 2600-10. A Vapor Encroachment Screen report is included in Appendix 15.5.

No additional conditions were observed at the site that could potentially present a significant environmental concern or recognized environmental condition.

Based on a review of background data, regulatory agency records, aerial photographs, and observations made during the site reconnaissance, the following conclusions and recommendations are presented regarding the development site. The scope of this study did not include subsurface exploration, sampling or analytical laboratory testing.

Conclusions

- The development site is not identified as being evaluated by the State of New York or federal government for remedial action under CERCLA or any other environmental regulations.
- There were fifty-five (55) sites listed on the regulatory database search within a 1 mile radius of the development site. Based on available information, estimated flow direction of groundwater, and the nature of the database listings, it is unlikely that the development site has been impacted by unauthorized releases of hazardous materials at this time, though it is impossible to entirely rule out the potential for contamination.
- Based on the estimated age of the subject building (1984), it is unlikely that asbestos containing materials, PCBs, or lead-based paint are present at the development site.
- ALC performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-13 of the Northeastern Towers located at 131-10 Guy Brewer Boulevard, Jamaica, NY 11434. Any exceptions to, or deletions from, this practice are described in Section 2.0 of this report. This assessment has revealed no evidence of recognized environmental conditions associated with the development site.

Recommendations

- In regards to the water staining observed in the compactor room of the subject building, the sources of the water intrusion/excessive moisture responsible for the water staining be investigated and permanently repaired in order to prevent further water damage as well as the proliferation of mold growth.

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

In the future without the proposed actions, the proposed development site would not be rezoned and an (E) designation would not be assigned to the affected lots. The existing residential building would remain on the proposed development site.

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

In the future with the proposed action, the rezoning would convert the area to a R6 zoning district. While the assessment above established that the proposed development site does not have the potential of hazardous material contamination, the New York City Department of Environmental Protection (DEP) has reviewed the Phase I ESA and has determined further investigation is required (see Appendix 4). Therefore, the proposed actions include assigning a hazardous materials (E) designation on Lot 1 on Block 12277. The (E) designation that would be assigned to this lot would require further investigation be performed to determine the presence and nature of contaminants of concern and the proper remedial and/or health and safety measures that would be employed during construction.

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

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

The text of the hazardous materials (E) designation (E-426) for the proposed development site (Block 12277, Lot 1) would be as follows:

Task 1: Sampling Protocol

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

Task 2: Remediation Determination and Protocol

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

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

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

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

APPENDIX 1

NEW YORK CITY LANDMARKS PRESERVATION COMMISSION

ENVIRONMENTAL REVIEW LETTER

Landmarks Preservation Commission

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

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

ENVIRONMENTAL REVIEW

Project number: DEPARTMENT OF CITY PLANNING / LA-CEQR-Q
Project: NORTHEASTERN TOWERS
Address: 131-10 GUY R BREWER BLVD, **BBL:** 4122770001
Date Received: 4/12/2017

[X] No architectural significance

[X] No archaeological significance

[ ] Designated New York City Landmark or Within Designated Historic District

[ ] Listed on National Register of Historic Places

[ ] Appears to be eligible for National Register Listing and/or New York City Landmark Designation

[ ] May be archaeologically significant; requesting additional materials

Gina Santucci 4/17/2017

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 31670_FSO_GS_04212017.doc

APPENDIX 2

JAMAICA BAY WATERSHED PROTECTION PLAN

PROJECT TRACKING FORM

Print Form

Jamaica Bay Watershed Protection Plan
Project Tracking Form

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

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

A. GENERAL PROJECT INFORMATION

1. CEQR Number: [ ] 1a. Modification ☐
2. Project Name: Northeastern Towers Annex
3. Project Description:

The proposed actions include a proposed zoning map amendment and a zoning text amendment for a proposed annex to an existing residential building. The proposed actions would result in a 139,487 gsf annex that would include 130 affordable dwelling units for senior citizens.

4. Project Sponsor: Northeastern Towers Annex L.P.
5. Required approvals: zoning map amendment; zoning text amendment
6. Project schedule (build year and construction schedule): Construction 2018-2020. Build Year 2020.

B. PROJECT LOCATION:

1. Street address: 131-10 Guy Brewer Boulevard
2. Tax block(s): QNS 12277 Tax Lot(s): 1
3. Identify existing land use and zoning on the project site: Residential, R3X
4. Identify proposed land use and zoning on the project site: Residential, R6
5. Identify land use of adjacent sites (include any open space): Residential, Transportation/Utility, V
6. Describe existing density on the project site and the proposed density:

Existing Condition	Proposed Condition
92,608 gsf	232,095 gsf (proposed 139,487 gsf annex plus residential existing building)

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): TBD
2. Will soil be removed (if so, what is the volume in cubic yards)? TBD
3. Subsurface soil classification:
   (per the New York City Soil and Water Conservation Board): silt loam, loamy sand, sandy loam a
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: N/A Rates: N/A
6. Will project involve dewatering (list volumes/rates)? ☐ **Yes** ☒ **No**

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

   According to the Phase I ESA, the Subject Property is approximately 19 feet above mean sea level. The Phase I ESA does not indicate the height 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.

   N/A
4. Will pesticides, rodenticides or herbicides be used during construction? ☐ **Yes** ☒ **No**

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

   N/A
5. Will additional lighting be installed? ☒ **Yes** ☐ **No**

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

E. SURFACE COVERAGE AND CHARACTERISTICS

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

	Existing Condition	Proposed Condition
1. ***Surface area:***		
Roof:	Approx. 7,709 sf	Approx. 29,389 sf
Pavement/walkway:	Approx. 26,000 sf	Approx. 46,750 sf
Grass/softscape:	Approx. 79,424 sf	Approx. 36,994 sf
Other (describe):	0 sf	0 sf
2. ***Wetland*** (regulated or non-regulated) area and classification:	N/A (no wetland area at site)	N/A (no wetland area at site)
3. ***Water surface area:***	N/A (no water surface area at site)	N/A (no water surface area at site)

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

Existing – how is the site drained?

The development site is served by existing separated stormwater sewers. The adjacent sites are also served by existing separated stormwater sewers. Additional drainage occurs through permeable surfaces (vegetation) on the site.

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

It is expected that stormwater generated on the development site would drain out to the existing separated stormwater sewers that run along all the sites' street frontages. No infrastructure improvements would be necessary off-site.

APPENDIX 3

TRANSPORTATION PLANNING FACTORS MEMORANDUM

Philip Habib & Associates

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TECHNICAL MEMORANDUM

TO: New York City Department of City Planning

FROM: Philip Habib & Associates

DATE: May 16, 2017

PROJECT: Northeastern Towers Annex (#1661)

RE: Transportation Planning Factors

INTRODUCTION

The applicant, Northeastern Towers Annex LP, is seeking a zoning map and a zoning text amendment from the New York City Planning Commission (CPC) in order to facilitate the construction of a 10-story residential annex to the Northeastern Towers (the proposed project) in the Rochdale neighborhood of Queens Community District 12 (refer to Figure 1). The proposed project would rezone Block 12277, portion of Lot 1 from a R3X district to a R6 district, and would also include a zoning text amendment to map the development site as a Mandatory Inclusionary Housing (MIH) Area. The approximately 139,487-gross square foot (gsf) proposed new building would be developed with 135,562 gross square foot (gsf) of residential floor area with 129 dwelling units (DUs) (and 1 additional apartment for a resident superintendent), and 3,925 gsf of community facility uses (senior center). The proposed development is expected to be completed and operational in 2020. This memorandum summarizes the transportation planning factors to be used for the environmental assessment statement (EAS) analyses of traffic, transit, pedestrian, and parking conditions for two development scenarios. The first scenario (Scenario 1) reflects the 10-story senior residential annex described above, that the applicant intends to build. The second scenario (Scenario 2) reflects the Reasonable Worst Case Development Scenario (RWCDS), under which a 14 story mixed-use building, including 159 DUs, 63,000 gsf of medical office use, and 230 accessory parking spaces, would be constructed.

PROJECT SITE

The 113,133 sf project site is located at 131-10 Guy R. Brewer Boulevard in Queens (Block 12277, Lot 1) Community District (CD) 12. The site is currently zoned R3X and has an existing built Floor Area Ratio (FAR) of 0.8, which is greater than the permitted maximum FAR of 0.6. The project site has approximately 384 feet of frontage on Guy R. Brewer Boulevard, a two-way, four lane arterial, 249 feet of frontage on 132nd Avenue, a two-way street, and 330 feet of frontage on 161st Street, a two-way street (refer to Figure 1). The adjacent lots on Block 12277 consist of one and two family residential buildings with varying frontages along 161st Street, 130th Avenue, and Guy R. Brewer Boulevard.

The project site is currently occupied by a 12-story (111 affordable senior DUs) residential building with 45 accessory parking spaces. The predominant land use in the vicinity of the project site is residential, with the Rochdale Village, a 20-building multi-family residential complex, occupying a superblock to the east of the project site along Guy R. Brewer Boulevard. There are also various public facilities and institutions nearby, including August Martin High School, Catherine and Count Basie Middle School, the Queens Police Department and a number of houses of worship. Open space in the surrounding area includes Railroad Park, Baisley Pond Park, and Roy Wilkins Park.

The project site is located approximately 1 mile west of the Long Island Railroad (LIRR) Locust Manor station (serving the Babylon, Far Rockaway and Long Beach lines), and 2.5 miles south of the Jamaica Center-Parsons/Archer Station (serving subway lines E, J, Z and the LIRR). The surrounding area is also served by several local bus routes, including the Q111 providing local service between Jamaica and Rosedale, and the Q113 and Q114 providing local service between Jamaica and Far Rockaway. Additionally, the M21 bus route provides express service between Rochdale Village and Manhattan.

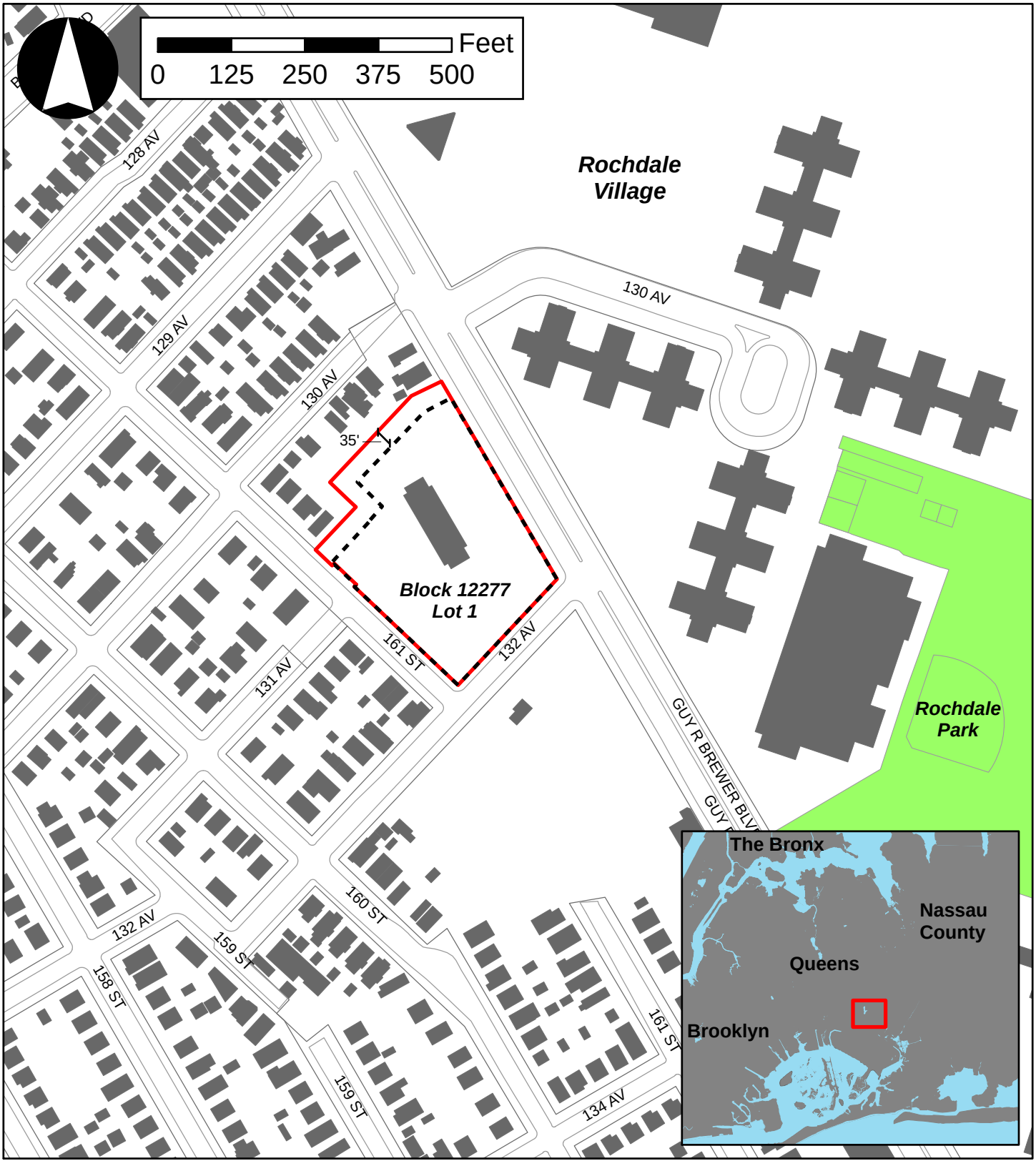
FUTURE NO-ACTION & WITH-ACTION ASSUMPTIONS

In the absence of the proposed action in 2020, the project site is expected to remain as is it currently exists, a 12-story residential building with 110 affordable DUs for seniors (and 1 additional apartment for a resident superintendent) and a total built FAR of 0.8.

In the future under the With-Action conditions, the proposed zoning map and text amendments would be approved, and the proposed project would be fully occupied. The existing 12-story residential building, with 111 DUs, would remain and a new 10-story residential building would be constructed at the development site. The 228,401 gsf (215,358 zsf) proposed development would include a combined 241 DUs, including the existing building. The proposed new 139,487 gsf annex would include 135,562 gsf of residential floor area and 3,925 gsf of community facility uses (senior center) on the cellar level, and would include a total of 129 DUs (with 1 additional apartment for a resident superintendent) with 100% of the residential floor area dedicated to affordable housing (Scenario 1). As a part of the proposed development, a total of 90 accessory parking spaces would be provided on-site; 85 spaces provided for 35% of the 241 DUs and five additional spaces for senior center employees. Vehicle access to the proposed site would be located along the 161st Street frontage and the primary pedestrian entrance would be along 132nd Avenue.

While the applicant intends to develop the residential annex described above (Scenario 1), an alternate reasonable worst case development scenario (RWCDS) for a mixed-use development will also be considered for the purposes of conservative analysis of the proposed rezoning. The RWCDS assumes a new 14-story mixed-use building that would include 159 DUs, of which 40 would be affordable and 63,000 gsf of medical office use (Scenario 2). Under this scenario, a total of 269 accessory parking spaces would be provided on-site, with 39 spaces dedicated to the existing residential building and 230 spaces dedicated to the proposed residential annex. As the proposed project would have the potential to exceed *City Environmental Quality Review* (CEQR) *Technical Manual* analysis thresholds, a preliminary travel demand forecast was prepared for both Scenario 1 and Scenario 2.

Figure 1
Project Location



Legend

Development Site | Rezoning Area | Building Footprints | Open Space

Source: NYCDCP, DoITT

PROPOSED PROJECT (Scenario 1)

As previously discussed, Scenario 1 would include a total of 129 affordable senior DUs and 1 additional DU for a resident superintendent (for a total of 130 DUs). In order to conduct Level 1 Trip Generation Screening Assessments for the Scenario 1 and the RWCDS, travel demand forecasts were prepared for a typical peak hour during the weekday AM, weekday midday, weekday PM and Saturday midday periods.

TRANSPORTATION PLANNING FACTORS

The transportation planning factors for the proposed project are shown below in Table 1, and were developed based on the standard criteria as per the 2014 *CEQR Technical Manual*, census data, and studies that have been used in previous Environmental Impact Statements (EIS) for projects with similar uses. These include trip generation rates, temporal and directional distributions, mode choice factors, and vehicle occupancies for the proposed 130 affordable residential units for seniors and 3,925 gsf of community facility space.

Residential

The forecast of travel demand for the residential use used an adjusted ratio of the 2014 *CEQR Technical Manual* weekday and Saturday trip generation rates of 8.075 and 9.6 person trips per DU respectively. Weekday and Saturday trip generation rates of 3.70 trips per DU were used, based on data from the *Zoning for Quality and Affordable Text Amendment FEIS, 2016*. Temporal distributions of 13%, 14%, 8%, and 14% for the weekday AM, midday, PM, and Saturday midday peak hours respectively. These temporal distributions were also based on data from the *Zoning for Quality and Affordable Text Amendment FEIS, 2016*.

The residential modal splits were estimated to be 40%, 1 %, 33%, 21%, and 5% mode shares for private auto, taxi, subway, bus, and walk-only modes, respectively. The subway and bus mode shares were estimated based on 2010 to 2014 *American Community Survey (ACS)* Means of Transportation to Work data for renters in Queens Census Tracts 294 and 334.02, which are comparable in land use to the proposed development. The auto mode share was based on vehicle counts conducted in the parking lot of the existing 12-story senior residential building located on the project site. The directional (in/out) splits were based on data from *Zoning for Quality and Affordable Text Amendment FEIS, 2016*. The vehicle occupancy of 1.05 was also based on ACS Means of Transportation to Work data for census Tracts 294 and 334.02, and the taxi occupancy of 1.40 was based on the *Jamaica Plan Rezoning FEIS, 2007.*

Community Facility (Senior Community Center)

The forecast of travel demand for the community facility use, assumed to be a senior community center, used a weekday trip generation rate of 44.7 person trips per 1,000 sf, a Saturday trip generation rate of 26.1 trips per 1,000 sf and temporal distributions of 4%, 9%, 5%, and 9% for the weekday AM, midday, PM, and Saturday midday peak hours, respectively, as per the 2014 *CEQR Technical Manual*. The modal split would be predominately walk, and assumed 5%, 1%, 3%, 6%, and 85% mode shares for private auto, taxi, subway, bus, and walk-only modes, respectively, based on the *Jamaica Plan Rezoning FEIS, 2007*. The vehicle occupancies of 1.65 persons per vehicle, 1.40 persons per taxi, and the directional splits were also assumed based on the *Jamaica Plan Rezoning FEIS, 2007*.

Table 1
Transportation Planning Factors (Proposed Development - Scenario 1)

Land Use:	**Senior Residential**		**Community Facility (Senior Community Center)**	
Size/Units:	130 DU		3,925 sf	
Trip Generation:	(2)		(1)	
Weekday	3.70		44.7	
Saturday	3.70		26.1	
	per DU		per 1,000 sf	
Temporal Distribution:	(2)		(1)	
AM	13.0%		4.0%	
MD	14.0%		9.0%	
PM	8.0%		5.0%	
SatMD	14.0%		9.0%	
	(3,4)		(6)	
Modal Splits:	AM/MD/PM		AM/MD/PM	
Auto	40.0%		5.0%	
Taxi	1.0%		1.0%	
Subway	33.0%		3.0%	
Bus	21.0%		6.0%	
Walk/Other	5.0%		85.0%	
	100.0%		100.0%	
	(2)		(6)	
In/Out Splits:	In	Out	In	Out
AM	74.0%	26.0%	61.0%	39.0%
MD	38.0%	62.0%	55.0%	45.0%
PM	25.0%	75.0%	29.0%	71.0%
Sat MD	38.0%	62.0%	49.0%	51.0%
Vehicle Occupancy:	(5,6)		(6)	
Auto	1.05		1.65	
Taxi	1.40		1.40	
Truck Trip Generation:	(1)		(6)	
	0.06		0.29	
	per DU		per 1,000 sf	
	(1)		(6)	
AM	12.0%		9.6%	
MD	9.0%		11.0%	
PM	2.0%		1.0%	
Sat MD	9.0%		0.0%	
	In	Out	In	Out
AM/MD/PM	50%	50%	50.0%	50.0%

Notes:
(1) Based on data from *City Environmental Quality Review* (CEQR) *Technical Manual,2014.*
(2) Based on data from the *Zoning for Quality and Affordable Text Amendment FEIS, 2016*
(3) Based on American Community Survey 2010-2014 Means of Transportation to Work data for Census Tracts 294 and 334.02 for renters.
(4) Based on vehicle count data from the parking lot of the existing senior residential building (to remain) at the project site
(5) Based on American Community Survey 2010-2014 Means of Transportation to Work data for Census Tracts 294 and 334.02
(6) Based on data from *Jamaica Plan Rezoning, 2007.*

TRIP GENERATION

According to the 2014 *CEQR Technical Manual* guidelines, a two-tier screening process is used to determine whether quantified analyses of any technical areas of the transportation system are necessary. A Level 1 screening is typically necessary if a proposed project has the potential to exceed either 50 vehicle trips, 200 transit trips or 200 pedestrian trips during any given peak hour. If these thresholds are exceeded, a Level 2 screening assessment is required in order to ensure that there are not 50 vehicle trips, 50 bus trips, 200 subway/rail trips, or 200 pedestrian trips assigned to an individual transportation element (intersections, bus routes, subway stations, etc.), during any analysis peak hour. Based on the planning factors shown in in Table 1, a travel demand forecast (Level 1 screening) was prepared for the proposed development, and is shown below in Table 2.

Traffic

Based on the factors outlined above, an incremental increase of approximately 31, 32, 20, and 32 vehicle trips (in and out combined) would be generated as a result of the proposed development program during the weekday AM, midday, PM, and Saturday midday peak periods, respectively (refer to Table 2). As the *CEQR Technical Manual* Level 1 screening threshold of 50 vehicle trips per peak hour is not exceeded during any of the four peak hour periods, significant adverse impacts would be unlikely and a Level 2 screening analysis is not warranted. As per the *CEQR Technical Manual*, a detailed parking assessment is not needed if the threshold for traffic analysis is not exceeded.

Transit

According to the general thresholds used by the Metropolitan Transportation Authority (MTA) specified in the 2014 *CEQR Technical Manual*, detailed transit analyses are not required if the proposed development is projected to result in fewer than 200 peak hour subway/rail or bus transit riders.

As shown in Table 2, the proposed development would generate an incremental increase of 22, 24, 14, and 24 subway (in and out combined) trips during the weekday AM, midday, PM and Saturday midday peak periods, respectively. Similarly, the development would generate an incremental increase of 15, 16, 10 and 16 bus trips during the weekday AM, midday, PM and Saturday midday peak hours, respectively. Therefore, the transit thresholds are not met in any of the four analyzed peak hours, thus a detailed transit analysis would not be warranted, and no significant adverse impacts are expected.

Pedestrians

According to the *CEQR Technical Manual*, detailed pedestrian analyses are not required if the proposed development is projected to result in less than 200 peak hour pedestrian trips. As shown in Table 2, the development would generate an incremental increase of 9, 17, 11, and 11 walk-only trips (in and out combined) during the weekday AM, midday, PM and Saturday midday peak periods, respectively (refer to Table 2). In addition to the walk-only trips, the subway and bus trips also include walk portions of the trip. Therefore, the proposed project would generate a total of 46, 57, 35, and 51 walk trips in the weekday AM, midday, PM and Saturday peak periods respectively. The threshold for pedestrian trips was not met in any of the four analyzed peak hours, thus a detailed pedestrian analysis would not be warranted, and no significant adverse impacts are expected.

Table 2
Travel Demand Forecast (Proposed Development – Scenario 1)

Land Use:		Senior Residential		Community Facility (Senior Community Center)			
Size/Units:		130	DU	3,925 sf		Total	
Peak Hour Trips:							
	AM	63		7		70	
	MD	67		16		83	
	PM	38		9		47	
	Sat MD	67		9		76	
Person Trips:							
		In	Out	In	Out	In	Out
AM	Auto	19	7	1	1	20	8
	Taxi	0	0	1	1	1	1
	Subway	15	5	1	1	16	6
	Bus	10	3	1	1	11	4
	Walk/Other	2	1	4	2	6	3
	Total	46	16	8	6	54	22
		In	Out	In	Out	In	Out
MD	Auto	10	17	1	1	11	18
	Taxi	0	0	1	1	1	1
	Subway	8	14	1	1	9	15
	Bus	5	9	1	1	6	10
	Walk/Other	1	2	7	7	8	9
	Total	24	42	11	11	35	53
		In	Out	In	Out	In	Out
PM	Auto	4	11	1	1	5	12
	Taxi	0	0	1	1	1	1
	Subway	3	9	1	1	4	10
	Bus	2	6	1	1	3	7
	Walk/Other	0	1	4	6	4	7
	Total	9	27	8	10	17	37
		In	Out	In	Out	In	Out
Sat MD	Auto	10	17	1	1	11	18
	Taxi	0	0	1	1	1	1
	Subway	8	14	1	1	9	15
	Bus	5	9	1	1	6	10
	Walk/Other	1	2	4	4	5	6
	Total	24	42	8	8	32	50
Vehicle Trips :							
		In	Out	In	Out	In	Out
AM	Auto (Total)	18	7	1	1	19	8
	Taxi	0	0	1	1	1	1
	Taxi Balanced	0	0	2	2	2	2
	Truck	0	0	0	0	0	0
	Total	18	7	3	3	21	10
		In	Out	In	Out	In	Out
MD	Auto (Total)	10	16	1	1	11	17
	Taxi	0	0	1	1	1	1
	Taxi Balanced	0	0	2	2	2	2
	Truck	0	0	0	0	0	0
	Total	10	16	3	3	13	19
		In	Out	In	Out	In	Out
PM	Auto (Total)	4	10	1	1	5	11
	Taxi	0	0	1	1	1	1
	Taxi Balanced	0	0	2	2	2	2
	Truck	0	0	0	0	0	0
	Total	4	10	3	3	7	13
		In	Out	In	Out	In	Out
Sat MD	Auto (Total)	10	16	1	1	11	17
	Taxi	0	0	1	1	1	1
	Taxi Balanced	0	0	2	2	2	2
	Truck	0	0	0	0	0	0
	Total	10	16	3	3	13	19
	Total Vehicle	In	Out	Total			
	AM	21	10	31			
	MD	13	19	32			
	PM	7	13	20			
	Sat MD	13	19	32			

REASONABLE WORST CASE DEVELOPMENT SCENARIO (RWCDS – Scenario 2)

As previously discussed, Scenario 2 would include a total of 159 typical family rental DUs, of which 40 would be affordable, 63,000 gsf of medical office space and 230 accessory parking spaces. Similar to the analysis of Scenario 1, travel demand forecasts were prepared for a typical peak hour during the weekday AM, midday, PM and Saturday midday periods in order to conduct Level 1 Trip Generation Screening Assessments for Scenario 2.

TRANSPORTATION PLANNING FACTORS

The transportation planning factors for the RWCDS are shown below in Table 3 and were developed based on the standard criteria as per the 2014 *CEQR Technical Manual*, census data, and studies that have been used in previous Environmental Impact Statements (EIS) for projects with similar uses. These include trip generation rates, temporal and directional distributions, mode choice factors, and vehicle occupancies for the proposed 159 dwelling units, and 63,000 gsf of medical office.

Residential

The forecast of travel demand for the residential use used a weekday trip generation rate of 8.075 person trips per DU, a Saturday trip generation rate of 9.6 person trips per DU, and temporal distributions of 10%, 5%, 11% and 8% for the weekday AM, midday, PM and Saturday midday peak hours, respectively, as per the 2014 *CEQR Technical Manual*. The residential modal splits were estimated to be 43%, 0%, 33%, 21%, and 3% mode shares for private auto, taxi, subway, bus, and walk-only modes, respectively, as per the 2010 to 2014 ACS Means of Transportation to Work data for renters in Queens Census Tracts 294 and 334.02. The vehicle occupancy of 1.05 was also assumed based on ACS data. Directional (in/out) splits shown in Table 3 were based on the *Technical Memorandum for the Domino Sugar Rezoning FEIS, 2013*.

Medical Office

Travel demand for the proposed medical office use was forecasted separately for employees and patients/visitors. The forecast of travel demand for medical office employees used a weekday trip generation rate of 10 person trips per 1,000 sf, a Saturday employee trip generation rate of 4.3 trips per 1,000 sf, and temporal distributions of 24%, 17%, 24%, and 17% for the weekday AM, midday, PM, and Saturday midday peak hours respectively, as per the *Jamaica Plan Rezoning FEIS, 2007* and the *Saint Vincent's Campus Redevelopment FEIS, 2012.* The employee modal splits during the AM, PM and Saturday peak hours were estimated to be 49%, 1%, 30%, 17%, and 3% for private auto, taxi, subway, bus, and walk-only modes, respectively, as per the 2010 to 2014 ACS Means of Transportation to Work data for Queens Census Tracts 294 and 334.02. The employee midday modal splits were estimated to be 2%, 3%, 6%, 6%, and 83% for private auto, taxi, subway, bus, and walk-only modes, respectively, as per the *East New York Rezoning Proposal FEIS, 2016*. The directional (in/out) splits shown in Table 3 were based on directional splits from *Jamaica Plan Rezoning FEIS, 2007* and the *Saint Vincent's Campus Redevelopment FEIS, 2012.* Additionally, the vehicle occupancy of 1.05 was also based on the ACS data.

The forecast of travel demand for the medical office visitors used a weekday trip generation rate of 33.6 trips per 1,000 sf, a Saturday visitor trip generation rate of 14.5 trips per 1,000 sf, and temporal distributions of 6%, 9%, 5%, and 9% for the weekday AM, midday, PM, and Saturday midday peak hours respectively, as per the *Jamaica Plan Rezoning FEIS, 2007* and the *Saint Vincent's Campus Redevelopment FEIS, 2012.* Similarly, the visitor modal splits were estimated to be 25%, 25%, 29%, 11%, and 10% for private auto, taxi, subway, bus, and walk-only modes, respectively, as per the *Jamaica Plan Rezoning FEIS, 2007*. The directional (in/out) splits were also based on the *Jamaica Plan Rezoning FEIS, 2007* and the *Saint Vincent's Campus Redevelopment FEIS, 2012.* Similarly, the vehicle occupancy rates of 1.65 visitors per auto and 1.2

visitors per taxi were based on the *Jamaica Plan Rezoning FEIS, 2007.*

Table 3
Transportation Planning Factors (RWCDS - Scenario 2)

Land Use:	Residential	Medical Office (Staff)		Medical Office (Visitors)	
Size/Units:	159 DU	63,000 sf		63,000 sf	
Trip Generation:	(1)	(4,5)		(3,4)	
Weekday	8.075	10.00		33.60	
Saturday	9.60	4.30		14.50	
	per DU	per 1,000 sf		per 1,000 sf	
Temporal Distribution:	(1)	(4,5)		(3,4)	
AM	10.0%	24.0%		6.0%	
MD	5.0%	17.0%		9.0%	
PM	11.0%	24.0%		5.0%	
SatMD	8.0%	17.0%		9.0%	
	(2)	(6,7)		(4)	
Modal Splits:	AM/MD/PM	AM/PM/SAT	MD	AM/MD/PM	
Auto	43.0%	49.0%	2.0%	25.0%	
Taxi	0.0%	1.0%	3.0%	25.0%	
Subway	33.0%	30.0%	6.0%	29.0%	
Bus	21.0%	17.0%	6.0%	11.0%	
Walk/Ferry/Other	3.0%	3.0%	83.0%	10.0%	
	100.0%	100.0%	100%	100.0%	
	(3)	(4,5)		(3,4)	
In/Out Splits:	In Out	In	Out	In	Out
AM	15.0% 85.0%	100.0%	0.0%	90.0%	10.0%
MD	50.0% 50.0%	50.0%	50.0%	50.0%	50.0%
PM	70.0% 30.0%	0.0%	100.0%	30.0%	70.0%
Sat MD	50.0% 50.0%	50.0%	50.0%	50.0%	50.0%
Vehicle Occupancy:	(6,4)	(6,4)		(4)	
Auto	1.05	1.05		1.65	
Taxi	1.40	1.4		1.2	
Truck Trip Generation:	(1)	(3,4)			
	0.06	0.4		N/A	
	per DU	per 1,000 sf		N/A	
	(1)	(3,4)			
AM	12.0%	9.7%		N/A	
MD	9.0%	7.8%		N/A	
PM	2.0%	5.1%		N/A	
Sat MD	9.0%	0.0%		N/A	
	In Out	In	Out	In	Out
AM/MD/PM	50% 50%	50.0%	50.0%	N/A	N/A

Notes:

(1) Based on data from *City Environmental Quality Review* (CEQR) *Technical Manual, 2014.*
(2) Based on American Community Survey 2010-2014 Means of Transportation to Work data for Census Tracts 294 and 334.02 for renters.
(3) Based on the Technical Memorandum for the Domino Sugar Rezoning FEIS 2013.
(4) Based on data from the *Jamaica Plan Rezoning FEIS, 2007.*
(5) Based on data from the *Saint Vincent's Campus Redevelopment FEIS, 2012.*
(6) Based on American Community Survey 2010-2014 Means of Transportation to Work data for Census Tracts 294 and 334.02.
(7) Based on data from the *East New York Rezoning Proposal FEIS, 2016*

TRIP GENERATION

Traffic

Based on the factors outlined above, an incremental increase of approximately 199, 126, 188, and 106 vehicle trips (in and out combined) would be generated as a result of the RWCDS development program during the weekday AM, midday, PM, and Saturday midday peak periods, respectively (refer to Table 4). As shown in Table 4, the *CEQR Technical Manual* Level 1 screening threshold of 50 vehicle trips per peak hour is exceeded during all four peak hour periods. Therefore, a Level 2 screening assessment is required to determine if the development would result in an incremental increase of 50 or more vehicle trips at any given intersection.

The subsequent Level 2 vehicle trip assignments are shown below in Figure 2 for the weekday AM, midday, PM and Saturday midday peak periods. The origins and destinations for the vehicle trip assignments were based on the project location, area arterials, and ACS Means of Transportation to Work data. Under Scenario 2, the parking garage and surface parking lot would be accessible from both the western portion of the lot on 161st Street and from the eastern portion of the lot on Guy R. Brewer Boulevard (refer to Figure 3). Taxi and drop-off trips were assigned to the main pedestrian entrance along 132nd Avenue.

As shown in Figure 2, the majority of vehicle trips were assigned to the garage entrance on Guy R. Brewer Boulevard (approximately 70%), with the remaining vehicle trips (approximately 30%) assigned to the entrance on Guy R. Brewer Boulevard. A total of eight intersections were selected for analysis, as they would exceed the CEQR threshold of 50 vehicles per intersection. These intersections are listed below and illustrated in detail in Figure 2. In addition to the eight intersections listed below, the intersection at 132nd Avenue and 158th Street also exceeds the CEQR threshold of 50 vehicles with 55 vehicles in the AM peak hour and 54 vehicles in the PM peak hour. However, as this intersection is located in the middle of a low-density residential neighborhood, with low existing traffic volumes, and the vehicle trips barely exceed the threshold, further analysis is not required for this intersection.

All eight of the analyzed intersections exceed the threshold during the weekday AM peak hour period, three intersections exceed the threshold during the weekday midday peak hour, and seven intersections exceed the threshold during the weekday PM peak hour period.

Traffic Analysis Locations

1. 131st Avenue at 160th Street (AM)
2. 131st Avenue at 161st Street (AM/PM)
3. 132nd Avenue at 159th Street (AM/PM)
4. 132nd Avenue at 161st Street (AM/MD/PM)
5. Guy R Brewer Boulevard at Baisley Boulevard (AM/PM)
6. Guy R. Brewer Boulevard at 130th Avenue (AM/MD/PM)
7. Guy R. Brewer Boulevard at 132nd Avenue (AM/MD/PM)
8. Guy R. Brewer Boulevard at 134th Avenue (AM/PM)

Parking

Under Scenario 2, the development would include a total of 230 parking spaces. The majority of the projected development's vehicle trips are linked to residential use and the medical office staff. The average autos per household for renter occupied households in Census Tracts 294 and 334.02 was determined to be 0.79, and was used to forecast the residential overnight parking demand. As shown below in Table 5, the residential parking accumulation peaks during the overnight period with 132 occupied spaces and the medical office staff and visitor accumulation peaks with 111 spaces and 65 spaces occupied, respectively, at 12:00 PM on a weekday. The overall parking accumulation peaks at 12:00 PM on a weekday with 228

occupied spaces. As the development would include a total of 230 spaces, the parking supply would be sufficient to meet the projected demand. Therefore, a detailed parking analysis is not warranted and no significant adverse parking impacts are anticipated.

Transit

As previously discussed, detailed transit analyses are not required if the proposed development is projected to result in fewer than 200 peak hour subway/rail or bus transit riders as per the 2014 *CEQR Technical Manual*.

As shown in Table 4, Scenario 2 would generate an incremental increase of 124, 84, 123, and 78 subway (in and out combined) trips during the weekday AM, midday, PM and Saturday midday peak periods, respectively. Similarly, the development would generate an incremental increase of 67, 42, 67, and 44 bus trips during the weekday AM, midday, PM and Saturday midday peak hours, respectively. Therefore, the transit thresholds are not met in any of the four analyzed peak hours, thus a detailed transit analysis would not be warranted, and no significant adverse impacts are expected.

Pedestrians

According to the *CEQR Technical Manual*, detailed pedestrian analyses are not required if Scenario 2 is projected to result in less than 200 peak hour pedestrian trips. As shown in Table 2, Scenario 2 would generate an incremental increase of 21, 110, 23, and 14 walk-only trips (in and out combined) during the weekday AM, midday, PM and Saturday midday peak periods, respectively (refer to Table 2). In addition to the walk-only trips, the subway and bus trips also include walk portions of the trip. Therefore, Scenario 2 would generate a total of 212, 236, 213, and 136 walk trips in the weekday AM, midday, PM and Saturday peak periods respectively. As the total walk trips exceed the CEQR threshold during the weekday AM, midday, and PM peak hours, a more detailed analysis is warranted.

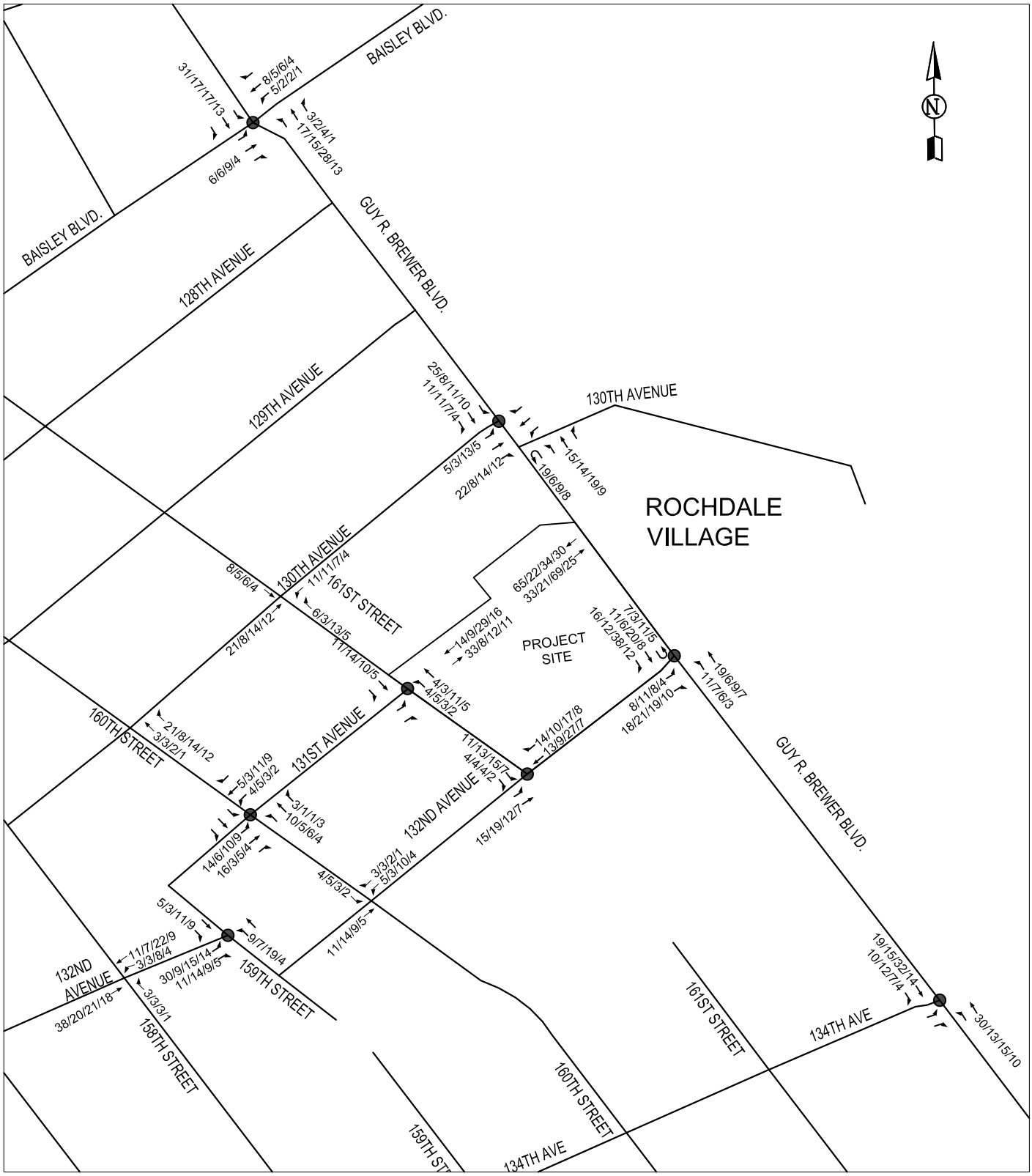
Under Scenario 2, it is projected that the proposed building would have entrances on 161st Street and 132nd Avenue. The entrance on 161st Street would be dedicated to the medical office use, while the entrance on 132nd Avenue would be dedicated to the residential use. A preliminary pedestrian assignment is shown below in Figure 3 for all four peak hour periods. Similar to the vehicle assignments shown in Figure 3, the origins and destinations for the pedestrian trip assignments were based on the project location, local transit routes, and ACS Means of Transportation to Work data.

As shown in Figure 3, no pedestrian element is expected to experience an increase of greater than 200 person trips during any of the peak hour periods. Therefore, no significant adverse impacts are expected and a detailed pedestrian analysis is not warranted.

Table 4
Travel Demand Forecast (RWCDS – Scenario 2)

Land Use:		Residential		Medical Office (Staff)		Medical Office (Visitors)			
Size/Units:		159	DU	63000 sf		63000 sf		Total	
Peak Hour Trips:									
	AM	128		151		127		406	
	MD	64		107		191		362	
	PM	141		151		106		398	
	Sat MD	122		46		82		250	
Person Trips:									
		In	Out	In	Out	In	Out	In	Out
AM	Auto	9	47	75	0	29	4	113	51
	Taxi	0	0	2	0	29	3	31	3
	Subway	6	36	45	0	33	4	84	40
	Bus	4	23	26	0	13	1	43	24
	Walk/Ferry/Other	1	3	5	0	11	1	17	4
	Total	20	109	153	0	115	13	288	122
		In	Out	In	Out	In	Out	In	Out
MD	Auto	14	14	2	2	24	24	40	40
	Taxi	0	0	2	2	24	24	26	26
	Subway	11	11	3	3	28	28	42	42
	Bus	7	7	3	3	11	11	21	21
	Walk/Ferry/Other	1	1	44	44	10	10	55	55
	Total	33	33	54	54	97	97	184	184
		In	Out	In	Out	In	Out	In	Out
PM	Auto	43	18	0	75	8	19	51	112
	Taxi	0	0	0	2	8	19	8	21
	Subway	33	14	0	45	9	22	42	81
	Bus	21	9	0	26	3	8	24	43
	Walk/Ferry/Other	3	1	1	6	4	8	8	15
	Total	100	42	1	154	32	76	133	272
		In	Out	In	Out	In	Out	In	Out
Sat MD	Auto	26	26	11	11	10	10	47	47
	Taxi	0	0	0	0	10	10	10	10
	Subway	20	20	7	7	12	12	39	39
	Bus	13	13	4	4	5	5	22	22
	Walk/Ferry/Other	2	2	1	1	4	4	7	7
	Total	61	61	23	23	41	41	125	125
Vehicle Trips :									
		In	Out	In	Out	In	Out	In	Out
AM	Auto (Total)	9	45	71	0	18	2	98	47
	Taxi	0	0	1	0	24	3	25	3
	Taxi Balanced	0	0	1	1	24	24	25	25
	Truck	1	1	1	1	0	0	2	2
	Total	10	46	73	2	42	26	125	74
		In	Out	In	Out	In	Out	In	Out
MD	Auto (Total)	13	13	2	2	15	15	30	30
	Taxi	0	0	1	1	20	20	21	21
	Taxi Balanced	0	0	2	2	30	30	32	32
	Truck	0	0	1	1	0	0	1	1
	Total	13	13	5	5	45	45	63	63
		In	Out	In	Out	In	Out	In	Out
PM	Auto (Total)	41	17	0	70	5	11	46	98
	Taxi	0	0	0	1	7	16	7	17
	Taxi Balanced	0	0	1	1	20	20	21	21
	Truck	0	0	1	1	0	0	1	1
	Total	41	17	2	72	25	31	68	120
		In	Out	In	Out	In	Out	In	Out
Sat MD	Auto (Total)	25	25	10	10	6	6	41	41
	Taxi	0	0	0	0	8	8	8	8
	Taxi Balanced	0	0	0	0	12	12	12	12
	Truck	0	0	0	0	0	0	0	0
	Total	25	25	10	10	18	18	53	53
	Total Vehicle	In	Out	Total					
	AM	125	74	199					
	MD	63	63	126					
	PM	68	120	188					
	Sat MD	53	53	106					

Incremental Traffic Volumes

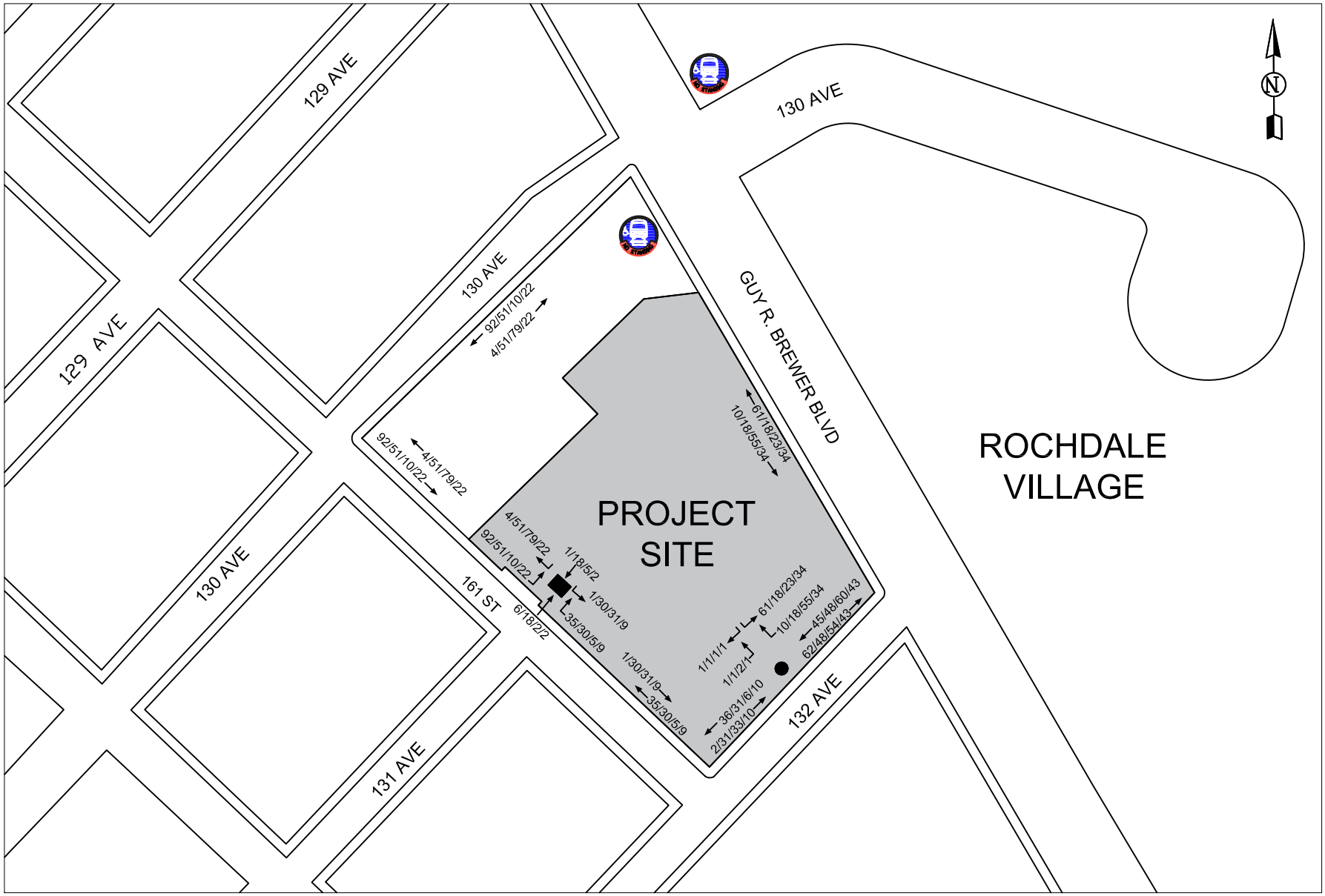


LEGEND: ● Analysis Location xx/xx/xx/xx - AM/MD/PM/SAT MD Traffic Volumes

Table 5: Weekday Parking Accumulation (RWCDS) - Scenario 2

	Residential			Medical Office (Staff)			Medical Office (Visitors)			
	159	DUs		63000	sf		63000	sf		Total
	In	Out		In	Out		In	Out		Accumulation
12-1 AM	3	0	129	0	0	0	0	0	0	129
1-2	3	0	132	0	0	0	0	0	0	132
2-3	0	0	132	0	0	0	0	0	0	132
3-4	0	0	132	0	0	0	0	0	0	132
4-5	0	0	132	2	0	2	0	0	0	134
5-6	3	6	129	4	0	6	0	0	0	135
6-7	3	16	116	6	0	12	0	0	0	128
7-8	3	26	93	10	0	22	8	0	8	123
8-9	8	45	56	71	0	93	17	2	23	172
9-10	8	12	52	10	3	100	22	1	44	196
10-11	14	14	52	7	0	107	20	3	61	220
11-12	12	12	52	7	3	111	18	14	65	228
12-1 PM	13	13	52	25	25	111	14	14	65	228
1-2	13	13	52	2	4	109	14	15	64	225
2-3	13	9	56	2	3	108	16	19	61	225
3-4	20	6	70	0	4	104	13	20	54	228
4-5	30	11	89	2	19	87	11	23	42	218
5-6	41	17	113	0	71	16	5	11	36	165
6-7	25	12	126	0	16	0	2	15	23	149
7-8	15	12	129	0	0	0	0	15	8	137
8-9	14	12	131	0	0	0	0	5	3	134
9-10	9	9	131	0	0	0	0	3	0	131
10-11	9	12	128	0	0	0	0	0	0	128
11-12	6	8	126	0	0	0	0	0	0	126
Total	265	265		148	148		160	160		

Incremental Pedestrian Volumes



LEGEND:

MTA Bus Stop | Proposed Medical Office Entrance | Proposed Residential Entrance | xx/xx/xx/xx - AM/MD/PM/SAT MD Pedestrian Volumes

CONCLUSIONS

A transportation forecast and assignment has been prepared for the proposed development of a 135,793 gsf 10-story senior affordable residential annex to the Northeastern Towers located at 131-10 Guy R. Brewer Boulevard. According to the 2014 *CEQR Technical Manual* guidelines, if a proposed development is expected to result in fewer than 200 peak hour transit, 200 peak hour pedestrian trips and 50 peak hour vehicle trips, further quantified analyses are not warranted.

As shown in Table 2, the proposed development would generate 31, 32, 20, and 32 vehicle trips and 46, 57, 35, and 51 total walk trips (in and out combined) during the weekday AM, midday, PM and Saturday midday peak hour periods. The proposed development would also generate 22, 24, 14, and 24 subway (in and out combined) trips and 15, 16, 10 and 16 bus trips during the weekday AM, midday PM and Saturday peak hours (refer to Table 2). Therefore the proposed development would generate significantly less than 50 vehicle trips, 200 transit trips and 200 person trips during all peak hours and further analyses are not warranted.

However, the Level 1 screening analysis for Scenario 2 determined that the development would generate 199, 126, 188, and 106 vehicle trips (in and out combined) during the weekday AM, midday, PM and Saturday midday peak hour periods. As this exceeds the CEQR threshold of 50 peak hour vehicle trips, a Level 2 traffic screening analysis was performed. It was subsequently determined that a total of nine intersections would have an increase of 50 or more vehicles during the weekday AM peak hour, with eight intersections selected for further analysis (refer to Figure 2). Additionally, three intersections would exceed the CEQR threshold during the weekday midday peak hour and seven intersections would exceed the threshold during the weekday PM peak hour (refer to Figure 2).

As shown in Table 5, the composite weekday parking accumulation is expected to peak at 12:00 PM on a weekday with 228 occupied spaces. As the development will provide a total of 230 parking spaces, there is sufficient parking supply to meet the anticipated demand. Therefore, a detailed parking analysis is not warranted. Additionally, the development would generate a total of 212, 236, 213, and 136 walk trips in the weekday AM, midday, PM and Saturday peak periods respectively under the RWCDS. As this exceeds the CEQR threshold of 200 pedestrian trips during the weekday AM, midday, and PM peak hours, a preliminary pedestrian assignment was warranted and is shown in Figure 3. However, as shown in Figure 3, the pedestrian trips will be distributed among two entrances, with the entrance to the medical office located on 161st Street and the residential entrance located on 132nd Avenue. Therefore, no pedestrian elements will experience an increase of greater than 200 person trips (refer to Figure 3).

Therefore, the incremental trips generated by the proposed development (Scenario 1) would be less than the 2014 *CEQR Technical Manual* thresholds during all peak periods and detailed traffic, transit and pedestrian analyses are not warranted as impacts are not likely. However, a detailed transportation analysis of traffic conditions is warranted for Scenario 2 as per the 2014 *CEQR Technical Manual*.

APPENDIX 4

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION

HAZARDOUS MATERIALS REVIEW LETTER

Environmental Protection

Vincent Sapienza, P.E.
Acting Commissioner

Angela Licata
Deputy Commissioner of Sustainability

59-17 Junction Blvd.
Flushing, NY 11373

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

May 4, 2017

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

Re: 131-10 Guy R. Brewer Boulevard Rezoning
Block 12277, Lot 1
CEQR # 17DCP161Q

Dear Mr. Dobruskin:

The New York City Department of Environmental Protection, Bureau of Sustainability (DEP) has reviewed the April 2017 Environmental Assessment Statement prepared by Philip Habib and Associates and the August 2016 Phase I Environmental Site Assessment (Phase I), prepared by ALC Environmental, on behalf of Northeastern Towers Annex LP (applicant) for the above referenced project. It is our understanding that the applicant is seeking a zoning map amendment from the New York City Department of City Planning (DCP) to rezone a portion of Block 12277, Lot 1 from a R3X zoning district to a R6 zoning district. The applicant is also seeking a zoning text amendment to amend Appendix F of the Zoning Resolution in order to map the project area as a Mandatory Inclusionary Housing Area. As currently proposed, the rezoning action would facilitate the development of a new 10-story annex containing 130 residential units and a senior center. The project site is currently developed with a 12-story residential building located between 130th Avenue and 132nd Avenue in the Rochdale/Springfield Gardens neighborhood of Queens Community District 12.

The August 2016 Phase I report revealed that historical on-site and surrounding area land uses consists of residential and commercial uses including several residential buildings, a parking lot, a water supply tank and pump house, 21 Century Cleaners Inc., the Rose Day Care, Triangle Auto Service, as well as the Redwood Middle School. Regulatory databases such as the New York State Department of Environmental Conservation (NYSDEC) SPILLS, Leaking Underground Storage Tank (LUST), Leaking Storage Tanks (LTANKS), Resource Conservation and Recovery Act Generators, and Petroleum Bulk Storage (PBS) Underground Storage Tanks (USTs) and PBS Aboveground Storage Tanks (ASTs) identified several sites in close proximity to the project site. The SPILLS database reported one spill within a 1/8-mile radius of the project site. The LTANKS database reported 18 LTANKS within a 1/2-mile radius of the project site. The PBS USTs and the PBS ASTs databases reported four USTs and three ASTs within a 1/4-mile radius of the project site. It should be noted that the Phase I also reported five registered dry cleaning facilities within a 1/4-mile radius of the project site.

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

- DCP should inform the applicant that based on the historical on-site and surrounding area land uses, a Phase II Environmental Site Assessment (Phase II) is necessary to adequately identify/characterize the surface and subsurface soils of the subject parcels. A Phase II Investigative Protocol/Work Plan summarizing the proposed drilling, soil, groundwater, and soil vapor sampling activities should be submitted to DEP for review and approval. The Work Plan should include blueprints and/or site plans displaying the current surface grade and sub-grade elevations and a site map depicting the proposed soil boring locations and soil vapor sampling locations. Soil and groundwater samples should be collected and analyzed by a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certified laboratory for the presence of volatile organic compounds (VOCs) by United States Environmental Protection Agency (EPA) Method 8260, semi-volatile organic compounds by EPA Method 8270, pesticides by EPA Method 8081, polychlorinated biphenyls by EPA Method 8082, Target Analyte List metals (filtered and unfiltered for groundwater samples) and soil vapor samples by EPA Method TO-15. The soil vapor sampling should be conducted in accordance with NYSDOH's October 2006 Guidance for Evaluating Soil Vapor Intrusion in the State of New York. The soil vapor samples should be collected and analyzed by a NYSDOH ELAP certified laboratory for the presence of VOCs by EPA Method TO-15. An Investigative Health and Safety Plan (HASP) should also be submitted to DEP for review and approval.

- DCP should also instruct the applicant that the Phase II Work Plan and HASP should be submitted to DEP for review and approval prior to the start of any fieldwork.

Future correspondence related to this project should include the following CEQR number **17DCP161Q**. If you have any questions, you may contact Ms. Cassandra Scantlebury at (718) 595-6756.

Sincerely,

Wei Yu
Acting Deputy Director, Hazardous Materials

cc: R. Weissbard
T. Estesen
C. Scantlebury
M. Wimbish
R. Ghosh (DCP)
O. Abinader (DCP)

APPENDIX 5

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION

WATER AND SEWER INFRASTRUCTURE REVIEW LETTER

NYC Environmental Protection

Vincent Sapienza, P.E.
Acting Commissioner

Anastasios Georgelis, P.E.
Acting Deputy Commissioner
Bureau of Water and
Sewer Operations

59-17 Junction Boulevard
Flushing, NY 11373

watersewerplanning@dep.nyc.gov

MEMORANDUM

To: Mitchell Wimbish
Terrell Estesen
BEPA

From: Bhaskar Nookala
BWSO

Subject: CEQR # 77DCP419Q
Northeastern Towers Annex
Borough of Queens

Date: May 3, 2017

This is in reference to the Environmental Assessment Statement received by BWSO on April 12, 2017 via e-mail. Please be advised of the following comments.

1. The proposed rezoning results in an increase of 204% for the sanitary flow in the adjacent sewers. Therefore, there will be a need to amend the existing drainage plan. In addition, a hydraulic analysis of the existing sewer system may be needed at the time of submittal of the site connection proposal application to determine whether the existing sewer system is capable of supporting higher density development and related increase in wastewater flow, or whether there will be a need to upgrade the existing sewer system.

2. Distribution Engineering has no comments in regards to water demand.

C: Jannine McColgan, P.E., Director, Water and Sewer Planning
Lillian Cheng, P.E., Drainage and Modeling
Andy Lu, Review Engineer
File; AL/al

APPENDIX 6

REASONABLE WORST CASE DEVELOPMENT SCENARIO ANALYTICAL FRAMEWORK

Analytical Framework

As discussed in the RWCDS Memo, several RWCDS options were examined and include the following:

Scenario 1

Because the applicant is a well-established affordable housing developer and is currently working on the details of the funding commitments with New York City Housing Preservation and Development (HPD), by 2020 under With-Action Scenario conditions, it is expected that the applicant would complete the proposed development, which would be facilitated by the proposed actions. As discussed above, the applicant is proposing a 10-story residential annex on the development site (Scenario 1). Upon approval of the proposed actions, the existing 12-story building would remain while a new 10-story annex would be constructed on a new tax lot to be created at the southern portion of the development site. The creation of the new tax lot is necessary as: (1) the lenders and tax credit equity investor will require a tax lot which is separate from the existing building for the new mortgages and (2) the U.S. Department of Housing and Urban Development (HUD) will need to release its mortgages and regulatory agreement from the new tax lot on which the new building will be developed. The new building on the development site will contain approximately 139,487 gsf (128,078 zsf). The existing 12-story residential building on the development site would remain in the future with the proposed actions. With the existing residential building, the proposed development would include a total of approximately 232,095 gsf (218,959 zsf) of total floor area with a combined 241 DUs. The total overall FAR on the zoning lot would be 1.94, below the maximum permitted blended FAR of 2.18. The proposed 10-story annex would include a total of 129 DUs (with 1 additional apartment for a resident superintendent) with 100% of the residential floor area dedicated to affordable housing (129 DUs). All 129 affordable apartments will be considered AIRS and restricted to low income seniors, defined as 62 years of age or older with incomes at or below 60 percent of AMI. One-third of the apartments will be set aside for homeless seniors referred by a City or State agency.

There are two main financing sources for the proposed project under Scenario 1, both of whom have been supportive of the project and have begun underwriting and reviewing the project – HPD and Development (SARRA program funding) and NYC Housing Development Corporation (Tax Exempt Bonds and an allocation of the 4% LIHTC). NYC Housing Development Corporation had completed a preliminary review in July 2016 and provided preliminary approval.

Both agencies will be continuing to review the project, including the completion of the EAS and the underwriting by a bank and an LIHTC investor. It is anticipated that upon their completed review of the above, they will give preliminary funding approval letters and begin collecting and reviewing building drawings and plans and due diligence items to enable early 2018 firm funding commitment letters and draft Regulatory Agreements, with an early summer financing closing/construction start.

However, as discussed in the RWCDS Memo, while the applicant intends on developing the proposed project described above, because the proposed actions would result in an R6 zoning district, an alternate RWCDS was considered for conservative analysis purposes. Several Scenario 2 options were considered and are described below.

Scenario 2

There were several options for development scenarios that were considered for Scenario 2. The options were developed within two fundamental frameworks:

1 – That the site be developed as one overall zoning lot, which would include the existing building, and

2 – That the site be developed as two separate zoning lots, one accommodating the existing building and one accommodating the proposed building.

Because of the siting of the existing building in the nominal center of the subject parcel, few subdivision scenarios result in practically positive results unless all or most of the required parking is underground. The location and shape of the existing building limits various design possibilities, including the configuration of new buildings and the arrangement of parking facilities. However, for the purposes of the analysis, it was assumed that, in the case of subdivision scenarios, site access issues would be successfully dealt with by approvals by the City.

Maximizing the size of the possible new development lot was reviewed by evaluating the site area required to support the existing building. It was assumed that the west side of the overall lot, along the 161st Street frontage would be included in the new development lot. Given the prerequisite creation of a 35-foot R3X buffer along the northern property line, a buffer was apportioned between the two new zoning lots. The resultant minimum site area that would support the existing building as a conforming structure has been calculated to be approximately 46,792 sf, or 41.4% pf the overall parcel. With respect to FAR only, a subdivision at this exact size will be neutral (given the inclusion of the required R3X buffer). The existing building generates a height factor of 12 and so an FAR of 2.42 was used for the R6 portion of the lot.

In this case the resultant new, unencumbered development lot would have a maximum size of 66,341 sf. This lot would utilize all of the frontage along 161st Street and along 132nd Avenue and would run north along Guy R. Brewer Boulevard, to a point (along GRB Blvd.) where it interposes itself between the existing building and the street for more than half of the length of the existing building (see Figure SK-2). Because of the location of the existing building, the potential subdivision allows for a 30-foot rear yard (and equivalent) on the east and west sides of the existing building.

While this happens along 161st Street, there it functions as a typical lot line dividing a city block and a more or less typical rear yard is created. The interposition of a lot (and presumably a building) along Guy R. Brewer Boulevard appeared forced and not likely, on a practical basis, to be approvable. For this reason this 'maximum' lot size was amended to something more reasonable.

For the purposes of this analysis, it was assumed that an L-shaped subdivision utilizing all of the frontage along 161st Street and along 132nd Avenue and the corner of Guy R. Brewer Boulevard south of the existing building (see Figure SK-3). This new lot would be approximately 58,637 sf. This lot subdivision would qualify for the higher FARs allocated to parcel within 100 feet of wide streets.

As the existing building on the zoning lot complies with the applicable R6 Quality Housing height and setback controls in Zoning Resolution Section 23-011, a new development on the same zoning lot could potentially be constructed pursuant to Quality Housing requirements. However, given the location of the existing building on site and the critical nature of the various existing setback dimensions, simple and

economical building shapes and layouts under Quality Housing would be difficult to implement on this scale. Zoning Resolution requirements for distances between windows of habitable rooms, limit the building depth on the Guy R. Brewer Boulevard frontage. The base height limitations of the Quality Housing design requirements result in a working base of 6 stories. Assuming a double-loaded building of nominal 60-foot depth and a length stretching across the entire 132nd Avenue and 161st Street frontages and a slightly less deep building along a portion of the Guy R. Brewer Boulevard frontage, a gross floor plate of approximately 36,000 square feet could be accommodated. Six floors of this floor plate total approximately 216,000 square feet. The setback required by the Quality Housing design standards reduce any additional floors to approximately 27,000 square feet. Three additional floors at this theoretical floor area total would maximize the total floor area permitted. These upper floors, however, would not generate economical double-loaded floor plates.

Regarding the development of parking facilities on the site, it should be noted that this section of Queens has a relatively high water table. Recent soil borings, made at the site, indicated that the water table is at approximately 16 feet below grade. It was assumed that this would reasonably permit a maximum of one story below grade. In evaluating the maximum development potential of the various scenarios outlined below, one level of underground parking to supplement the parking afforded at grade was assumed.

It should also be noted that additional development of any kind on the site would also require a partial release of lien by the US Department of Housing and Urban Development (HUD), as HUD has provided mortgage insurance to the existing parcel.

The following RWCDS Scenario 2 options were examined and include the following:

Option 1: A 471,447 zsf Community Facility building (on single zoning lot) with 471 required parking spaces;

Option 2: An 8-story, 186,000 zsf Quality Housing/AIRS Residential Development (on subdivided zoning lot) with 23 required parking spaces;

Option 3: A 7-story, 171,000 zsf Quality Housing Family Residential Development (on subdivided zoning lot) with 75 required parking spaces;

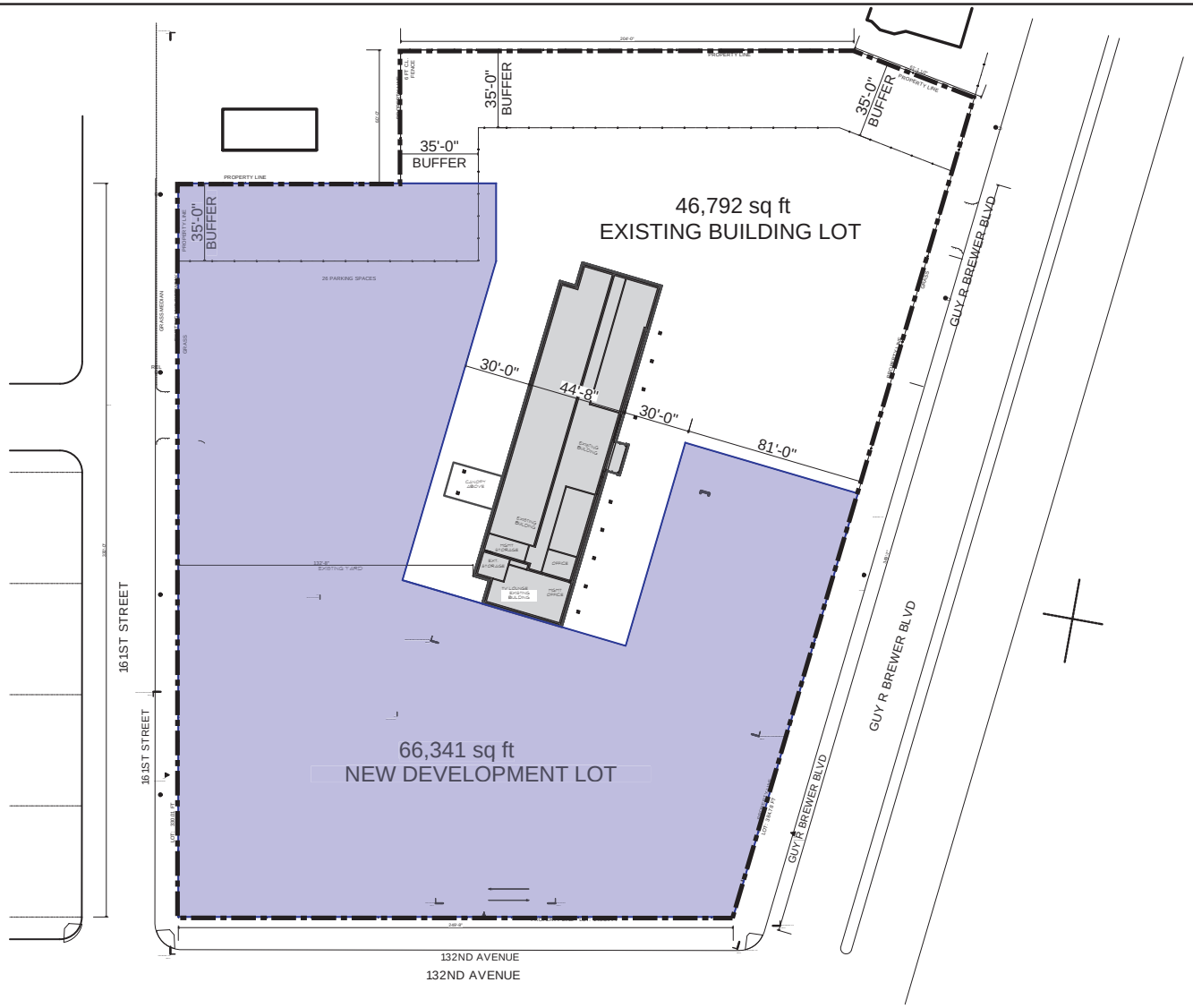
Option 4: A 14-story, 151,899 zsf Family Residential Development (on single zoning lot) with 86 required parking spaces;

Option 5: A 14-story, 155,854 zsf Family Residential and 7-story 60,000 zsf Community Facility Development (on single zoning lot) with 230 parking spaces;

Option 6: A 9- to 11-story, 300,246 zsf Quality Housing Family Residential Development (on single zoning lot) with 216 parking spaces.

Option 1 was rejected as the demand for such a large community facility use in the area does not exist. Further, the required parking could not be accommodated at the site as the water table would only permit a maximum of one story of parking below grade. Option 2 would result in 186 DUs, however, because the development would be 100% designated for seniors, this would not represent the worst case in terms of environmental review. Option 3 would result in approximately 180 DUs, however, because of the Quality

Housing requirements, the building would be only 7-stories with a larger footprint than Options 4 and 5. Option 4 would result in a 14-story building with approximately 159 DUs; this would not be as conservative as Option 5. Option 6 would result in the most multi-family DUs (approximately 300 DUs), however, as detailed above, because of Quality Housing setback requirements, it would not result in an economically efficient building. In addition, while Option 6 would result in the largest residential development of the scenarios that were examined (300 DUs), it would not be as conservative as Option 5 (which includes a large amount of medical office community facility space in addition to 159 family DUs) for environmental review purposes. Therefore, it was determined that Option 5 would represent the worst case for the purposes of environmental review.



SMA
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ONE BALTIC PLACE
CROTON-ON-HUDSON, NEW YORK 10520
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WCSD-MAXIMUM AREA SUBDIVISION
NCH ANNEX

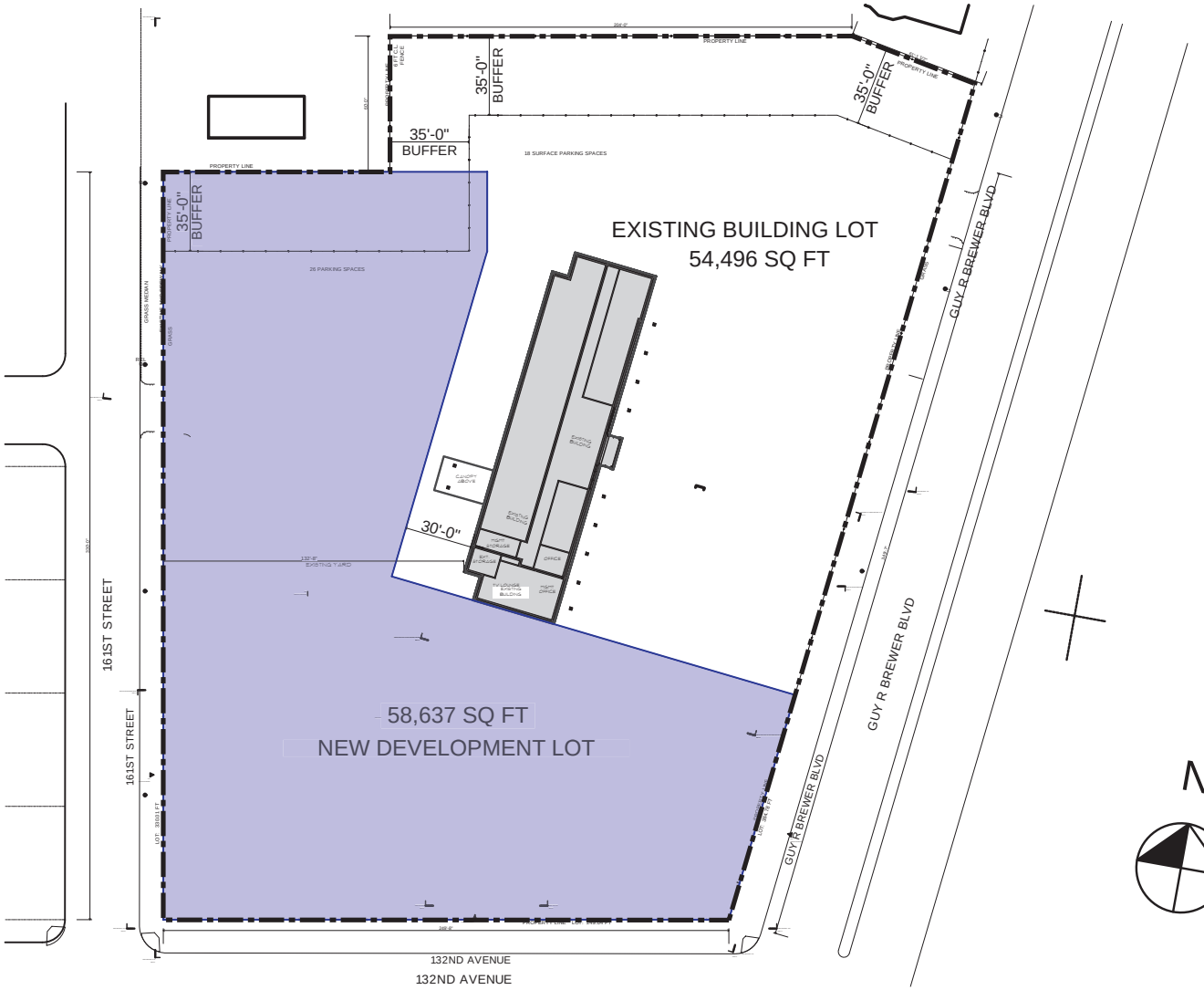
131-10 GUY R BREWER BLVD AT THE CORNER OF 132ND AVENUE AND 161ST STREET
JAMAICA, N.Y.

R-3X & R6 ZONE

Scale:

Sheet Number: SK-2

Date: 01/12/2017



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WCSD-MAXIMUM AREA SUBDIVISION
NCH ANNEX

131-10 GUY R BREWER BLVD AT THE CORNER OF 132ND AVENUE AND 161ST STREET
JAMAICA, N.Y.

R-3X & R6 ZONE

Scale:

Sheet Number: SK-3

Date: 01/12/2017